

**THERE'S MORE THAN CORN IN INDIANA: SMALLHOLDER AND  
ALTERNATIVE FARMERS AS A LOCUS OF RESILIENCE**

by

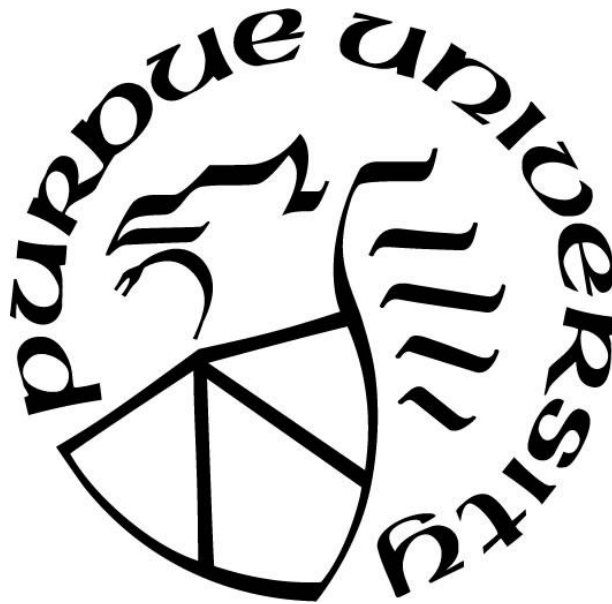
**Virginia F. Pleasant**

**A Dissertation**

*Submitted to the Faculty of Purdue University*

*In Partial Fulfillment of the Requirements for the degree of*

**Doctor of Philosophy**



School of Interdisciplinary Studies - American Studies

West Lafayette, Indiana

May 2021

**THE PURDUE UNIVERSITY GRADUATE SCHOOL**  
**STATEMENT OF COMMITTEE APPROVAL**

**Dr. Laura Zanotti, Chair**

Department of Anthropology

**Dr. Shannon McMullen**

School of Interdisciplinary Studies

**Dr. Rayvon Fouchè**

School of Interdisciplinary Studies

**Dr. Sherylyn Briller**

Department of Anthropology

**Approved by:**

Dr. Venetria K. Patton

*Dedicated to my children,  
and all the future stewards of the land, seed, food, and community.*

## ACKNOWLEDGMENTS

The recurring themes of community and relationships were a perpetual current underpinning the research and writing of this dissertation, and I am grateful to all of the farmers I worked with who accepted me into their community and invited me to their fields to learn and listen. This dissertation would not have been possible without their willingness to share their successes, challenges, and visions for transformative change and a more resilient future. I am forever grateful that they entrusted me with the stewardship of their stories and thankful for the friendships that have developed over the last five years. Our conversations over coffee, at market, in the field, and at countless conferences have shaped my dissertation, but also reinforced my belief that food and the farms represent the promise of future generations if the seeds of hope being sown now are nurtured.

I am indebted as well to the local food and farm advocates that welcomed me into their circle and deepened my understanding of the embeddedness of social justice and food systems. Side by side, we have laughed, vented our frustrations, and advocated for food and farm systems that will serve everyone and center equity. I am appreciative of the organizations in which I have found camaraderie, friendship, mentorship, and moral support over the last several years, and inspired by the collaborative efforts that have developed since I began this work. I am particularly grateful for the support and fellowship I have found in the Northwest Indiana Food Council. The people who have impacted me are too numerous to name here, but I am especially fortunate to have crossed paths and collaborated with Anne Massie, Sherri Dugger, Jodee Ellett, Stephanie Wulpenry, Liz Brownlee, and the many friends and mentors that are working daily in grassroots efforts to foment change across Indiana and the Midwest.

To my committee members, I am forever indebted for your unwavering support, encouragement, and patience as I navigated unforeseen challenges and setbacks over the course of researching and writing this dissertation. Laura Zanotti and Shannon McMullen have joined me on this journey since the beginning of my Masters work and have pushed me to keep going when I wasn't sure I could finish. Together with Gary Burniske, Sherylyn Briller, and Rayvon Fouche, they have provided invaluable feedback and suggestions that have shaped and strengthened my

writing, perspectives, and work as an engaged scholar activist. I am deeply thankful for your guidance and the grace you have shown me as I have gone through this process, and for the words of wisdom and encouragement you consistently offered when I needed them most.

I am also thankful for the support that was offered to me over the course of my PhD work from the Purdue University Archives and Special Collections. Stephanie Schmitz, Katey Watson, Sammie Morris, and the rest of the archives staff championed my successes and provided me with a home on campus throughout my tenure as a graduate assistant. My work in the archives has provided the foundation for much of the historical context in this dissertation.

Lastly, I would not be where I am today without my family. I am thankful for my parents, grandparents, sisters, extended family, and chosen family who have shown me unconditional love and support throughout this process. Despite not always understanding what my work is, you have always cheered me on and reminded me of my strength. Knowing where I come from has kept me grounded as I envision where I am going. To my partner, Ben, you are perhaps my biggest cheerleader. You have stood by my side when I celebrated, but more importantly through the hard times and tears as well. You never doubted I would finish this journey, even when I struggled to see the light at the end of the tunnel. Through several moves, welcoming three children to our family, and life's other trials, you have been constant. I am grateful for my children, Blue, Lulu, and Bo, who inspire me daily to see the world with wonder and provide me with added purpose to continue this work, and I am thankful for their daily reminders to play, to love, and to be present in the moment.

## TABLE OF CONTENTS

|   |    |
|---|----|
| LIST OF TABLES .....  | 8  |
| LIST OF FIGURES .....   | 9  |
| GLOSSARY .....  | 10 |
| LIST OF ABBREVIATIONS .....   | 15 |
| ABSTRACT .....  | 16 |
| CHAPTER 1: INTRODUCTION .....   | 17 |
| 1.1 Introduction .....  | 17 |
| 1.2 Methodology .....   | 20 |
| 1.4 Interdisciplinary Approaches to Food Studies .....                    | 28 |
| 1.4.1 Resilience .....  | 29 |
| 1.4.2 Food Studies, Space and Place .....                                 | 32 |
| 1.4.3 Interdisciplinary Perspectives on Food Systems .....                | 32 |
| 1.4.4 Food Studies, Knowledge, and Narrative .....                        | 37 |
| 1.5 Reimagining Agriculture Spaces .....                                  | 38 |
| 1.6 Chapter Outline .....   | 41 |
| CHAPTER 2: HISTORICAL CONTEXT OF FARMING IN INDIANA .....                 | 45 |
| 2.1 Introduction .....  | 45 |
| 2.2 The Beginnings of Conventional Agriculture in the United States ..... | 47 |
| 2.3 Indiana Agriculture and Women .....                                   | 54 |
| 2.4 Farm Trends and Cycles .....  | 60 |
| 2.5 Purdue Agriculture School .....                                       | 66 |
| 2.5.1 Earl Butz .....   | 67 |
| 2.5.2 Don Paarlberg .....   | 69 |
| 2.6 Emergent Farmer, “New” Directions .....                               | 72 |
| CHAPTER 3: SMALLHOLDER AND ALTERNATIVE FARMERS IN INDIANA .....           | 74 |
| 3.1 Introduction .....  | 74 |
| 3.2 Dominant Imaginaries and Emergent Alternative Farming Practices ..... | 75 |
| 3.3 City Farm/Country Farm: Farming at the Margins .....                  | 82 |
| 3.3.1 Sylvia’s Farm .....   | 82 |
| 3.3.2 Douglas’s Farm .....  | 85 |

|   |     |
|---|-----|
| 3.4 Economy .....   | 88  |
| 3.5 Transparency .....  | 93  |
| 3.6 Knowledge .....   | 94  |
| 3.7 Community .....   | 99  |
| 3.8 Regeneration .....  | 102 |
| 3.9 Resilience .....  | 104 |
| CHAPTER 4: CULTIVATING FOOD JUSTICE.....  | 107 |
| 4.1 Introduction.....   | 107 |
| 4.2 Land Grants and the Morrill Legacy.....   | 108 |
| 4.3 Commodification of Food Justice Practices .....   | 114 |
| 4.4 Seeds: Biological Farming and GM Agriculture .....  | 116 |
| 4.5 Small Scale Farmers in Indiana, Local Foods, and Values Based Food Systems .....                              | 120 |
| 4.6 Food Justice and Broken Food Systems .....  | 122 |
| 4.7 Food Justice and Communities of Care .....  | 126 |
| 4.8 Conclusion .....  | 127 |
| CHAPTER 5: FOOD AND FARMING POLICY .....  | 129 |
| 5.1 Introduction.....   | 129 |
| 5.2 National.....   | 130 |
| 5.3 State.....  | 141 |
| 5.4 County and Municipal.....   | 149 |
| CHAPTER 6: CONCLUSIONS .....  | 155 |
| 6.1 Introduction.....   | 155 |
| 6.2 The COVID-19 Effect.....  | 157 |
| 6.3 A Way Forward.....  | 165 |
| APPENDIX A: COVER CROPS IN INDIANA, 2011-2018 (Harmon, Cover Crop Trends, 2011-2018 2019) .....                   | 171 |
| APPENDIX B: NO-TILL IN INDIANA, 1990-2019 (Harmon, Indiana Statewide Tillage: No Till, 1990-2019 2019) .....      | 172 |
| APPENDIX C: CONSERVATION TILLAGE IN INDIANA 1990-2019 (Harmon, Conservation Tillage Trends, 1990-2019 2019) ..... | 173 |
| REFERENCES .....  | 174 |
| VITA .....  | 192 |

**LIST OF TABLES**

Table 1. Chart of Policies Impacting Indiana Farmers ..... 141



## LIST OF FIGURES

|   |     |
|---|-----|
| Figure 1. Food—Don’t Waste It, Ration Poster. (Cooper 1917) .....   | 49  |
| Figure 2. Wholesome- Nutritious Foods from Corn, War Poster. (Harrison 1918) .....  | 50  |
| Figure 3. Indiana Farming by Region, Ca 1920s. (Purdue University Department of Horticulture 1926) .....  | 54  |
| Figure 4. “Horn of Plenty.” Source: Purdue University Archives and Special Collections (Purdue University Department of Horticulture 1926).....   | 56  |
| Figure 5. Graph depicting the monetary value of food kept for the household in Indiana. Source: Ken Meter .....   | 59  |
| Figure 6. USDA mimeo: Cycle for the Successful Promotion of Practices of “Proven” Value. (USDA ca 1958) .....   | 67  |
| Figure 7. Indiana Beach Promotional Image featuring I.B. Crow (Indiana Beach 1997) .....  | 76  |
| Figure 8. Indiana Farms by Size 1925 vs 2012 (Hall 2015) .....  | 79  |
| Figure 9. Number of Farm Operations in Indiana. This graph depicts the sharp decline in the number of farms and more recent uptick. Source: Ken Meter using statistics from the USDA Economic Research Service and Census of Agriculture..... | 100 |
| Figure 10. Board of Trustees Minutes May 1st, 1866, Describing the Allotment of Land Scrips for Purdue University (Purdue University Board of Trustees 1866) .....  | 110 |
| Figure 11. Spirit of the Land Grant College (Savage 1961) .....   | 111 |
| Figure 12. Number of Farms vs Size of Farms (Imhoff and Badaracco 2019) .....   | 132 |
| Figure 13. Empty Shelves in a Retail Produce Department. (Gorman 2020).....   | 160 |

## GLOSSARY

**Agroecology:** The Food and Agriculture Organization (FAO) has defined agroecology as “an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems.” Agroecology emphasizes the interconnectedness of socio-ecological systems and seeks to utilize these relationships in the cultivation of a just and sustainable food system. The FAO names 10 key elements of agroecology: diversity, co-creation and sharing of knowledge, synergies, efficiency, recycling, resilience, human and social values, culture and food traditions, responsible governance, and circular and solidarity economy. (Food and Agriculture Organization of the United Nations 2019)

**Alternative Agriculture:** I use alternative agriculture to indicate a juxtaposition to the large-scale and highly mechanized farming that is highly prevalent in the U.S., much of the Global North, and, consequently, in many areas where agricultural development initiatives have been attempted.

**Alternative Farm(ing):** This is an intentionally broad term. For the purposes of my research, I use it as a signifier for the myriad agricultural methods that stand outside of the modern or conventional norm. In this study, my participants define what “alternative” means for them. It could indicate the use of the following methods or approaches to farming: agroecology, polycropping, biodynamic systems, organic, permaculture, aquaculture, urban farming, vertical farming, etc.

**BIPOC:** Black, Indigenous and People of Color is an acronym that is used to emphasize the multiple experiences of persons of color, with attention to the specific ways in which Black and Indigenous persons are impacted by the legacy of colonialism and systemic racism. The use of BIPOC in the following chapters is intended to center the ways in which food and agricultural systems in the U.S. have violently exploited and structurally oppressed Black, Indigenous, and communities of color.

**Certified Naturally Grown:** The Certified Naturally Grown designation presents one alternative to USDA organic certification. The review and award process are overseen by an independent nonprofit organization that is able to reduce the cost to the farmer in part by relying on other farmer members in the region for inspection and certification. This tenet of the program also has the potential to foster a sense of community a/or mentorship between established or senior farmers and those new to farming or natural and organic farming methods. Farmers hoping to gain certification pay into the program on a sliding scale that is tailored to size, sales, and farm tenure. Some farmers use the program as a steppingstone to organic certification due to the significantly lower amount of time needed to demonstrate compliance, while others use the certification in lieu of certified organic. The designation also provides an alternative to the organic program which has come under increasing criticism for its inaccessibility to small scale and beginning farmers, as well as the more general criticisms of large-scale or industrialized organic agriculture. (Certified Naturally Grown 2015)

**Conventional Farming:** In the Western context, conventional agriculture is used almost interchangeably with industrialized or modern agriculture. The implicit presumption is that these methods are the norm against which other methods should be compared or measured. However, this presumption does a disservice to marginalized farmers and rural communities that may espouse other methods or for whom other methods are better suited. A point of emphasis within my research is that modern methods are highly reliant upon extractive frameworks and technoscientific innovations, while “alternative” forms of agriculture were the norm worldwide until a few generations ago.

**Community Supported Agriculture:** A model of agricultural production and sales that emphasizes the sharing of risk by the producer or farmer and the consumer. Traditional models require payment by the consumer in advance of the farming season to fund the crops being planted. They then receive a portion or “share” of the products harvested throughout the growing season. Implicit is the understanding that during a good growing season, they will likely receive more than in a season with inclement growing conditions. Newer or alternative models have developed in recent years. These could include the requirement of consumers logging volunteer or service hours on the farm as part of their membership, or a storefront type model. In the “storefront” model, consumers still pay a lump sum in advance of the growing season, but then use the dollars in their account to purchase the items they like. This option can provide more flexibility for picky eaters, individuals who travel frequently during the growing season, or those who are new to and unsure of the CSA model.

**Family Farm:** The use of the term family farms has become contentious in some advocacy circles. The USDA defines a family farm in terms of ownership operation and notes that 96% of farms in Indiana are family owned or operated. Many of these farms would be classified as conventional and emphasize commodity row crops that are farmed using industrial methods. Advocates note, however, that many consumers associate family farms with diversified farming operations that utilize alternative farming methods. As a result, the usage of *independent* as a qualifier for family farm has become common, noting the distinction between commodity contract growers and smallholders who often sell their products locally and in direct markets.

**Food Justice:** Food justice is a grassroots holistic approach to food systems work that emphasizes food as a human right and seeks to establish equity throughout the food value chain, with recognition of the specific ways that women and BIPOC (Black Indigenous and People of Color) communities have been harmed by the conventional food system. It often intersects with environmental justice work and is influenced by the civil rights movement. (Alkon and Agyeman 2011)

**Food System:** The Food and Agriculture Organization describes a food system as encompassing the entire range of actors and activities involved in the food value chain for products that originate from agriculture, forestry, or fisheries. The emphasis on a global food system refers to the globalization of supply chains and markets, and acknowledges the embeddedness of this system and its broader impact on economic, societal and natural environments. (Hanh 2018)

**Foodways:** Foodways describe the interplay between social, economic, biological, and cultural factors in the production and consumption of food. It serves as a marker for the complex nature of food and the integral role it plays in so many segments of one's life.

**Global Food System:** A global food system refers to the globalization of supply chains and markets, and acknowledges the embeddedness of this system and its broader impact on economic, societal and natural environments. (Hanh 2018)

**Industrial/Modern Agriculture:** Industrialized or "modern" agriculture has in many cases become the norm against which other forms of agriculture are measured. It has grown in prominence since the middle of the twentieth century, and particularly in Western cultures. It is most frequently characterized by a "high input" model that emphasizes efficiency and is predicated upon the use of machinery and chemical fertilizers and pesticides. Proponents of this type of farming note the potential for large crop yields and thus theoretically higher returns for farmers. However, the high input system does require often significant financial investment and is typically best-suited for monocropping.

**Land Stewardship:** A methodology or an ethos that was brought to the forefront by Aldo Leopold. It bears some similarities to the tenets of conservation, but also emphasizes the relationship between humans and their environment. Also emphasized is the importance of making mindful choices in relationship to the land and recognizing that it must be cared for in the interest of future generations. (Berry, *Bringing it to the Table: On Farming and Food* 2009)

**Local Ecological Knowledge (LEK):** Local Ecological Knowledge is used as a complement to Traditional Ecological Knowledge by Fikret Berkes to denote locally situated and contextual knowledges that are more recent. In the context of this study, Local Knowledges are developed and transmitted by smallholder and alternative farmers as an adaptive strategy that supports production and market success. (Berkes, *Sacred Ecology: Traditional Ecological Knowledge and Resource Management* 1999)

**Local Food System:** A local food system refers to the local or regional production, distribution, and consumption of food that often emphasizes values within the supply chain (i.e., point of origin, specific production methods, equity). A local food system is juxtaposed to the globalization of supply chains and markets and acknowledges the embeddedness of food systems system and their broader impact on economic, societal and natural environments. (Hanh 2018)

**Locavore:** This term is a product of the local food movement and describes an individual who prioritizes eating local a/or regional foods whenever possible. They might also eat more seasonally, meaning they choose to eat foods that are in season in their area and avoid those that are not (i.e., one would avoid tomatoes in Indiana in the winter months). Reasons for this approach to diet might include lessening their ecological footprint, supporting local farmers and businesses, or support of local food cultures and unique varieties.

**Monoculture:** A type of agriculture wherein the farmer grows one crop per season or year. The chosen crop is often a commodity crop that is accompanied by some sort of guarantee on investment via subsidies, crop insurance, a/or corporate contracts. During the off season, fields may lie fallow or may be used for cover crops in an effort to maintain soil health and stave off erosion.

**Poly-cropping:** Poly-cropping describes an agricultural method in which multiple crops are planted. In some cases, they are planted seasonally, and in others complimentary plants are inter-planted. This method aims to avoid soil nutrient depletion as well as maximize the potential harvest and profit from each plot. A well-known historical example of poly-cropping would be the three sisters model used in indigenous plots wherein corn, squash, and beans are planted in groupings that form a symbiotic relationship. The corn provides a stalk for the squash vines to climb, while spreading squash vines help to choke out weeds. Beans replenish the nitrogen that is depleted by corn, and so on. (LaDuke 2005)

**Regenerative Agriculture:** Regenerative agriculture is a system or method of farming that is cited for its ability to improve soils and sequester carbon. It seeks to support whole farm health with a systems approach that seeks to use human-scale farming to rebuild local ecosystems and biodiversity, with specific attention paid to soil health and inputs. Participants in this study frequently discussed the importance of soil and of “building” something more for the future. (Perkins 2020)

**Smallholder:** Within the context of the US, smallholder farms are defined by the USDA as those farms measuring less than 180 acres. It is worth noting that elsewhere in the world, and particularly within the Global South, most farming is done on plots that are less than 1% of this number. The quantitative definition of smallholder farms in the US is further complicated by the fact that many small farms (as defined by the USDA) are leased to larger scale operations and thus are operated using methods more suited to large and mega farms. In other contexts, the USDA defines small farms as those with less than \$250,000 in annual sales. Thus, I believe it important to acknowledge qualitative and inclusive definitions of smallholder farming that move beyond acreage and consider farming method, inputs, status as a family or household farm, etc. This framework has also been employed by Robert Netting. (Netting 1993)

**Socio-ecological Resilience:** Socio-ecological resilience recognizes that humans and the environments they inhabit are interdependent on one another. In this study, I emphasize the use of adaptive strategies to work towards transformative systems change that embodies the interrelated nature of human and ecological systems. (Folke, et al. 2010)

**Sustainability:** Sustainability, in reference to agricultural systems, frequently refers to the managed use of resources to avoid their depletion and ensure the continued viability of ecosystems into the future. In this study, I utilize the triple bottom line model of sustainability that is used by the Sustainable Agriculture Research and Education Program and emphasizes the equal importance and interrelatedness of environment, economy, and sociocultural systems. Study participants, however, most frequently used sustainability in reference to social and economic systems, with a preference for the term regenerative when speaking about environmental factors. (SARE 2020)

**Traditional Ecological Knowledge (TEK):** Traditional Ecological Knowledge has been defined by Fikret Berkes as the “cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission.” It emphasizes relationships and exchanges between human beings and the environments they inhabit. (Berkes, Sacred Ecology: Traditional Ecological Knowledge and Resource Management 1999)

**USDA Definition of a Farm:** The United States Department of Agriculture (USDA) has defined a farm broadly as a place that sells (or could sell) \$1000 worth of agricultural products. (O'Donoghue, et al. 2009)

**Values Based Food System:** A values-based food system or food value chain shifts focus from an overemphasis on economic value (i.e., cheap food), by centering other factors in food production and distribution: environmental stewardship, quality, taste, social relationships, locality, animal welfare, labor practices, etc. (Burnett 2019)

## **LIST OF ABBREVIATIONS**

**BIPOC:** Black, Indigenous, and People of Color  
**CNG:** Certified Naturally Grown  
**CSA:** Community Supported Agriculture  
**FAO:** Food and Agriculture Organization of the United Nations  
**FDA:** United States Food and Drug Administration  
**FMPP:** Farmers Market Promotion Program Grant  
**GM/GE:** Genetically Modified/ Engineered  
**IK:** Indigenous Knowledge  
**ISDA:** Indiana State Department of Agriculture  
**ISDH:** Indiana State Department of Health  
**LEK:** Local Ecological Knowledge  
**LFPP:** Local Food Promotion Program Grant  
**NIFA:** National Institute of Food and Agriculture  
**SARE:** Sustainable Agriculture Research and Education  
**TEK:** Traditional Ecological Knowledge  
**TNC:** The Nature Conservancy  
**USDA:** United States Department of Agriculture

## ABSTRACT

This dissertation is a policy driven ethnography of smallholder and alternative farmers in Indiana that centers food justice and utilizes interdisciplinary frameworks to analyze the adaptive strategies that farmers use to address the specific challenges they face. Through the implementation of adaptive strategies such as regenerative growing practices, the cultivation of community, stewardship of the land, and an emphasis on transparency, the smallholders I worked with over the course of this study negotiate complex agricultural spaces and build the resilience of their farmsteads and the communities they serve. Smallholder and alternative farmers in Indiana are reimagining the agricultural spaces they occupy and driving transformational change of dominant narratives and local food systems. Critiques of conventional agriculture and commodity production are not intended to reify binary perceptions of the agricultural paradigm, but rather to demonstrate that the critical role of smallholder and alternatives farmers should be valued as well.

This research draws on four years of ethnographic research, archival sources, and close readings of policy measures and media reports to illuminate the historical context that has positioned smallholders in juxtaposition to large-scale conventional agriculture, and the critical role of smallholder farmers in driving food systems change while centering food justice and community resiliency. The driving research questions for the following essays follow: Why have small scale and alternative farmers chosen to farm (and farm differently)? What specific challenges do they face and how might these challenges be better addressed by existing support systems and new legislation? What can be learned from the alternative narratives and reimagined spaces smallholder farmers engage with? This work joins the growing body of research that challenges agricultural meta-narratives by presenting a counter-narrative of smallholder resilience and the *a priori* notion that posits agricultural technology as a panacea for everything from world hunger to economics to environmental concerns.



# CHAPTER 1: INTRODUCTION

## 1.1 Introduction

*“Agriculture may well be the field upon which the battle for the hearts and minds of Americans is first fought...The best hope for building a more sustainable agriculture may be to begin by ensuring the future of small farm families—for without farmers, agriculture cannot be sustained.”*

--John Ikerd (2008, 6-7)

According to the most recent United States Department of Agriculture (USDA) Agricultural census data, smallholder farms are the fastest growing segment of agriculture in the U.S. (USDA NASS 2019). Unlike their large-scale conventional counterparts, they are also more likely to be operated by historically underrepresented<sup>1</sup> individuals than their conventional counterparts (Ember 1983). Specifically, census data indicates that small scale and alternative farms are more likely to be owned or operated by women and individuals that identify as Black, Indigenous, or Persons of Color (BIPOC). Additionally, small farms appear to be particularly attractive to emergent and first-generation farmers who frequently work off-farm jobs to facilitate their entry into farming livelihoods and ensure a stable source of income to improve the viability of the farm in the early years. Although the necessity of working other jobs could be perceived as a failure to those unfamiliar with the specific challenges of establishing a small farm business, I argue that income diversification is an intentional adaptive strategy that enables emergent and small-scale farmers to transition more smoothly to a farm-based income. Given the widely recognized “graying of [conventional] agriculture,” an evaluation of the re-imagined agricultural spaces inhabited by smallholder farmers is indicated to identify challenges and the responsive adaptive strategies used to address them. This analysis will support the development of scale-appropriate policy and support systems that are positioned to support the transformation of Indiana’s agricultural spaces and local food systems. It will simultaneously facilitate conversations about the actualization of food justice.

---

<sup>1</sup> Historically underrepresented is a term frequently used in USDA reports as a signifier for farmers that are from BIPOC communities, women, veterans, or some combination thereof.

An analysis of small scale and alternative<sup>2</sup> farmers illuminates local food systems, cultures, and economies, while fostering food security and biodiversity, and supporting food justice efforts. In spite of recent USDA funding initiatives for beginning farmers, specialty crop growers, and alternative farming methods, the dominant narratives of agriculture in the United States frequently obfuscate the alternative narratives of smallholder farmers that illuminate the specific needs and motivations of individuals who operate outside of the conventional agriculture norm. In the following chapters I will amplify these voices that are frequently unheard, and provide an analysis of the re-imagined agricultural spaces they inhabit as well as the adaptive strategies that they engage in to improve market access, cultivate community, steward the land, and support food justice initiatives. The smallholder farmers I worked with over the course of this study all utilize adaptive strategies that are specifically tailored to their farmsteads to improve the viability of their farm. I contend that these adaptive strategies embody a commitment to improving the resilience of the farm and socio-ecological environments smallholder farmers inhabit. One of the more widely recognized adaptive strategies that is used by smallholder farmers is an intentional utilization of niche and direct to consumer agricultural markets<sup>3</sup> that provide spaces for farmers to interface directly with consumers, thus facilitating the building of relationships and supporting opportunities for consumer education about local food systems and food justice.

A review of historic agricultural census data, archival material, and traditional agricultural narratives reveals that, in terms of commodity production and sales, Indiana consistently ranks in the top ten for various agricultural commodities, such as hogs, layer hens, soy, and corn. In the 2017-2018, for example, Indiana ranked 10<sup>th</sup> in the nation for overall agricultural sales, 8<sup>th</sup> for overall crop sales, 5<sup>th</sup> in production for both dent corn and soybeans, and 5<sup>th</sup> in hog production (Matli and Reynolds 2018). Despite the overall success of Indiana's agricultural sector and the potential for a renaissance of local and regional food value chains, the majority of agricultural income in 2017 came from a combination of commodity crops- non-food items such as hay, and

---

<sup>2</sup> Alternative is used in this study as a signifier for farming that exists outside of the construct of modern, industrial, an input intensive types of agriculture that are so dominant in Indiana and in the rest of the U.S. Alternative, therefore, signifies an approach that prioritizes some combination of poly-cropping, organic, permaculture, biodynamic systems, hydroponics, urban farming, etc.

<sup>3</sup> By niche a/or specialty agricultural markets, I am referring to direct to consumer sales models like farmers' markets, farm stands, or food hubs. Also included in these descriptors would be cooperative models like community supported agriculture (CSA) and direct marketing to locally sourcing restaurants and artisanal food processors.

crops cultivated for secondary processing (Matli and Reynolds 2018). In spite of Indiana's positioning as an agricultural leader, Ken Meter, founder of the Crossroads Resource Center and an expert in agricultural economics and local food systems, notes that the state imports 90% of its food, and 98% of its fresh produce (Meter 2012). Additionally, nearly 16% of Indiana residents are food insecure, with the number of food insecure children falling closer to 22% (Mills, Weinfield, et al. 2014). The impact of food insecurity has been further exacerbated more recently since the advent of the COVID-19 pandemic with increased rates of unemployment, school closures, and conventional supply chain shortages throughout 2020. Feeding America, a national organization that tracks food insecurity in coordination with local food banks, projected that food insecurity rates in Indiana would reach up to 19%, and up to 26% for children (Hake, et al. 2020). Early anecdotal reports from around Indiana indicate that in some of the most vulnerable communities these rates are higher.<sup>4</sup> The illumination of the fragility of the conventional food system that has occurred since the advent of the COVID-19 pandemic is discussed further in Chapter 6.

It is critically important to engage the alternative farmers operating outside the conventional commodity paradigm if we hope to support their success and thus local food systems, economies, socio-ecological communities, and food justice. If the above statistics are any indication, the current agricultural paradigm is doing little to solve hunger issues on a local level. By engaging with farmers outside of this conventional construct, we can facilitate the continued growth and reinvigoration of local food chains and local economies, while at the same time providing an alternative solution to the question of food insecurity. The driving research questions for the following essays are: Why have small scale and alternative farmers chosen to farm (and farm differently)? Who are these farmers, and why have they chosen their particular farming spaces? What specific challenges do they face and how might these challenges be better addressed by existing support systems and new legislation? What is indicated by this relatively recent shift in agri(culture)? How does this alternative agricultural model contribute to the socio-ecological resilience of nearby ecosystems and communities? What can be learned from the alternative

---

<sup>4</sup> Community based organizations and unofficial reports from employees in the ISDH have expressed concern about food access for Indiana's most vulnerable populations, including children, the elderly, BIPOC communities, and rural communities.

narratives and reimagined spaces smallholder farmers engage with? How do adaptive strategies contribute to farm viability and food systems resiliency? What role does food justice and advocacy play in farming?

## **1.2 Methodology**

The essays in this study are based on ethnographic research conducted in Indiana from 2016-2019 and are supplemented with archival analysis of papers related to Purdue University's College of Agriculture, Agricultural Extension program, and historical leaders in the development of their programs, as well as close readings of relevant policies at multiple scales (National, State, and Local). Within Indiana, interviews and ethnographic research built upon recruitment from three market areas situated in urban and peri-urban regions within the state that provide more salient market access for smallholder farmers: Indianapolis, South Bend, and the greater Northwest Indiana region. Preliminary ethnographic research was conducted in 2014-2015 and consisted of farmers' market observation and interviews utilizing interdisciplinary perspectives and frameworks to develop questions and analysis. My early analysis, confirmed by ongoing ethnographic research, indicated that smallholder farmers are as diverse as their crops. Multiple identities, motivations for farming, and highly diversified production systems coalesced around emergent themes and challenges that characterize the smallholder farmers I worked with: intellectual and financial support, community, land and market access, and ill-suited policy.

In his explanation of the distinction between individual data and cultural data, Russel Bernard explains that both can provide useful information in the correct contexts. While individual data are useful in establishing population parameters, "Cultural data are different. We expect cultural facts to be shared, so cultural data require experts." (Bernard 2011, 113) These experts provide context, nuance, and detail to our understandings of a culture, as well as the contested spaces within it. While the agricultural census and other similar quantitative instruments can provide valuable information about the attributes of farmers and farming over time, they remain imperfect measures of locally situated knowledges and expertise. Moreover, agricultural census data frequently misses the mark in unpacking the complexities of agricultural methods, land tenure, and the farming community due to the required emphasis on quantitative measures of acreage, sales, and crop type. Although more recent census surveys have attempted to

accommodate these complexities through additional questions about market channels or through separate surveys on land tenure and organic production, it remains difficult to make long range comparisons due to changes in survey structure and sampling methods. In this study, census data provides a broad framework for understanding statewide trends in farm size and operation, but purposive recruitment and subsequent interviewing and observation provide a more detailed and nuanced understanding of the intricacies of alternative farming spaces and the people who farm them.

Russell Bernard argues that nonprobability samples are appropriate in specific circumstances, and that they are particularly well-suited to in-depth ethnographic studies of culture when the sample includes expert informants (Bernard 2011). Recruitment of informants for this study relied upon a combination of purposive and network sampling. Beginning in 2014 with my preliminary research, I utilized farmers' markets as an accessible point of entry for study recruitment. Farmers' markets provide distinct spaces wherein smallholder, alternative, and diversified farm(er)s are celebrated and where their stories are amplified; these markets provided one entry point wherein alternative farmers were identifiable, and where their voices and stories were amplified. Alternative farmers are still in the minority within the broader farming population in Indiana and are frequently isolated within both rural and urban communities, positioned as an island amidst a sea of amber waves of grain a/or post-industrial landscapes. Thus, purposive sampling and chain referral methods facilitate the identification of isolated community members and enable the development of relationships and trust-building with experts and key informants. Regarding sample size, Russell notes that a sample size of 10-20 knowledgeable informants provides a sound foundation for illuminating and understanding themes within a defined cultural context (Bernard 2011).

My preliminary observations and semi-structured interviews were conducted at four field sites loosely defined by geography: the Indianapolis metropolitan area, South Bend, the Northwest Indiana region (a part of the Chicago foodshed), and Bloomington. These geographic foci facilitated sampling in a timely matter, though they omitted some regions of the state (most notably Eastern Indiana and large segments of Southern Indiana). My decision to prioritize these urban and peri-urban communities was based on population density and the robustness of their

markets, which were known to attract farmers from surrounding counties. As I transitioned into my fieldwork in 2016, I ultimately eliminated Bloomington from the study due to a lack of engagement from farmers there and difficulties securing interviews. Thus, this study has a stronger sampling of farmers from Central and Northern Indiana, but my observations, informal conversations, and advocacy work since the conclusion of my fieldwork indicate that farmers throughout the state face many of the same challenges, and the saturation of the themes discussed throughout these essays within most if not all of my interviews, as well as in national survey data, indicates that these challenges are common to smallholder and alternative farmers. Additionally, as I transitioned from preliminary research to fieldwork, I identified a need for the cultivation of relationships and trust building with the farmers I recruited. Though most farmers were more than willing to engage in informal conversations at market, many were hesitant to speak with me in an “official” capacity until I had demonstrated my commitment to the farming community through consistency and deep listening. By the end of the study, I recruited 23 farmer participants and utilized semi-structured interviewing in my data collection. Additionally, I engaged in passive and participant observation at market sites, on farms, at meetings, and in advocacy spaces.

In this study, the incorporation of local ecological knowledge (LEK) provides insight into the embeddedness of environment with sociocultural spaces. Through this lens, subsistence and community may be illuminated in addition to more conventional markers of agricultural success such as financial viability and efficiency (Posey 1982) (Nadasdy 2003). The re-valuing of localized perspectives provides invaluable information about heirloom plant varieties and alternative farming methods, and fosters a beneficial environment for the support of biodiversity (Shiva 2007) (Shiva 2012). In this study, the illumination of localized and marginalized perspectives of small farmers in Indiana provides insight into the specific challenges alternative farmers face and multiple markers of self-defined success; this lens facilitates a more comprehensive understanding of the state of agriculture and local food systems in the Indiana. Anthony Davis and John Wagner have argued that in LEK systems livelihoods are deeply embedded within specific localities. This embeddedness catalyzes the production of specific knowledges of local environments and ecologies that is distinct from Western Science and is rooted in reciprocity between human actors and the environments they inhabit (Davis and

Wagner 2003). In the case of LEK utilized by alternative farmers in this case study, these knowledge systems also provide a distinct departure from the technoscientific fixes that are characteristic of conventional agriculture.

Davis and Wagner have also noted the importance of time referencing in studies that seek to incorporate LEK. “It [time referencing] is even more important to situating and relating the experiences and observations of local knowledge experts.” Situating local knowledge systems in this way is, “essential to building the understanding of LEK as a developed and shared “system” of knowledge.” (Davis and Wagner 2003, 477) I argue that Indiana is in a significant period of transition that has been catalyzed most recently by the COVID-19 pandemic and the broad realization that the conventional food system is far more fragile than most would have thought. Despite this recent attention, however, this transitional period was fomented during the years in which I was conducting fieldwork and is evidenced by increased attention to local food and alternative farming that reaches far beyond locavores and foodies, to people who are seeking increased transparency in the food they eat and by stakeholders who are cognizant of the potential economic and public health benefits of a localized food value chain. Conversations in 2018 and 2019 acknowledged that there was a growing customer base in rural communities, accompanied by the emergence of multi-stakeholder alliances in the advocacy space. Though Hoosiers still purchase the majority of their food from conventional grocery stores, my interviews indicate that smallholder farmers have noticed increased demand for food and knowledge in recent years. Though each individual experience may differ, the collective experiences of smallholder farmers in Indiana coalesce around specific themes that are characteristic of their local knowledge systems, and represent coherent patterns and saturation points.

Russell Bernard stated, “The biggest problem in conducting a science of human behavior is not selecting the right sample size or making the right measurement. It’s doing those things ethically, so you can live with the consequences of your actions.” (Bernard 2011, 21) Because smallholder and alternative farmers still comprise a relatively small fraction of the agricultural community in Indiana, it was critical to my endeavor of trust-building with my participants that their anonymity be preserved. For those familiar with alternative farming spaces in the state, a single detail can be

enough to reveal the identity of the farm(er) in question. Over the course of my fieldwork, it became apparent that for some farmers the reticence to speak with me in the “official” context of interviews was directly related to my affiliation with Purdue University. Many farmers in alternative farming spaces hesitantly relayed that they did not feel supported by local extension agents, the Indiana State Department of Agriculture, and other entities that operate in agricultural support capacities. The time spent building trust with them created a space in which they felt comfortable expressing these frustrations and their perception that these supports were designed for conventional farmers, and not them. Collaborative engagement and reciprocity were critical to the development of my study, and was demonstrated through my continued involvement in advocacy and support work within the local food system.

Farmer participants in this study represent a broad sampling of experience, farming methods, crops grown, and identity. My interviews included three farmers who expressed they were nearing retirement and six multi-generational farmers who were working to establish alternative production systems on land that had previously been used for conventional production. Fourteen participants were first generation emergent farmers or individuals who began farming with a family history in agriculture that was one or more generations removed. Of note in both my observations of market spaces and my recruitment was the fact that the majority of the smallholder and alternative farmers I interacted with identified as historically underrepresented as defined by the USDA (i.e., beginning farmers, women, BIPOC individuals, a/or veterans). All of the farmers I interviewed implemented diverse production systems that emphasized specialty crops in lieu of commodities, and explained a commitment to stewardship and alternative farming methods that were defined by regenerative practices, (beyond) organic, agroecology, efforts to extend conventional growing seasons, etc. My affiliation with Purdue University over the course of this study presented some challenges in the recruitment process, and illuminated some tensions between my position as a Purdue graduate student and researcher and farmer perceptions of the University’s School of Agriculture and Agricultural Extension program. The School of Agriculture’s commitment to conventional agriculture and receptiveness to research investment from agribusiness has, I argue, contributed to the distrust of the university by alternative farmers. This expression of distrust was most pervasive in the first half of my fieldwork, and necessitated extensive trust building and emphasis on collaborative research.



More recently, the continued growth of the Diversified Farming and Food Systems research group, a growing acknowledgement and support of urban farming systems, and the annual Indiana Small Farms Conference have revitalized connections between diversified farmers and the university. The emphasis on collaboration and responsiveness to feedback at the Small Farms Conference in particular has fomented spaces wherein farmers feel seen and, more importantly, heard.

### **1.3 Indiana Smallholder Farms**

Farming spaces in Indiana were chosen for this study for several reasons. First, Indiana is still largely comprised of rural and farming communities. A Purdue report indicates that, in 2013, 38% of Indiana's population, or more than 2.7 million people, resided in rural or mixed rural counties; additional residents live in rural areas of counties classified as urban (Ayres, Woldorf and McKendree 2013). Although not all food production occurs rurally,<sup>5</sup> food production and farming are two of the primary industries in these areas. The state of Indiana is also ranked tenth in the nation for agricultural output, and fifth in the production and sale of corn, soybeans, and hogs, which are some of the most criticized agricultural outputs in terms of deleterious environmental impact (Meter 2012). Specifically, they are criticized for their contributions to rapidly falling water tables, the preponderance of chemical inputs that contribute to runoff, pollinator decline, and extractive tendencies that contribute to an overall decrease in the resilience of agriculture and our rural landscapes (Jackson, Berry and Colman 1984) (Steward, et al. 2013). The focus on a few commodities has furthermore altered the culture of rural communities, by prioritizing large scale farming that has effectively reduced the number of farmers while necessitating heavy machinery and other inputs to mitigate the fluctuations of nature (Berry 2014). Indiana has been built upon a long historical foundation of farming communities and thus is situated to provide a snapshot into how farming adaptations and methods have changed over the years. Moreover, Indiana holds much in common with other states in the Midwestern breadbasket that have also shifted to large-scale production of commodities over the course of the 20<sup>th</sup> century, and thus agricultural landscapes and narratives in Indiana can provide insight beyond state boundaries.

---

<sup>5</sup> This fact will be addressed in more detail in the dissertation through my inclusion of urban and peri-urban agriculture.

Second, Indiana is home to many large-scale industrial agricultural operations that focus primarily on the production of corn and soybeans- both crops that have been subsidized by the federal government since the 1930s. As a result of these subsidies and other historical processes in agriculture, large-scale farms have been able to grow even larger (often at the expense of smallholder and mid-sized family farms) (Ackerman-Leist 2013). From 1920 to 2017, the number of farms in Indiana decreased by more than two thirds, while the size of farms has simultaneously more than doubled (U.S. Bureau of the Census 1950) (USDA NASS 2019). Additionally, the use of land tenure systems marked by the rental of land to other farmers or land management companies has increased in this time. The increase in these land tenure agreements complicates analysis of census data by skewing the numbers of small acreage farms, though rented land may in fact be farmed as part of a larger managed tract of land. The stronghold of mono-cropped landscapes throughout the state has effectively shifted public perception of farming in Indiana to a notion that corn and other subsidized crops define farming within the state.

Third, Indiana boasts a rapidly growing community of food justice activists, locavores, and artisanal value-added producers. The rapid growth this community has facilitated a space wherein smallholder farmers are celebrated. In addition, I perceive a growing awareness of the lack of access to nutritive foods for individuals impacted by food apartheid that reaches far beyond impacted communities. This awareness is accompanied with increased efforts by food banks and pantries to provide produce and other perishable goods, community gardens, public “free pick” gardens, and cooking demonstrations. These trends are particularly visible in urban and peri-urban communities with higher concentrations of young professionals, but are strengthened by ties to nearby rural communities and farmers. Ken Meter’s (2012) report indicates that smallholder farms are most successful in rural areas that are near urban centers where they have better access to markets for their goods. Meter’s observation suggests an interesting paradigm wherein the financial viability of rural farmers is often dependent upon the existence of urban and peri-urban markets. Although the concentrated populations of consumers and restaurants found in urban and peri-urban centers can provide some peace of mind for farmers who engage in direct marketing, all of the farmers I spoke with during this study repeatedly emphasized their commitment to feeding their local communities and improving

biodiversity as at least as important as financial returns. Smallholder farmers' emphasis on local and regional food systems has the capacity to reinvigorate local economies and provide better access for nutritive foods (Ackerman-Leist 2013).

Commodity corn is king in Indiana (Matli and Reynolds 2018), and thus the dominant agricultural narrative here elicits visions of expansive fields of gold and green, perhaps with a tractor or combine in the distance, presumably operated by a (male) farmer. Further, these narratives imply that commodities are the only way for farmers to earn a “decent” wage and that the efficiency of agro-industrial systems and technoscientific fixes are an indication of American agricultural primacy. The “conquer” of natural ecosystems and redesign of rural landscapes in the 20<sup>th</sup> century has thus become a primary indicator of agricultural success. In this construct, smallholder alternative farms are positioned as the other and are measured against the conventional norm; they are frequently criticized for their perceived inability to produce enough food to adequately supply consumers, curb food insecurity, and remain financially viable. My critiques of conventional agriculture and commodity production throughout the following essays are not intended to reify binary perceptions of the agricultural paradigm, but rather to demonstrate that the critical role of smallholder and alternatives farmers should be valued as well. Moreover, farmers involved in reimagining agriculture spaces and methods have the capacity to affect transformative agricultural systems change through their implementation of successful adaptive strategies that improve the general resiliency of their farmsteads.

If the measure of farming success is defined solely in terms of efficiency, productivity, and extraction, then the modern agro-industrial paradigm and technoscientific fixes provide a logical framework for farming in the 21<sup>st</sup> century. However, I propose a paradigm shift that also values small scale and alternative farmers. If quantitative measurements are to be the benchmark, then why not reward the planting of *more* varieties via support for polyculture? Or *more* nutrients per acre? Or, at a more foundational level, simply recognize the value of *more* farming methods and *more* farmers that fall outside of the current modern agricultural context? In so doing, and in providing adequate support and education for alternative models, I argue that the agricultural industry will have the capacity to build greater resilience in the face of climate change, dropping water tables, food insecurity, and other issues of increasing concern. This paradigm shift would

also directly defy the assumption that *man* (via technology) can conquer nature and that agriculture is a singular entity with one-size-fits-all solutions (Netting 1993) (Berkes and Folke 2000). Moreover, a complete reimagining of our food systems would also emphasize the inherent value of community, transparency, equity, and stewardship.

### **1.4 Interdisciplinary Approaches to Food Studies**

Jean Anthelme Brillat-Savarin once said, “tell me what you eat and I will tell you what you are,” a statement and an ethos that has since reached saliency in its reductive form, “you are what you eat.” (Brillat-Savarin 1994, 13) For the purposes of the following essays, I propose a restructuring and additive version of this framework that is inclusive of production as well as consumption of food- perhaps “show me how what you eat is grown and I will show you what you are.” This additive version provides a sound foundation for the multiple frameworks I use to explore the complexities of food production and consumption, and of the positionality of smallholder and alternative farmers in Indiana. This work will join the growing body of research that challenges agricultural meta-narratives by presenting a counter-narrative of smallholder resilience (Ackerman-Leist 2013). Specifically, the following essays engage with the growing body of literature that challenges the *a priori* notion that posits agricultural technology as a panacea for everything from world hunger to economics to environmental concerns (Patel 2007) (Shiva 2016).

The following essays inform and are informed by multiple disciplinary perspectives, including anthropology, history, and political studies, and utilize resilience and food justice frameworks for analysis. These essays also have practical implications for agricultural and food systems policy in Indiana, and the United States more broadly. This ethnographic study provides much needed insight into the specific situations of smallholder farmers in Indiana who produce a diverse array of agricultural and food products. By fostering a more complete understanding of small scale and alternative farmers and the specific challenges they face, as well as the adaptive strategies they implement to address them, this study provides a framework to better facilitate education, support, and policy analysis that is tailored to scale and the expressed needs of the farmers working outside of the conventional paradigm. Moreover, this work contributes to better understandings of local food systems and food justice initiatives by unpacking the position of

alternative farmers within a state that is an agricultural leader in commodity production and agro-industrial methods. I argue that many of the insights provided also have applicability in other Midwestern agricultural states that are characterized by an emphasis on industrial commodity production.

#### **1.4.1 Resilience**

Alternative food movements provide a space for the practical application of the theories espoused in political ecology. These movements facilitate a space to affect transformative socio-ecological change with a well-defined and tangible entry point, while simultaneously providing an opportunity for much insight into both cultural and environmental markers. Fikret Berkes and Carl Folke, noted scholars of socio-ecological resilience, emphasize the importance of linking the social, ecological, and economic in analyses of ecosystems with an eye toward sustainability and resilience (Berkes and Folke 2000). This holistic approach recognizes the entwined and embedded relationships between these three sectors and facilitates a lens through which to consider the reciprocal relationship between humans and their environments. This approach is similar to concepts of human health that take an integrative, biocultural, and holistic approach in acknowledgement of the intersecting and simultaneous impact of culture, environmental markers, socioeconomics, and physical capacity.<sup>6</sup> Just as health is dependent upon multiple interrelated factors, so too is socio-ecological resilience upon the exchange between farmers, the communities they serve, and the ecological systems they steward. Through this lens, sustainability is thus not an end goal, but rather an ongoing process that is dependent upon localized adaptive strategies that seek to affect transformative systems-wide shifts in agricultural production, food systems, consumer perception, and food justice.

Berkes and Folke (2000) also note that the improvement of natural resource systems requires integration of localized ecological knowledges and the social institutions behind them as an alternative to technoscientific knowledge systems that emphasize efficiency and extraction. In Indiana farming spaces, the reintegration of Local Knowledges necessitates the incorporation of “traditional” agricultural practices in lieu of modern conventional or agro-industrial methods that

---

<sup>6</sup> The World Health Organization has defined health since the 1940s as a “state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”

are heavily reliant upon synthetic inputs and necessitate significant capital investment into the farmstead. In this context, “traditional” methods that prioritize the use of natural inputs and labor-intensive methods such as compost, inter-planting with companion species, mulching, etc. can simultaneously be read as “alternative”. It is important to note that *traditional* as used by Berkes and Folke does not imply stagnation, it instead allows for a flexibility and continual redefining by societies and cultures that use TEK and LK. For alternative farmers using traditional methods and management systems, the development and transmission of alternative knowledge systems can facilitate a space in which farmers define what *traditional* (i.e., alternative) means in highly specific and localized ways.

The *situatedness* of traditional whole systems approaches described above contributes to understandings of improved resilience. Berkes and Folke describe Holling’s (1995) definition of resilience:

*Resilience* is the buffer capacity or the ability of a system to absorb perturbations; the magnitude of disturbance that can be absorbed before a system changes its structure by changing the variables and processes that control behavior.

They go on to describe three types of capital that contribute to resilience feedback loops and a flow of benefits: a) *human-made capital*, involving economic activity and human impact on production (i.e. corn syrup, biodiesel, or preserved foods); b) *natural capital*, non-renewable and renewable resources extracted from or produced by ecosystems (i.e. petroleum or crops); and c) *human capital*, those factors that allow individuals to adapt to or modify their surrounding environment (i.e. synthetic inputs, tilling, or biodynamic systems) (Berkes and Folke 2000). These types of capital can improve or detract from the resilience of ecosystems and thus highlight the interrelatedness of humans or social systems and ecosystems.

Folke contends that traditional knowledge systems that recognize the interrelatedness of human and ecological systems are better situated to support generalized resilience, while those that consider humans apart from or superior to nature ultimately decrease resilience because of their narrowed focus on specific challenges (Folke, et al. 2010). This point is particularly poignant in considerations of agricultural methods and systems. Conventional systems that are predicated upon efficiency are reliant on a series of synthetic inputs that strive to work *against* instead of *with* the environment by attempting to conquer or eradicate system feedbacks such as pests,

weeds, or even weather. By failing to adapt to feedbacks, conventional systems are effectively decreasing their resilience to future events and increasing vulnerability to systems change.

Berkes and Folke (2000) state, “The very success of management, in the short term, “freezes” the ecosystem at a certain stage of natural change by actively blocking out environmental variability and feedbacks that govern change.” While it could be argued that the application of synthetic inputs and irrigation is an adaptive strategy of sorts, technoscientific solutions ultimately reduce resilience by attempting to stabilize ecosystems into acceptable manifestations of the natural world in an effort to maximize efficiency and production.

By contrast, adaptive strategies utilized by the smallholder farmers I worked with attempt to work *with* the environment and emphasize the rebuilding of ecosystems that are more resistant to ecological pressures, thus minimizing the use of synthetic inputs. As petroleum becomes scarcer and weather events intensify, these adaptive strategies hold much promise for improving resilience and mitigating the effects of climate change. These approaches also embody the second definition of resilience offered by Berkes and Folke:

...emphasizes conditions in which disturbances (or perturbations) can flip a system from one equilibrium state to another. In this case, the important measure of resilience is the magnitude or scale of *disturbance that can be absorbed* before the system changes in structure by the change of variables and processes that control system behavior....Resilience in this context is a measure of robustness and buffering capacity of the system to changing conditions.

This definition emphasizes the importance of localized and traditional knowledge in building resilience while working towards transformative systems change and recognizes that conventional methods have been largely unsuccessful in achieving sustainability or staving off the cumulative effects of climate change. Moreover, Berkes and Folke note the efficacy of biodiverse crop models in contributing to ecosystems resilience as compared to the monoculture models that dominate conventional agriculture (Berkes and Folke 2000).

The smallholders I worked with have established a middle ground that acknowledges the importance of multiple knowledge systems and hyper-local production methods that are tailored to individual farmsteads (Conklin and Graham 1995). Interestingly, some of these methods (particularly low/no till and the use of cover crops) have been embraced by conservation

programs targeted to commodity growers as well.<sup>7</sup> This expansion implicitly places greater value on traditional ecological knowledge (TEK) and recognizes that production methods cannot successfully be applied universally regardless of climatic and cultural differences (Gowing 2008) (Rosin, Stock and Campbell 2012) (Salmon 2012). Further, the farmers I worked with over the course of this study placed an emphasis on stewardship and future generations that is characteristic of many traditional knowledge systems.

### **1.4.2 Food Studies, Space and Place**

Julie Guthman, who has extensively studied organic and alternative farming systems, interrogates the paradoxical situation of organic farming in California by drawing attention to the divergence between peoples' idea of organic versus its frequent realities (Guthman 2004). Interestingly, the small agrarian ideal that is summoned by organic discourse closely aligns itself with the virgin land symbol/myth that was employed by American Studies scholars Henry Nash Smith and Perry Miller (P. Miller 1956) (H. Smith 1978). This agrarian ideal, then, along with its idyllic imagery is perhaps emblematic of an idealized notion of American industriousness that is predicated upon "appropriate" land usage. The notion of agrarianism and the yeoman farmer, however, is inconsistent with the reality of large-scale agriculture (organic included) in the United States. In conventional and large-scale agriculture it is not so much industriousness, labor, or family that is emphasized, but rather efficiency, scale, and "leisure" that is predicated upon the labor of machines and BIPOC individuals. Guthman notes that while organic farming in California may have had humble origins that more closely resembled the agrarian ideal, its modern incarnation has, in many cases, fallen prey to the same economies of scale and efficiency as conventional agriculture- simply with different outputs.

Guthman continues by questioning what the implications of this bifurcated reality are for the identities of the farm owners, operators, and laborers, as well as for the construction of space in the Californian environment. In short, "organic" has become a symbol for a lifestyle, an ideology, and a certain sense of morality that is cheapened by the false pretenses upon which it is

---

<sup>7</sup> The use of alternative tilling methods in the name of soil conservation dates back at least to the Dust Bowl Era, when the importance of soil conservation and erosion prevention became abundantly clear. See APPENDIX A: COVER CROPS IN INDIANA, 2011-2018, APPENDIX B: NO-TILL IN INDIANA, 1990-2019, and APPENDIX C: CONSERVATION TILLAGE IN INDIANA 1990-2019 for current numbers in Indiana.



built. Despite the promise of organic foods (or local, or non-GMO, etc) to de-fetishize the American food system, the implicit grandeur of their symbolism has had the opposite effect. This is particularly true as large-scale organic farms continue to consolidate and grow in size, relying upon advertising and branding instead of localized marketing and conversations. Guthman argues that organic and “responsibly” produced foods (at least in the California context) have become just as devoid of identity and all trace of the places they are grown as their conventional agriculture counterparts. In my research in Indiana, I have noticed a distinctive shift in recent years from a de facto emphasis on exclusivity in the local food system (through restrictive points of access and price points), to a reimagining of food and farm spaces that centers food justice, transparency, and equity.

In a more global context, Robert Netting, who deepened understandings of the embeddedness of culture and ecological systems through his studies of smallholders, illuminated the complexities of smallholder relationships with the land (Netting 1993). Netting argued that the identities of smallholders and their families are defined by their land and the ways in which they interact with it. Day to day activity is bounded by the needs of crops and a reciprocity has evolved that is predicated upon reflexive stewardship of the land in lieu of maximized extraction and profit. Though Netting’s research primarily focused on smallholders in communities with significant social and economic differences from smallholders in Indiana and the United States, there are still many similarities, as well as a framework for reimagined agricultural spaces and livelihoods in the United States. The alternate paradigm for food production embodied by Netting’s smallholders is emblematic of alternative knowledge constructions or traditional knowledges that are often ignored in the name of “science” and Western knowledges. Because their identity and the spaces they occupy are so inextricably entwined with the land around them, Netting’s smallholders have a vested interest in land stewardship that is responsive and locally situated. Although this type of land tenure and usage is decidedly more labor intensive than the methods employed in conventional agriculture, the locally situated and responsive adaptive strategies ultimately result in higher yields.

Smallholders are rural cultivators practicing intensive, permanent, diversified agriculture on relatively small farms in areas of dense population. The family household is the major corporate social unit for mobilizing agricultural labor, managing productive resources, and organizing consumption. The household

produces a significant part of its own subsistence, and it generally participates in the market, where it sells some agricultural goods as well as carrying on cottage industry or other off farm employment. Choices of allocating time and effort, tools, land, and capital to specific uses, in a context of changing climate, resource availability, and markets to be made daily, and these economic decisions are intelligible in rational, utilitarian terms. (Netting 1993, 2)

In Netting's above description of smallholder farmers, the household and social unit is a defining trait of the farm, in lieu of farm management that is aligned with capitalist business models of production predicated on extraction and efficiency. Agency is enacted through situated choices and intense attachment to place. Moreover, the household participates in the market utilizing diverse farm-based ventures or off-farm employment. Besides the obvious divergence in production methods, it is critical to note Netting's emphasis on income diversification as a specific strategy that is emblematic of smallholders and an intrinsic component of their relative success. Throughout my fieldwork I frequently heard scale, relative efficiency, and off-farm revenue streams used as a justification for why small farms should not be considered alongside large-scale farms; in fact, these arguments were used to justify claims that small farms were not "real" farms by individuals more accustomed to the conventional model.

Additionally, Sidney Mintz's foundational works on early food systems was instrumental in defining the way that food studies scholars think about global food chains and demonstrated the foundational reliance on exploitation and extractive economies in global supply chains (Mintz 1985). Mintz illuminated the ways in which sugar shaped the trajectory of human exploitation in the Americas and identity formation worldwide. Mintz's analysis unpacked the complexities of the production and commodification of sugar and noted the duality of sugar's simultaneous symbolism of luxury and labor, and explored the symbolic implications of sugar purity and color for consumer morality, accessibility, and spaces occupied. Through the mechanism of sugar production, distribution, and, ultimately, consumption of sugar personal identities and local economies were deeply enmeshed with global supply chains and the colonial endeavor (Mintz 1985) (Mintz 1996). Mintz's work is critical to understandings of how global food supply chains were built and reinforced through structures of power and inequity. Moreover, his discussions of consumption provide great insight into how these global structures were fortified by consumer choice, and how consumer preferences about perceived purity of sugar mirrored prevailing

notions of Western Superiority. In the following chapters I will demonstrate that these processes are not merely historic anomalies. Rather, they are the bedrock of American agriculture and have been foundational in the construction of agribusiness models that are predicated upon the same extractive economies, international supply chains, and notions of exceptionalism.

### **1.4.3 Interdisciplinary Perspectives on Food Systems**

American food choices have long impacted the global community. Conventional agriculture has been forcibly implemented in the Global South via the Green Revolution (Patel 2007) and continued efforts at global market integration (Dove 2011), to the detriment of farmers and farm livelihoods (West 2012). The expansion of multinational food and farming companies has significantly impacted the way international smallholders farm as well as the crops they choose to grow. Moreover, global diets have been impacted by the exponential growth in the availability of processed foods that has been accompanied by a decline subsistence farming and accessibility of traditional food items, due in part to marketplace integration (Benjamin 2001) (Sitko 2013). Though globally smallholders are the primary providers of food, they are often encouraged by development programs to shift from subsistence and localized production models to global commodity production and entry into the global marketplace. In short, a reimagining of American foodways and farming systems has the potential to impact the global community through a revaluing of small-scale agriculture, smallholder farmers, and alternative or traditional agricultural practices. This paradigm shift can facilitate more equitable food systems wherein farmers are paid a fair wage and gain greater autonomy in their livelihoods.

Due to the complexity of food and food systems, as well as saturation of life by foodways more generally, my research is necessarily interdisciplinary in nature. If we examine food closely, it affects much more than our dinner tables or pocketbooks (Wilk 2006), it also informs our identities (Counihan and Van Esterik 1997), defines the rural landscape (Berry 2009), and provides a tangible entry point for discussions about socio-ecological resilience (Ackerman-Leist 2013) and food justice (Alkon and Agyeman 2011). Food studies explores the capability of food to define identity, space, and place at both the local and global levels (Counihan and Van Esterik 1997). It recognizes that food and food systems are simultaneously a marker for status (Mintz 1985), knowledge, geography, and locality (Douglas 1984) while at the same time serving as an

indicator for local and global exchanges (Wilk 2006). Not least of all, food is also a source of nutrition and sustenance- or lack thereof (Rosin, Stock and Campbell 2012).

Since Philip Deloria, then president of the American Studies Association (ASA), welcomed food studies as an “emergent interdisciplinary” during his 2008 address at the ASA annual meetings the study of food by American Studies scholars has been widely accepted within the discipline (Finn 2012). Margot Finn, in her chapter “Food and American Studies,” contends that the expansion of food studies within the discipline has been dominated by humanistic methods like history and literary criticism, with little representation by social scientists and applied researchers (Finn 2012). Moreover, Finn goes on to assert that much of the food studies research from other disciplines would be ill-suited for inclusion in American Studies publications and programs because they are not focused on the United States or its transnational impact (Finn 2012). In the following essays, I seek to complement existing humanistic food studies research in American Studies, by providing a policy-driven ethnographic account of smallholder farmers in Indiana. Moreover, my utilization of resilience, food justice, and political ecology frameworks will provide an innovative entry into existing food studies scholarship within the discipline. In the following essays, I will provide historical context for the building of dominant agricultural narratives and juxtapose them with the emergent alternative narratives and adaptive strategies that are characteristic of the smallholder farmers I worked with. George Lipsitz has noted that social movements have frequently facilitated the expansion American Studies research, and I contend the local food and food justice movements that are inextricably entwined with the livelihoods of smallholder farmers represent a similar defining moment in the discipline (Lipsitz 2001). Finn (2012) defines several categorical areas of food studies research that are ripe for further inquiry, including social movements and discourses. More specifically, Finn notes that a promising focus of future food studies research would illuminate the ways in which contemporary food trends are informed by historical, cultural, and political contexts, with an eye towards the future. My research is situated firmly within these constructs and will contribute deeper understandings of smallholder farmers and the embeddedness of historical events and policies in the conventional food system. The illumination of counter-narratives will provide a framework for future research and advocacy through a food justice lens.

#### **1.4.4 Food Studies, Knowledge, and Narrative**

Donna Haraway has argued that knowledge is situated and contextual; perspective changes the interpretation and translation of events, as well as the construction of space (Haraway 1988) (Haraway 1992). In the study of food and agriculture, dominant narratives and historic structures have effectively obfuscated competing truth and knowledge claims that provide an alternative to Western epistemologies and the preeminence of technoscientific fixes. Haraway's situated knowledges provide a model that would facilitate the coexistence of divergent and often conflicting epistemologies. Yet in the context of the United States, some narratives have become synonymous with absolute truth in an embodiment of power that is attributable to the historic violent erasure of competing knowledge claims. The narrative of conventional large-scale agriculture and technoscientific fixes as a one size fits all solution to food production has had significant implications for agricultural spaces as well as Traditional and Local Knowledge Systems.

Philip Stott and Sian Sullivan, using a framework of political ecology to explore the nexus of science, myth, and power, discussed the juxtaposition of “big” and “small” talk (Stott and Sullivan 2000). Big talk is emblematic of dominant discourses and associated with science, importance, and masculinity; big talk is reinforced and legitimized through embedded power structures, and the technoscientific knowledge it supports is frequently applied far outside of the contexts in which it was developed. Small talk, on the other hand, is associated with femininity, subjectivity, and a lack of import or widescale applicability. Stott and Sullivan also note, however, that ironically big talk is in part substantiated by “grand narratives” that are reliant upon rhetorical myth making, particularly as the certainty of the “truths” of Western Science are questioned (Stott and Sullivan 2000). I propose that the binary of big and small talk is also representative of competing knowledge claims and narratives in agricultural and food systems, including notions of male/female, culture/nature, fast/slow, global/local. Large-scale conventional agriculture and the presumed superiority of technoscientific solutions to food production and food insecurity have been reified through mid-century myth making and narrative deployment that championed these solutions at the expense of situated Local and Traditional Knowledge systems that were systematically devalued in the development of agribusiness and farm management systems. Moreover, the rhetorical deployment of these binaries implies that

each of these terms is summarily independent of its correlating other; that the presence of fast, for example, precludes the success of slow and vice versa. Stott and Sullivan argue instead that our understanding of environment, nature, society, and their relative systems cannot be so simply defined. These binaries necessarily coexist in complex and nuanced relationships that shift and morph depending on the specific context in which they are placed. In the context of agriculture and the United States, this can be distilled into an understanding that there is room for small and large, alternative and conventional- but that there must be equal support for both to ensure the resilience of farmsteads and our communities.

In lieu of rhetorical binaries, I propose a web of knowledge systems and food and farm narratives. A web framework, reminiscent of Patricia Hill Collins' matrix of domination (Collins 2000), is better poised to accommodate the complexity of food and farming systems, with attention to situated knowledge and emergent needs. If we view food and agricultural systems through the lens of a web, then competing knowledge claims may co-exist and facilitate a transformative space where agricultural solutions are situated and cognizant of multiple knowledges and solutions. More specifically, a conceptual web of narrative enables a relational space for the visualization of overlapping points of concern, in lieu of a binary emphasis on difference. Smallholder and large-scale farmers do face some of the same challenges, the primary difference is in the support systems they have access to. Since at least the mid-twentieth century, institutional supports have favored large-scale commodity farms in a self-perpetuating cycle that champions technology, scale of production, and commodity crops with little acknowledgement of the role that institutionalized support systems have played in buttressing the perceived successes of these farms. The smallholders I worked with are generally not advocating for the unilateral abolition of large-scale farming. Rather, they seek more equitable support systems and a seat at the proverbial table, they seek transformative systems change that center equity, and they seek an acknowledgement that small farms are "real" farms.

### **1.5 Reimagining Agriculture Spaces**

In the following essays, I illuminate the resilience of smallholder and alternative farmers in Indiana by providing an analysis of the adaptive strategies they use to mitigate the impacts of policy and food systems that have been constructed to encourage efficiency and extractive

production methods in support of a globalized conventional food system. The adaptive strategies used by the farmers I work with contribute to farm viability and variable definitions of success. “Success” for most of the farmers I worked with, is more accurately conceptualized in terms of stewardship and progress towards *building* something *better* for future generations; this is an iterative process that frequently includes smaller *successes* along the way (i.e., transitioning to full-time farming, improving soil, finding one’s community). Additionally, the narratives farmers provide about these strategies provide significant insight into their motivations and the multiple catalysts for the growth of local values-based food systems as a social movement. Alvin, one of the farmers I worked with who is nearing retirement opined that if he does not pass down his knowledge to the next generation, he will have failed. The significance of this knowledge transmission to Alvin is situated at the nexus of method and narrative. Alvin has explained that he understands the practical value of his knowledge of farming in his specific community and geographic location, but he places equal emphasis on the importance of community and “stories” that ground the work of farming and building a localized alternative to the conventional food system. Alvin, and many of the other farmers I spoke with, has witnessed the impact that “stories” have on potential consumers who are frequently seeking a connection and something more than the sustenance they can purchase from a grocery store within the conventional system.

Additionally, I argue that re-imagining agricultural spaces and amplifying the voices of farmers that have remained absent from the dominant agricultural discourse has the capacity to improve food security. It has been argued that greater biodiversity contributes to improved resilience; it thus logically follows that greater biodiversity can also contribute to an improved food security prognosis in a feedback loop that is responsive to community needs (Berkes 1999) (Shiva 2012) (Ackerman-Leist 2013). This biodiverse feedback loop is attentive and responsive to the needs of the environment at the farm level as well as the demand for nutrient dense foods from consumers at the community level. At the nexus of this feedback loop are small scale and alternative farmers who emphasize the importance of soil health, biodiversity, and holistic approaches to their farmstead’s ecological spaces in the cultivation of diversified and multiple crops. A reimagining of agricultural narratives and the farming spaces they describe would pay mindful attention to the voices of historically marginalized farmers and their farmsteads. With a more pluralistic narrative of farming, there is space created for an acknowledgement of the multiple

alternative farming methods and the stories that are told about them, from the urban market farmer cultivating a city lot, to contemporary interpretations of the commons that center food justice, and rural smallholders that are growing diverse crops with attentiveness to the revitalization of biodiversity and ecosystems in a holistic fashion.

Farming in Indiana changed drastically during the twentieth century, and I contend this is a direct result of policy shifts that have fostered an export-oriented agricultural climate that is predicated on subsidies and reliant upon heavy mechanization, chemical fertilizers and pesticides, and, more recently, genetically modified crops that promise higher yields. The turning point in these policy shifts in the 1970s was marked by the advent of increased exports of surplus crops and the shift away from subsidizing fallow years (Markee 2007) (Meter 2012). The emphasis on efficiency, over-production, and technoscientific fixes created spaces in which secondary processors could leverage profits from surplus by redirecting crops into other products (e.g., corn syrup, animal feed, etc.). When combined with increased farm efficiency (and less need for farm labor), the move towards urbanization, and a general deskilling of the American public in regard to food production and preparation, the “need” for increased commodity production was reified as demand for low cost and processed foods increased (Nestle 2002) (Jaffe and Gertler 2006) (McMillan 2012).

Smallholder and alternative farms and farmers, however, exist outside of this dominant agricultural narrative (rooted in modern and industrialized agriculture) and thus provide a counter-narrative that has been cultivated around the niche spaces they have created for themselves; argue these niches are predicated upon specific adaptive strategies and methods that contribute to the resilience of farms and farmer livelihoods. Resilience defines the terms of food production and identity for each farm or farmer individually; however, over the course of my research several common themes emerged: transparency, multiple knowledges, community, equity, and regeneration. In addition to these self-identified themes, I will demonstrate the concurrent theme of adaptive strategies as a marker for socio-ecological resilience as an organizing framework for the essays in this collection. Through this resilience, I argue that a shift in agriculture is occurring wherein the historical focus on extraction and efficiency is losing favor as the voices of smallholder farmers and food systems advocates are amplified, and local



and regional food systems demonstrate their ability to respond to crisis moments and systems shocks like the COVID-19 pandemic.

## 1.6 Chapter Outline

To gain a deeper understanding of the modern juxtaposition of the *norm* of conventional agriculture to the differentiated methods and spaces occupied by smallholder and alternative farmers, it is imperative to illuminate the historical contexts in which this juxtaposition has surfaced. Binary frameworks of big/small, technoscientific/traditional, and male/female did not develop by chance, nor did they develop in isolation from other sociocultural constructs. In Chapter Two, close readings of archival materials and policies provide insight into the motivations for the shift to mechanized and large-scale agriculture, as well as the operations of smaller farms before this shift (Theophano 2002) (Holtzman 2006). The institutionalization of industrialized agriculture began in Indiana and the United States in the first half of the twentieth century and was supported by the development of policies in the Thirties that attempted to simultaneously address childhood hunger and commodity crop surpluses (i.e., the Farm Bill). I argue that the narratives championing large scale modern agriculture gained traction during the war via war-time propaganda that cemented ideological ties between agricultural surplus and American nationalism. This discursive shift continued to gain traction in the decades following the war. It arguably peaked in the 1970s when commodity prices were at a high and Earl Butz and other affiliates of the USDA made the call for “bigger is better” agriculture.<sup>8</sup> Historic and current agricultural census data provides quantitative data regarding crops, farm size, and farmer demographics that demonstrates that the exponential growth in individual farm acreage has been accompanied by an inverse decline in the number of farmers and farmstead biodiversity. The decrease in biodiversity has, I argue, decreased the resilience of soil and farms (Jackson, Berry and Colman 1984) (Salatin 2014). Smallholder adaptive strategies, including increased biodiversity and an ethos of stewardship, provide insight into alternatives to the technoscientific solutions offered by conventional agriculture and have the capacity to improve the resilience of heartland landscapes (Leopold 1949) (Todd 1984) (Ackerman-Leist 2013). This chapter provides contextual grounding for scholars and food systems practitioners who seek an understanding of

---

<sup>8</sup> This “bigger is better” agriculture is manifest today as conventional modern agriculture that is frequently predicated upon industrialized methods or, at the very least, resource intensive inputs.

historical processes that have cultivated and reinforced contemporary conceptualizations of agriculture in Indiana, as well as the presumed superiority of Western Knowledge systems and technoscientific fixes to food production.

In a shift from the historic contextualization of agricultural norms in Indiana, Chapter Three illuminates the alternative narratives and farming spaces of the smallholder and alternative farmers that were involved in this study. Although these farmers display incredible tenacity, they face many specific challenges. In my observations and interviews, I learned that they utilized adaptive strategies to ensure their success and the resilience of their farmsteads. Although each farm was unique, the adaptive strategies that farmers employed coalesced around common themes of economy, transparency, knowledge, community, regeneration, and resilience. Though farming is inherently risky due to fluctuations in weather and market, most farmers I spoke with were perennially optimistic even in the face of perceived failures. Alternative farmers framed their strategies and aspirations with a shared knowledge system that emphasizes stewardship and the cultivation of something different. In juxtaposition to the development of large-scale conventional farming where success is measured quantitatively with revenue, harvest size, and acreage, the smallholders I spoke with imbued their values with equal import that was enmeshed with a prevailing notion of “enough.” This chapter provides contextual grounding for food systems scholars and practitioners who are seeking a broad understanding of smallholder farmers in the alternative farming community in Indiana and, more broadly, throughout the emergent alternative farming community throughout the Midwest. Though the situated nature of alternative farming and knowledge systems implies that some specifics will be variable from location to location, most of the themes I have illuminated in this chapter have been echoed in conversations I’ve had in regional stakeholder meetings, as well as in national conference sessions.

In addition to the adaptive strategies that have become central to the success of the smallholders I worked with, many farmers also demonstrated a strong commitment to advocacy and equity in their work. From the time I began my fieldwork in 2016 to the time of write up in 2020, there was a significant shift in local food and alternative agricultural spaces that centered food justice and equity as critical to the mission of many individual farmers and the movement as a whole. In

Chapter Four I utilize my field work, archival sources, and more recent media reports to illuminate the salient connection between smallholder farmers and food justice advocacy. These connections are grounded in a contextual analysis of the historic connections between the Morrill Act, dispossession of land from Indigenous Peoples, and the suppression of Traditional Ecological Systems in the cultivation of Land Grant Colleges. This chapter will provide insight to food systems researchers and practitioners that seek a foundational understanding of the systemic injustices of our conventional food and agricultural systems and situate the farmers I worked with within this sphere of advocacy.

In addition to the challenges of navigating relational spaces within the conventional food and agriculture systems in an effort to establish a localized and reimagined alternative smallholder farmers in Indiana also must contend with the complexities of food and agricultural policies enacted at multiple scales: federal, state, and municipal. These policies which are often developed with little or no input from smallholders or local food systems advocates are ill-suited to alternative farming systems and small-scale farms. Additionally, they often represent an additional barrier to entry or expansion for the smallholder. Adapting these policies to be better suited to multiple scales would facilitate a level playing field that equally values large and small-scale farmers. The lack of support for diverse production systems is a critical gap in the institutional strategies for addressing food insecurity and food apartheid. In Chapter Five, I analyze select pieces of legislation that are ill-suited to smaller farms and their impact on the farmers that I worked with over the course of this study. Utilizing ethnographic data, media accounts, and my analysis of the policies in question, I illuminate the barriers that these policies create as well as the perspectives of the farmers who must navigate these spaces. This chapter provides insight for a broad segment of stakeholders, including legislators, planners, and community leaders, in addition to food systems advocates.

At the time of writing this dissertation, the global community was in the midst of the COVID-19 pandemic. In addition to the illumination of inequitable healthcare and the fragility of medical supply chains, the pandemic drew attention to the fragility of the conventional food system. Empty grocery store shelves, stories of fields full of rotting produce and thousands of gallons of dumped milk, and a pervasive sense of uncertainty about the vectors for the spread of the virus,

all contributed to an amplified interest in purchasing food locally, and direct from the farmer. In Chapter 6, the themes of the preceding essays are revisited through the lens of the pandemic. The increased attention to local food systems and independent farmers during the early months of COVID-19 buttressed the increased visibility of concentration within the conventional food system that was facilitated by Democratic Presidential candidates on the campaign trail. However, in spite of increased attention to and reliance on smallholder farmers in the spring and summer of 2020, and despite their adaptive responses to the needs of local communities in their efforts to address conventional supply chain shortages, smallholders were still passed over in many of the emergency financial relief programs administered by the federal government in a reinforcement of dominant narratives about who and what qualified as a farm(er). The concluding chapter defines the opportunities and challenges in reimagining our food and agricultural systems in a way that will equally support smallholder farmers while centering conversations of equity and food justice.

## CHAPTER 2: HISTORICAL CONTEXT OF FARMING IN INDIANA

### 2.1 Introduction

*“Agriculture was really changing from a way of making a life to a way of making a living.”*

--Earl Butz

In the 1970s, Earl Butz, famously stated “Get big or get out of farming.” Although farms across the United States were expanding into a new agro-industrial norm (conventional agriculture) before this moment, the “fencerow to fencerow” ethos supported by Butz, then the U.S. Secretary of Agriculture, has drastically impacted agricultural policy and practice to this day, especially in states like Indiana. In this chapter, I draw from archival records from the mid-twentieth century relating to the Purdue University School of Agriculture and leaders within it to provide historical context for the current climate of agriculture in Indiana and identify the key shifts that have solidified dominant agricultural narratives and agribusiness practices today. Archival analysis includes discussion of the oral and written histories of two prominent figures within the history of Purdue’s School of Agriculture, Earl Butz and Don Paarlberg. In addition to their prominence in Purdue’s Agriculture program, both men worked in service to the USDA and were deeply enmeshed in the mid-century development of agricultural education and policy. The perspectives of women educators are illuminated through an analysis of the papers and work of Eva Goble and Virginia Meredith, who were both early advocates for the education of women through the land grant system, and specifically through extension initiatives. However, I argue that the educational opportunities afforded to women ultimately contributed to the gendering of farmstead spaces and economic opportunities, and that these institutionally reified gender roles have contributed to contemporary narratives of who farmers are. Throughout this chapter, census data and other records from the School of Agriculture are used to support these arguments.

Modern conventional agriculture, despite efforts to include conservation and “sustainability measures,” is juxtaposed to alternative methods of agriculture that prioritize stewardship and are predicated on an ethos of care for the land for future generations. I will demonstrate that (agri)culture in Indiana has been cyclical in nature and has thus resulted in feedback loops that

have fomented major shifts and moments of change. These shifts and moments of change that have occurred over the course of the twentieth century and continue today have dramatically changed and altered food systems and food production. The presumed superiority of conventional agricultural paradigms is based upon fundamental shifts in the conceptualization of agriculture: from local to global, from food to commodities, and from an ethos of stewardship to one of management. The driving questions for this historical context are: How did conventional large-scale agriculture become the norm in Indiana? What role did women play in historical agricultural spaces in Indiana? How has the way we discuss agriculture in Indiana changed in the last 100 years? What role did Purdue and the Land Grant System play in the development of this norm?

At the macro-level, these shifts in farming in Indiana and at the national scale have impacted global trends in agriculture, access to food, and the overall shape of the food systems, particularly with the widespread adoption of conventional agriculture and what I call farm management systems. I contend that conventional agriculture has positioned itself as a technomasculinist ideology predicated on the idea of a large-scale -male- commodity grower (Ember 1983). At the micro-level, these shifts have impacted local and state-level trends in agriculture practices and perceptions, food access, and food systems; they have also affected significant changes in the family farm, rural economies, and (agri)culture. We are currently in the middle of one of these shifts, that I propose will ultimately result in a reimagining of agriculture spaces and food systems in Indiana, while connecting with regional shifts throughout the Midwest and Great Lakes Regions of the United States. The current shift illustrates one potential solution to the perceived tension between farm viability, farm household income, and the emphasis on efficiency and export markets that was cultivated over the course of the twentieth century. This need for a reimagining of agricultural spaces has been precipitated by environmental movements and financial crises in farming that are characterized by adverse impacts on farming by current international trade markets, the current climate crisis, and growing attention to the deleterious impacts of synthetic inputs.

## 2.2 The Beginnings of Conventional Agriculture in the United States

For the purposes of this discussion, and in line with global conversations about agriculture, I will be using conventional agriculture as a signifier for “modern” or industrial agriculture. This type of agricultural production has its roots in the types of farming practices espoused by much of Western Europe leading up to and since the colonial era.<sup>9</sup> Earlier examples of conventional agriculture were exemplified by highly regimented food production that was predicated upon individual land ownership, fences, row planting, and the support of domesticated animals such as cows, pigs, and poultry (Berry 2015). Although specific farming methods have changed significantly since the implementation of colonial-settler era farming in the 19<sup>th</sup> century, the prerequisite of unfettered land ownership and tenure remains central to conventional agriculture (Sachs 1996) (Wittman, Desmarais and Wiebe 2010). Furthermore, structured row planting and accompanying fences helped to define Western European ideals of appropriate land use and impacted the ways in which indigenous food production systems were interpreted upon contact and foreshadowed the violent removal of Indigenous peoples from the land (Gremillion 2011) (Wittman, Desmarais and Wiebe 2010) (Salmon 2012). As land ownership became integrated into agricultural norms during the colonial-settler era, farmers and land grant institutions also developed an increased emphasis on the values of efficiency, yields, and profits that necessitated an increasing dependence upon technologically driven solutions.

Since its relatively inauspicious beginnings from the settler-colonial era through the early part of the twentieth century that would likely be considered “alternative”<sup>10</sup> farming in today’s terms (e.g., labor intensive farming using draft animals, a tractor, a/or minimal synthetic inputs), conventional agriculture has become closely bound with sociotechnical systems predicated on Western science and authority. The scale of most agro-industrial farms today necessitates the use of and creates systems of dependence on large machinery: combines, tractors, irrigation systems, harvesters, etc. if the farms are to remain profitable and achieve maximum efficiency. It is

---

<sup>9</sup> The development of this type of agriculture in Europe, the Near East, and elsewhere has been discussed at length elsewhere and thus will not be addressed here. For more information, see for example McCorriston and Hole (1991), Hayden (1990), and Ingold (1996).

<sup>10</sup> I use alternative here to indicate a juxtaposition to the large-scale and highly mechanized farming that is highly prevalent in the U.S., much of the Global North, and, consequently, in many areas where agricultural development initiatives have been attempted.

simply not possible to farm at this scale without the aid of mechanization without a prohibitive amount of manpower. As the acreage of farms has expanded, so too has the size of the machinery- with serious implications for the capital assets of farmers and rural farming communities. In 1978, a three-row combine with the capacity to harvest 200+ acres cost approximately \$40,000; today, a twelve-row combine with the capacity to harvest 2000+ acres will cost upwards of \$500,000 (SARE 2018). Equipment of this scale and limited scope effectively binds the farmer or farm manager to a predetermined production schedule and cycles of farm debt for years to come. Accompanying these increasingly large (and expensive) machines are the inputs required to maintain or improve productivity; specifically, pesticides and herbicides, genetically modified (GM) seeds, and fertilizer must be purchased each season (Patel 2007) (Gowing 2008) (Klepek 2012). In short, conventional crop production necessitates a considerable amount of investment capital (for land and machinery), and non-negligible annual investments (for seed and chemicals).

Moreover, conventional production is typified by the planting of monocultures, wherein resources are devoted to a single crop type per year and generally a single varietal of that crop. In alignment with the rationalization for high acreage farms, the growth of a single crop and varietal is meant to facilitate better efficiency as farmers do not need to make as many adjustments to equipment or the amounts of fertilizer and pesticides they apply, but rather can rely upon monolithic technology-driven solutions for their farm. There are several important effects of a system reliant on industrial scale monocropping. The first effect is an expectation of and obligation to produce surplus. This surplus must be (in the case of corn) a. exported, b. used for animal feed or c. processed into a secondary product such as corn syrup, biodiesel, or the like if farmers can expect to find a market for their harvests (Berry 2009) (Sitko 2013). In the United States, farmers were convinced of the viability of this proposition in the mid-twentieth century when they were promised permanent export markets and were encouraged to expand their operations on credit by Butz (Meter 2012). In spite of the fact that increased borrowing from farmers contributed to the agricultural bust of the early 1980s when thousands of farmers found themselves unable to pay their loans when commodity prices and farm values collapsed, it solidified food systems based on exportation and global economies at the expense of local ones. Historically, local and regional economies kept food closer to its point of origin and also



supported the local viability of critical links in the value chain. Food transport, storage, and processing occurred close to the point of origin to avoid spoilage, and farming implements were purchased and repaired close to home. Rural communities in particular were built upon a tradition of self-determination that was rooted in vertically integrated agricultural economies. I contend that the systemic reification of global food systems<sup>11</sup> also directly impacted the direction of global development initiatives, specifically those focused on agriculture, in the following years.

The shift from locally oriented food systems to the mono-cropping global system over the course of the twentieth century was well-represented in media and marketing directed toward the American consumer.

The posters pictured in Figure 1 and Figure 2 were produced by the U.S. Food Administration. Figure 1, produced during World War I, focuses on the support of local farmers and an ethos of mindful consumerism that is not wasteful- both as a matter of nationalism and patriotic duty during moments of wartime scarcity.

Figure 2 is a poster that was produced in 1918. Even though corn products such as starch, oil, and syrup

were invented by the early 1900s, the push for support of corn production and thus consumption did not occur until later. In this poster, consumers are asked to purchase and use secondary corn products to support American farmers (and processing facilities) by stocking their kitchens with corn-byproducts and incorporating them into their pantry staples. The use of these byproducts was also perceived as emblematic of patriotism. Later, food was rhetorically weaponized during WWII through propaganda posters that consistently reminded consumers to plant more and increase food production as well as the production of product destined for war-time processing

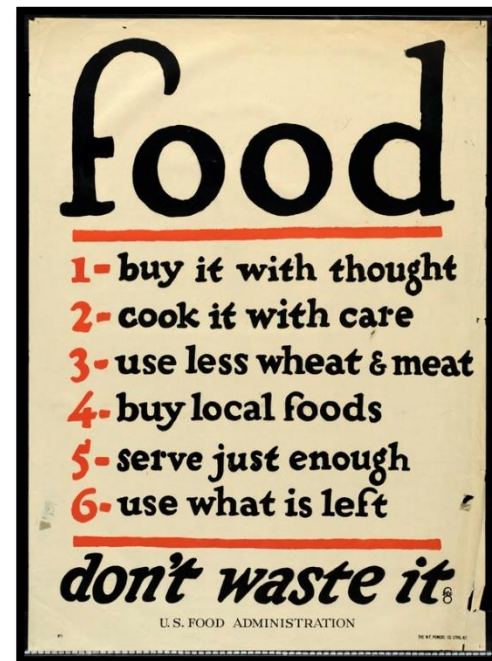


Figure 1. Food—Don't Waste It, Ration Poster. (Cooper 1917)

---

<sup>11</sup> The Food and Agriculture Organization describes a food system as encompassing the entire range of actors and activities involved in the food value chain for products that originate from agriculture, forestry, or fisheries. The emphasis on a global food system refers to the globalization of value chains and markets, and acknowledges the embeddedness of this system and its broader impact on economic, societal and natural environments.

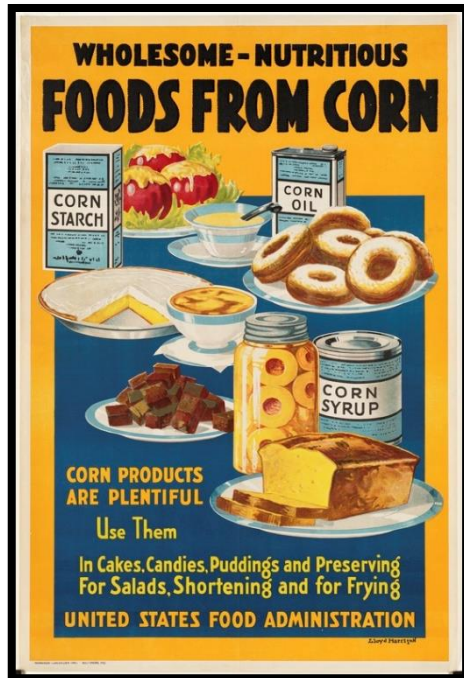


Figure 2. Wholesome- Nutritious Foods from Corn, War Poster. (Harrison 1918)

plants. In WWII posters, the emphasis on an ethos of mindful consumerism founded upon local consumption shifts to an amplification of the need for production to supply the needs of external international markets and soldiers fighting overseas. The poster in Figure 2 represents a shift in the logic of food consumption that responsible consumers should buy corn products (but not necessarily corn) that have undergone secondary processing as a precursor to the weaponization of food in WWII posters. Ironically, the same products that were extolled here for their nutritious qualities have received considerable attention in the last 15-20 years for their potential contribution to chronic diseases, such as heart disease, diabetes, and obesity (DeBono, Ross and Berrang-Ford 2012).

In addition to the expectation of surplus and new consumerism mono-cropped agro-industrial systems depended upon, this form of conventional agriculture that was supported on many levels by government initiatives has proven to be problematic in myriad other ways, including impacts on watersheds as farms require intensified irrigation practices. Consider, for example, the Midwest region of the United States-which has long been celebrated as the breadbasket of the U.S. The Midwestern breadbasket that was devastated by the Dust Bowl in the 1930s is now confronted by rapidly decreasing levels in the High Plains water table due to the excessive irrigation needed to support corn and wheat in relatively dry years (Charles 2013). In short, the irrigation practices required for conventional agriculture are not sustainable in the long term, and there is a burgeoning research that focuses on the deleterious effects of the various chemicals that are needed for the success of mono-cropped varieties; notably, Vandana Shiva has long advocated for a return to agroecological processes that value ecological health over efficiency and chemical inputs (Shiva 2016).

Furthermore, conventional agriculture does not curb issues of food security and access, and in fact, may exacerbate these issues. In Indiana, for example, despite the fact that the state is ranked tenth in the nation for farming and fifth in the production of corn and hogs, approximately 90% of the food purchased in the state is imported including 98% of fresh fruits and vegetables (Meter 2012). Approximately 16% of the state's population is food insecure (although the number is several percentage points higher in some areas) (Mills, Weinfield, et al. 2014). This would imply that contrary to the global export model espoused by conventional agriculture, there is a local market for harvests, provided farmers begin growing food crops. In this paradox, the tenth ranked agricultural state in the nation imports the majority of its food while exporting the vast majority of its "surplus" agricultural products, all while failing to provide adequate food access to one sixth of its population.

The trend of food insecurity in highly productive farming states is played out across much of the United States and can be attributed to various national food and fiber policies that have been diffused to the state level through research, extension, and education initiatives. Specifically, the crop subsidy program supported the over-production of commodity crops which in turn served as a catalyst for research that would improve efficiency and production levels. This is not to imply that commodity farmers do not care about their land. To the contrary, there is a growing commitment to conservation and soil health across all types of farming. Cover cropping has been well supported and widely accepted in Indiana as a necessary step in building soil health. The wider use of cover crops has been noted to reduce soil erosion as well as mitigate the runoff of phosphorus and nitrogen from chemical fertilizers into the ground water supply. The chart included in [APPENDIX A: COVER CROPS IN INDIANA, 2011-2018](#), published by the Indiana State Department of Agriculture demonstrate that cover-crop implementation increased by at least 7% between the years 2011 and 2018, and that there was a nearly 800,000 acre increase in land planted in cover crops.<sup>12</sup> The charts in [APPENDIX B: NO-TILL IN INDIANA, 1990-2019](#) and [APPENDIX C: CONSERVATION TILLAGE IN INDIANA 1990-2019](#) indicate that there is also a growing commitment to no till and conservation tillage methods that

---

<sup>12</sup> Please note that numbers for 2011 and 2013 were collected in the spring instead of the fall, and thus may not be an accurate representation of cover crop planting. If these years are removed, the overall increases in cover-cropping are much less significant. They are included here because this is the reporting method employed by the Indiana State Department of Agriculture.

aim to minimize disturbance of the soil.<sup>13</sup> However, I contend that although conservation measures such as cover cropping and low till are a critical first step in improving the health of the land and mitigating soil erosion, they are not a replacement for the stewardship that is predicated on an ethos of care for the land and future generations that is absent from agro-industrial farm models. Additionally, since the development of these conservation programs in response to the effects of the Dust Bowl in the 1930s, it has taken over 75 years for them to be as widely practiced as they are today, in spite of financial supports for the implementation of conservation practices. Moreover, conservation measures help to address the issue of soil erosion, but they do not address many of the other environmental costs of conventional agriculture: nitrogen and phosphorus run-off, drift of genetically modified crops, loss of biodiversity, pollinator species collapse, and the downstream environmental impact of long supply chains that are predicated upon interstate and global transport (Rosin, Stock and Campbell 2012). They also fail to adequately address issues that deeply impact the viability of farming livelihoods (i.e., cost of entry to the profession, farmer share of market price, etc.)

In what I refer to as farm management systems, the practice and profession of farming has shifted as conventional agricultural models have taken hold and, in many ways, more closely resembles other types of industrial management than land stewardship. In name and practice, “business” has replaced “culture” in current agri-systems. This shift was supported by land grant institutions, such as Purdue University, through multi-faceted educational efforts that were targeted to both college students and farming practitioners. In the mid-twentieth century, the growing availability and accessibility of specialized heavy machinery, necessitated a re-valuing of agriculture that prioritized the farmer’s ability to manage the farm business and expanding acreage. This change was welcomed by universities as an opportunity to educate the farmer and their children, and introduce “modernity” to the family farmstead, with apparent disregard for the immense stores of generational and traditional knowledge held by farmers. Modernity here refers to the introduction of farming and household technologies ostensibly designed to improve efficiency and farmstead production. In lieu of valuing the culture of farming and agrarian ideals of rural farming communities, these targeted educational efforts valued economics (measured by

---

<sup>13</sup> No till is defined here as any direct seeding system with minimal soil disturbance and includes ridge and strip tilling. Conservation tillage includes any method that leaves at least 30% residue cover in the fields after planting.

cost of production per unit) and top-down rural “development.” Moreover, they also tended to reinforce gendered notions of farm life; training for male heads of households and their sons tended to focus on crop production and marketing, while training for women emphasized the importance of modernity in the home. In the twentieth century, this development model emphasized the introduction of particular types of infrastructure within communities and homes: running water, electricity, and roads to rural communities, with a more recent shift to broadband access. These pieces of infrastructure are inarguably critical to improving quality of life and access to distant farms. They are also necessary for intensive irrigation, supply chain development, and the export of farm products out of rural communities, and have established communication networks for extra-local corporations and educational institutions to engage with farmers.

However, a more troubling shift in development initiatives at this time was presumption that rural agricultural spaces should be valued more for the capacity of farmland development than for food production. This has directly contributed to the current situation wherein the continued spread of urban and peri-urban communities has re-valued farmland for its development potential in Indiana as well as throughout the United States and other parts of the world. In this troubling scenario, thousands of acres are razed by development companies for new home construction, business developments, and interstate highways, all while existing structures and developments in urban centers remain empty. American Farmland Trust’s (AFT) State of the State report under their Farms Under Threat Initiative notes the ubiquitous nature of this development trend across the entire country that made widespread impacts on the availability of affordable land for emergent farmers (Freedgood, et al. 2020).

The AFT State of the State report identified three areas for concern in land development practices across the nation from 2001-2016. First, eleven million acres of agricultural land were converted, paved, or fragmented. Importantly, this large-scale transition of land use significantly impacts the capacity of farmers to produce food sustainably, and has secondary effects on economic and environmental viability of rural spaces. Second, the report noted that low-density residential (LDR) land use is a growing threat to agricultural land. Third, 4.4 million acres of “Nationally Significant” land were developed for urban highly developed (UHD) and low-

density residential (LDR) uses. Nationally significant land is defined by AFT as farmland that is the most productive, versatile, and resilient (PVR) for food production (Freedgood, et al. 2020). These development trends have also effectively raised the value of land per acre to prices that make it nearly impossible for new entry farmers to buy land without the assistance of land trusts, land inheritance, and/or significant investment capital. In Indiana, there have traditionally been no private organizations committed to the preservation of agricultural land, and we are one of the few states with no official agricultural land conservation programs.<sup>14</sup>

### 2.3 Indiana Agriculture and Women

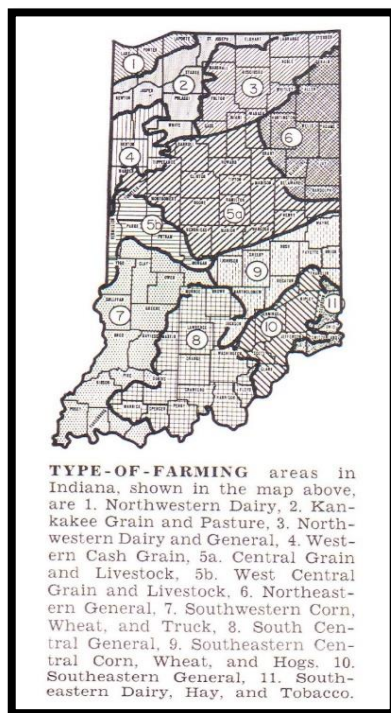


Figure 3. Indiana Farming by Region, Ca 1920s. Permission to reproduce from Purdue University Archives and Special Collections. (Purdue University Department of Horticulture 1926)

The above shifts in agricultural knowledge and production systems are critical to understandings of the transformation of Indiana Agriculture over the course of the twentieth century; in that time, Indiana has emerged as a leader in agricultural commodities production. This is likely attributable to the fact that Indiana's geography is well-suited to large scale production systems dependent on heavy machinery, as well as the extension, education, and research efforts of Purdue University. As demonstrated in Figure 3, Indiana's agricultural spaces were historically more diverse than they might seem today. The map illustrates the once tacit knowledge that micro-climates and varied growing zones are most productive when crops and production schedules are adjusted to meet the varied needs of local growing conditions, rather than bending the land to the needs of the market. Historic localized and regional food production systems embodied knowledge systems that were predicated on deep engagement with agricultural spaces and regional markets,

rather than engagement with commodity markets and brokers. What is missing in this map is a

<sup>14</sup> Please note, that Indiana does have several organizations and programs committed to natural conservation, but these are distinct from agricultural conservation efforts. Agricultural conservation focuses on the preservation of land for production purposes and is achieved through a variety of mechanisms such as zoning, tax incentives, or the purchase of development rights.

depiction of the fact that even within identified farming regions and categories in the state, individual farms were often diversified as well- a dairy farmer might also have a small truck plot, a grain farmer might also raise hogs, etc. In fact, this diversification often allowed for multiple revenue streams on a single farm, thus better ensuring the financial viability of the farmstead.

These diverse revenue streams also cultivated spaces in which women could operate a business within the farm and earn money without having to leave the farm, providing a distinct contrast from early farm schools that reified women's place within the home. For example, Eva Goble, an early leader in home extension work at Purdue, discussed the importance of economic and social contributions by women at the 1964 State Conference for Extension Leaders. "Too often we assume that women work for pin money. No doubt this is a hangover of an old agricultural concept of egg money...More often she is paying off a mortgage, educating a child, or caring for aging parents. In addition, she is engaged in helping society achieve one of its functions—[to] produce and distribute goods and services." In this excerpt, Goble acknowledged that women-run side businesses within the farmstead economy were often trivialized; that is, women and their income were secondary to or less than the income earned by the primary crops or animals raised by men. However, as noted by Goble, these entrepreneurial women in fact contributed greatly to the farm household through the sale of eggs, specialty crops, and other ventures. She also notes their contribution to society, and particularly to rural economy. The emphasis on women's spaces and tangible contributions to the farmstead and rural economy supported Goble's argument that women and their communities could benefit greatly from extension work designed for the education of rural women. Although Goble's efforts illuminated and valued the contributions of women's farm and care work, it resulted in the desire for increased access to education that would increase efficiency of farmers' wives, and thus the farmstead. Extension efforts in domestic economy did improve efficiency on farms, but also facilitated social spaces and a sense of community, while fostering research that could eventually benefit women who were single or from urban and peri-urban places. However, these efforts failed to account for the



needs of women of color who, with their families, were frequently denied agency and land access in rural spaces.



Figure 4. "Horn of Plenty." Permission to reproduce from Purdue University Archives and Special Collections (Purdue University Department of Horticulture 1926)

Long before Goble's address in 1964, (white) women were working to secure educational opportunities for (white) women and girls in rural farm settings. One such woman was Virginia Claypool Meredith who, in addition to her many responsibilities to the University and her livestock farm, shaped the early years of home economics education. As the first woman to join the Board of Trustees at Purdue, Meredith represented a departure from accepted norms of what was possible for women at that time. She was well-respected for her business acumen and gave presentations around Indiana and the Midwest to male livestock farmers. This became important because Meredith recognized early on that the opportunities afforded to rural women were few, and that her own successes were attributable in part to the fact that she was widowed; had her husband still been living, he may have taken her place in the male spaces Meredith engaged with. Meredith organized the Home Economics course within the School of Agriculture at the University of Minnesota and fiercely advocated for establishing a similar program at Purdue, with a vision for similar programs at other land grant universities. Meredith recognized that home making was a learned profession, albeit one that had been neglected by universities for too long. By formalizing instruction for girls and women, women's work could be legitimized and



appreciated. As Virginia Meredith worked to launch home economics as a compliment to existing schools of agriculture, Lella Reed Gaddis worked to establish the home economics department of agricultural extension. Building on the foundation created by the Hatch Act (1887) which strengthened the capacity of land grant institutions to research *rural* agricultural concerns by establishing experiment stations, the Smith-Lever Act (1914) created Cooperative Extension Services to be affiliated with each land grant university. Smith-Lever dictated that Extension services would, for *rural* communities, “aid in diffusing among the people of the United States, useful and practical information on subjects relating to agriculture, home economics, and rural energy and to encourage the application of the same...” (United States Congress 1914) Smith-Lever codified cooperative agreements between the USDA, land grant universities, and state and county governments, with an eye towards diffusing information to farm families that was deemed *useful* and *practical* by the USDA and its university partners. For home economics and educational efforts that were cultivated for the wives of farmers, this information was tailored to improve the efficiency of women’s work by introducing modernity, as well as improve her capacity for care work through the introduction of nutrition and hygiene standards.

It is important to note the explicit and intentional use of *economy* in home economics, from the inception of the concept of domestic economy and the subsequent development of various home economics programs. Early pioneers in women’s education recognized the important role of women’s work for the home, but also for the local, regional, and national economies to which they contributed. Emma Montgomery McRae’s treatise Concerning the Education of Girls recognized the potential for women’s work to provide a profession and an income. She stated, “These occupations offer an opportunity for young women, while still retaining the protection of her home and helping to make it ideal, to have a lucrative profession.” The skills gained in home economics training and education were not intended only for use in the home, but also in creating autonomous spheres of work and wage earning for women. Feminist Marxists have noted that this type of reimagining of formal and informal economies that valued women’s contributions of work and labor was ultimately embedded in capitalist logic that emphasized development discourse and practice predicated upon specific notions of modernity (Razavi 2009) (Rousseau, Gautier and Wardell 2019). Maria Mies has argued that this “predatory patriarchal division of labor” is predicated on *separation* and *subordination* of human beings (Mies 2014,

74). In the case of domestic economy education, women's success was encouraged in the separate sphere of the home and was appreciated as a *complement* to men's work, rather than women's work being valued for its critical contributions to the farmstead and local and regional economies.

In spite of their significant contributions to the farm and rural economy, women, by default, were not explicitly included in the Census of Agriculture until 1978 when for the first time the census asked for the gender of the principal farm operator. The implicit assumption was that until this point, men were the sole decision makers of the family farm because historic precedent presumed the success of the farmstead was reliant upon a male head of household. Moreover, women were still frequently left out of census data after 1978 due to census methodology that only accounted for a principal farm operator. However, anecdotal evidence from oral histories and farmer accounts indicates that women were actively engaged in farm activities, and that the entire family was essential to the success of the farm. After the inclusion of secondary farm operators in 2007, the number of women farmers counted in the census more than tripled from 306, 200 to nearly one million (or 30% of all farmers counted) (Hoppe and Korb 2013). These numbers are not an indication of a sudden interest in farming by women. To the contrary, they are an acknowledgement of the long-standing tradition of women's involvement in the farm business that was acknowledged by Goble, her cohort, and women living in rural communities prior to the institutional recognition of women's significant contributions. Despite the relatively recent recognition of women in agricultural spaces by the census, women have always played an important role in rural communities, both through their decision-making and their economic contributions.

I contend that women's involvement in farm decisions and production also contributed directly to diversity of production on the farm, as well as the health of farm families and rural communities in times of plenty and scarcity. The sale of eggs and specialty or truck crops by women correlates to areas of the farm that were most frequently spheres of women's work, and also those that were spatially closest to the home. Every Indiana farm through the first half of the twentieth century, regardless of its primary outputs, had a kitchen garden and/or chickens in order to feed the family, and these spaces typically were under the care of women. Although

some farms focused on the production of specialty crops for sale to urban markets, the sale of fresh eggs, produce, and value-added products to neighboring communities contributed to the overall success and diversity of farms focused on production of meat, dairy, and grain. In the below graph created by Ken Meter (Meter 2012), we can also see the significant contribution of this work to farmstead diet and nutrition as measured by its economic value. The sharp decline in the value of food kept for home consumption illustrates changes in production that shifted to emphasize export crops and the subsequent necessity for importing foodstuffs to be bought at grocery stores. This shift effectively devalued and obfuscated the important contributions of women to the farmstead.

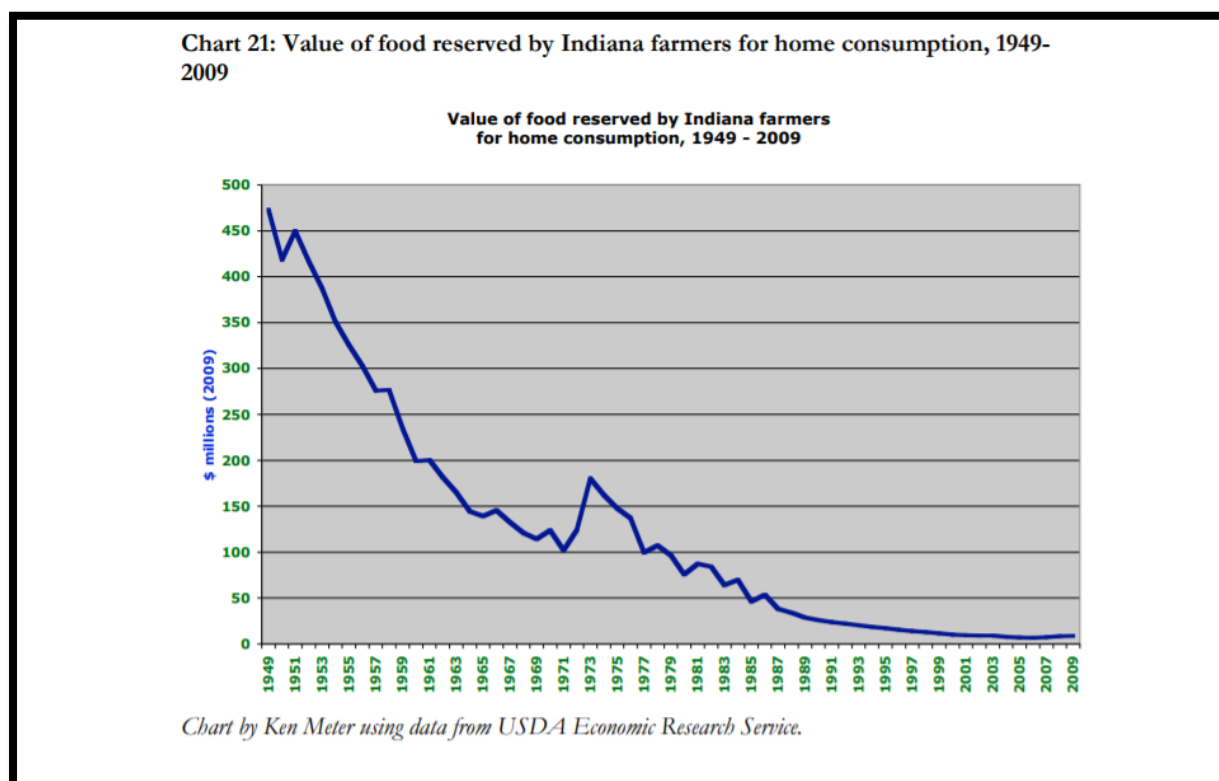


Figure 5. Graph depicting the monetary value of food kept for the household in Indiana. Source: Ken Meter

Women's deep involvement in performing care work, contributing to the household economy, and the decision-making required to govern their households and support their communities has gone far beyond the traditionally recognized sphere of the kitchen. From the early days of providing additional revenue by raising chickens or maintaining a truck garden, women have remained a critical thread in the farmstead tapestry, albeit one that was overlooked by the census

of agriculture. The shift to conventional agriculture reconfigured the land, but also the roles and practices of the farm household (Ember 1983). In the alternative agriculture movement, however, women have emerged as visible leaders. At a conference celebrating the 30<sup>th</sup> anniversary of SARE (Sustainable Agriculture Research and Education), plenary speaker Rob Myers reflected, “Even going back to the 80s, the room<sup>15</sup> was 90% women. Unlike the regular meetings that were 90% men.” From my own experiences visiting many markets, meetings, conferences, etc. that have been created for small scale and diversified growers, it is true that the composition of the room is often significantly different than in spaces cultivated for large scale commodity growers.

## **2.4 Farm Trends and Cycles**

Farm management systems and the rise of modern conventional agriculture cannot be understood without drawing attention to the dependence on exports and extralocal systems, which as shown in previous sections, transformed household and farm economies and roles, by placing shifting the emphasis to efficiency and productivity. Over the course of the twentieth and into the twenty-first century, there have been a series of cycles of relative prosperity and misfortune in agriculture - measured both in terms of output and financial gain. Although agricultural output has oftentimes been more attributable to factors outside of human control (i.e., weather), production affects and is impacted by policies designed to maximize efficiency and position agriculture as an industrial complex. Eras of prosperity in farming communities have catalyzed capital investment and expansion, which have in turn necessitated increased reliance on mechanization, ultimately culminating in farm consolidation when prices drop, and the loans cannot be paid. Don Paarlberg was a farmer and a widely revered expert in agricultural economics and farm policy who was a distinguished professor at Purdue University and served at the USDA under the Eisenhower administration. Paarlberg, over the course of his career, noted the growing dependence upon technology and described the technology treadmill of conventional agriculture (Paarlberg and Paarlberg 2000): As the price of chemical inputs rose, farmers bought in to new technology, and as technology improved efficiency and productivity, prices fell. When faced with falling prices, conventional farmers had two choices: if they had adequate capital remaining, they could adopt newer technology or, if they didn’t, they could sell

---

<sup>15</sup> Myers was reflecting here on the predominantly male attendance of agricultural meetings and spaces for conventional agriculture.

the farm to the highest bidder. In the farm crisis of the 1980s, a perfect storm of rising input prices paired with high debt to income ratios on farms resulted in high levels of farm consolidation. Imhoff and Badaracco note that in 1985 alone, approximately 300,000 farmers sold their farms and left the profession (Imhoff and Badaracco 2019). Underpinning these historic cycles is a deep reliance on an extractive framework that is predicated on the export of goods and a reliance on techno-innovation that has contributed to the re-imagining of rural landscapes and relationships, as well as the expansion of farm scale and global markets.

In his 2012 study, Ken Meter argues that the reliance on exports and sales to distant communities is a result of the settler-colonial era, in which most individuals living in Indiana were farmers and had few opportunities for selling their food in local markets (Meter 2012). In effect, settlers<sup>16</sup> were unable to focus their efforts on building local markets because they arrived with debts to pay and, even if they had chosen to sell farm products locally, they would have been unlikely to find viable markets amongst their farming neighbors. Farming was an endeavor in feeding those closest (one's family)- and furthest (strangers in urban centers) away, with little attention to building local markets and economies. In this era, regional and distant urban markets readily accepted the abundance of food that was produced on the rich soils of Indiana, and a precedent was set for our current framework which emphasizes exports on a global scale. Despite the fact that only a fraction of Indiana residents still farm, I contend that this export focus and the proximity to Chicago has also likely contributed to Chicago's preeminence as a processing center, and now as a "maker space." Chicago's emergence as a shipping and processing center was attributable to its proximity to fresh water (Lake Michigan, Chicago River) and its position as an established trade center that was violently dispossessed from Indigenous peoples. Meter goes on to explain how this early focus on export economies also impacted food and transport infrastructure, which still often make it easier to ship commodities to a processor operating on a national or global scale than to get food from one side of the state to the other.

---

<sup>16</sup> A more in-depth discussion about the lasting impact of the settler-colonial era will follow in Chapter 4. However, the settlement of Indiana was predicated upon the violent dispossession of land from Indigenous peoples and the subsequent erasure of traditional ecological knowledge.

From the settler-colonial era through today, there has been a reliance upon a global trade network from and to the United States. In accordance with the mandate of Manifest Destiny and its directive to settle and “civilize” the “New World”, colonizers endeavored to extract value from the land. From fur, timber, and raw supplies, this shifted to food and crops as the land itself was extracted from the stewardship of Indigenous Peoples and relied upon the labors of enslaved African peoples. This process was not unique to the United States and was repeated around the globe wherever European colonization efforts occurred. Despite vastly different climates, growing zones, and Indigenous Peoples in lands targeted for colonization, the methodology by which the land was transitioned to *acceptable* use and productivity was consistent and formulaic. This formula prioritized land ownership, control, and efficiency above all else, with little regard for the systems that had been the source of subsistence prior to European arrival (Wittman, Desmarais and Wiebe 2010). It was inconceivable to settlers and colonizers that production systems firmly rooted in shared stewardship of the commons and without implementation of fences and rows were an effective use of the land. The development of modern conventional agriculture has thus been reliant upon the erasure of violent settler colonialism.

In the eyes of newly arrived European settlers, it seems the land was the most valuable prize of the New World. Its future “improvements” to align with European standards of use would further ensure the long-term viability of the New World experiment and provide a reward for those tasked with clearing the land of its “savage” Indigenous Peoples. Later, the promise of opportunity in the Americas was based upon this premise of land ownership for all and the ability to pull oneself up through hard work, perseverance, and ingenuity. People with little opportunity and even fewer resources in Europe came to the New World to stake their claim and reimagine their standing in society. Although the Americas had been inhabited for thousands of years by many nations of Indigenous populations, the United States was perceived as a vast and open wilderness that needed to be tamed in order to realize its potential (H. Smith 1978). The notion of “savage” Indigenous Peoples was reified in the minds of European settlers by indigenous land use practices and, in time, by the defense of their land. Over time this ethos was codified into the culture as the American Dream (P. Miller 1956) (Usner 1996). In effect, the dependency on exports from rural communities in modern agro-industrial systems is the most

current expression of extractive economies that disincentivize stewardship of landscapes and continues to reify a history based on dispossession.

From the outset of settlement and colonization in the U.S. and around the globe, the primary objective was to tame the land and the people; once this was achieved, the emphasis shifted to efficiency. The development of modern conventional agriculture and farming management systems was facilitated by the intentional exploitation of labor, the racialized dispossession of land, and the erasure of traditional ecological knowledges to support the efforts of nation-building and an emphasis on productivity (Salvador 2019). I contend that earliest harbingers of agricultural industrialization occurred during the 18<sup>th</sup> and 19<sup>th</sup> century with the introduction of intensive monocropping and plantation production systems. Instead of heavy machinery and chemical inputs, these early examples, primarily situated in Southern States, were reliant upon human labor, provided by black and brown bodies that were enslaved or, at best, poorly compensated. Today, these systems are mirrored in a reliance upon migrant labor in commodity cropping systems, wherein financial viability is predicated on the expense of the exploitation of human capital (Guthman 2004). These plantations and the bodies that supplied the labor provided the foundation of global trade as we know it today. Rubber, coffee, cotton, tobacco, etc. were bound with the slave trade, and formed the cornerstone of the economy in the Americas. The products of these plantations and the money and trade goods they resulted in benefited landowners, managers, and wealthy patrons who often still lived in Europe. These early experiments in extraction and exploitation in the pre-industrial era are mirrored today in the commodity scale production of goods. Mono-cropped fields of fruits and vegetables in the U.S. are reliant upon the labor of black and brown bodies that follow the harvest, and farmers in the tropics receive paltry sums for the production of coffee, bananas, etc. Absentee land and farm owners reap the benefits of the work of marginalized peoples, the elimination of biodiversity, and the ecological devastation of the land. In post-industrial nations like the U.S., it is argued that a return to smaller scale, labor intensive farms is impossible because the global populous would starve, despite evidence to the contrary that illuminates the critical role that smallholders fulfill in producing up to 80% of the global food supply (FAO 2017).

The United States' emphasis on extractive and export economies also significantly impacted rural communities and values over the course of the twentieth century. The industrialization of agriculture is closely bound with industrial shifts in other industries as well as the urbanization of rural populations. The increasing need for food and fiber to supply urban centers was amplified after WWII and over the course of the twentieth century, and reified the need for expanded production from rural communities and farms - in spite of a rapidly declining populous from which to draw farm labor. As a result of the increasing urbanization in the U.S. and around the globe, Malthusian precepts of population growth that outpaced the capacity to feed became engrained in political and public discourse (De La Garza, et al. 1974). The presumed accuracy of Malthus' argument that the world would experience limitless population growth paired with increasing scarcity has resonated as a challenge to cultivate technological solutions in agriculture to avoid the inevitable descent by much of the world's population into starvation (Kallis 2019). The standard argument for improved efficiencies, genetic modification, and commodity production in conventional agriculture since the mid-twentieth century has been that these levels of production are necessary to feed a growing world (De La Garza, et al. 1974). These arguments have provided the basis for international initiatives such as the Green Revolution in the 1970s that have had significant deleterious impact on the global community and the food sovereignty of the Global South (Patel 2007) (Rosin, Stock and Campbell 2012) (Shiva 2012).

As official and ad hoc extractive policies in the United States (and Americas more broadly) became more common, the underlying and ultimately unquestioned logic of dependency-based capitalist agricultural systems reinforced the need for over-production and export markets. This logic was solidified and supported by global events like World War I that necessitated increased production as a response to risk and scarcity, to feed American troops and European citizens when fields and cities were destroyed by fighting. The requisite expansion of production and accompanying higher crop prices received during WWI catalyzed increased capital investment by American farmers. Farmers bought land and equipment in order to keep up with increased demand, and subsequently watched in abject disbelief as prices plummeted as food production in Europe returned to pre-war levels. As food prices and farmer share declined, advocates for farmers argued for parity pricing which would effectively set minimum standards for prices that were on par with pre-war levels and guarantee the viability of American farms. As prices



continued to plummet during the Great Depression, parity pricing was codified in the Agricultural Adjustment Act in 1933. The declining prices of the post-war era, the Dust Bowl's impact on production, and the lack of markets during the Great Depression collectively resulted in a political climate where the value of farms and farmers was recognized via legislation that enforced minimum food prices in an effort to stymie the loss of family farms and displacement of the people who lived and worked on them. In his reflections on agricultural policy during the Depression era Don Paarlberg, author and professor of agricultural economics, stated:

Farmers, needing help, undertook a number of desperate acts. In a dramatic protest against foreclosures, they threatened to hang a federal judge. They overturned milk trucks, picketed packing plants, and boycotted farm sales. The mood was ominous. There was anger, frustration, and insistence on action. (Paarlberg 1987)

The deep frustration from farmers in Indiana and across the country that is illuminated in Paarlberg's ruminations contributed to national policy decisions to protect farming as a livelihood through price supports and conservation measures; the subsequent policy actions, however, contributed to the eventual consolidation and decline of historical family farming in lieu of large-scale farm management systems.

In addition to the Great Depression and WWI, WWII was also a critical and instructive moment in farming communities. Parity lost favor amongst politicians as market values for food increased during WWII. As Europe was again ravaged by the effects of war, global demand for food and fiber from the United States surged. Hunger relief programs and the necessity of feeding troops overseas increased the demand for food, while the number of available men to work on farms decreased as troops were sent overseas. Labor shortages combined with higher prices catalyzed investment into farm mechanization to improve efficiency and meet demand. Increased demand also stopped the production regulation that accompanied the Agricultural Adjustment Act as a mechanism to keep prices higher. Parity was controversial even before the market shifts that occurred as a result of WWII, but increased demand for agricultural produce drew additional criticism to the parity system. Critics of the system argued that it inhibited the cycles of supply and demand that regulated other industries, and that prices based upon pre-WWI standards were irrelevant to current production capacity (and thus too high).

The cycles and feedback loops discussed above (e.g., natural and man-made moments of crisis such as the Dust Bowl, World Wars, and subsequent development of national policies) are distinct from the current shift in farming that is marked by an influx of new entry, independent, and/or diversified farmers in Indiana. Historically, in moments of pressure and unstable markets, farmers and farm service providers have embraced the farm management ethos, with an emphasis on increased scale, efficiency, and expanding reliance on successive iterations of technology. Through these processes, I contend that the isolation of plants in mono-cropping systems has paralleled the relative isolation of people in rural communities as rural labor needs decreased and rural people were extracted for industrialized urban labor forces, resulting in the decline of plant, ecosystem, and human/mental health. In direct juxtaposition to this historical trend, the farmers that I spoke with over the course of this study are seizing an opportunity to redefine agriculture in Indiana, by attempting to localize food systems and feed their neighbors and nearby communities.

## **2.5 Purdue Agriculture School**

The archives at Purdue University provide insight into the above described shifts and moments in agriculture in Indiana. Although the development of farm management systems was not unique to Indiana, Purdue University's status as a leader in agricultural education and close ties to national agencies like the USDA positioned Indiana's agricultural spaces as a "pseudo lab" for experiments in the diffusion of technoscientific knowledge and the prioritization of efficiency for integration into global markets. I argue that these processes effectively devalued local knowledge systems and restructured rural communities and farmscapes. My analysis of archival evidence suggests that the distillation and spread of technoscientific knowledge produced in the university was intentionally spread through rural communities by eliciting cooperation of extension agents, industry, and media, with the express goal of securing farmer commitment to new practices and technologies. The intentional cyclical process by which this was achieved is illustrated below in a memo distributed by the USDA for extension agents, circa 1958.

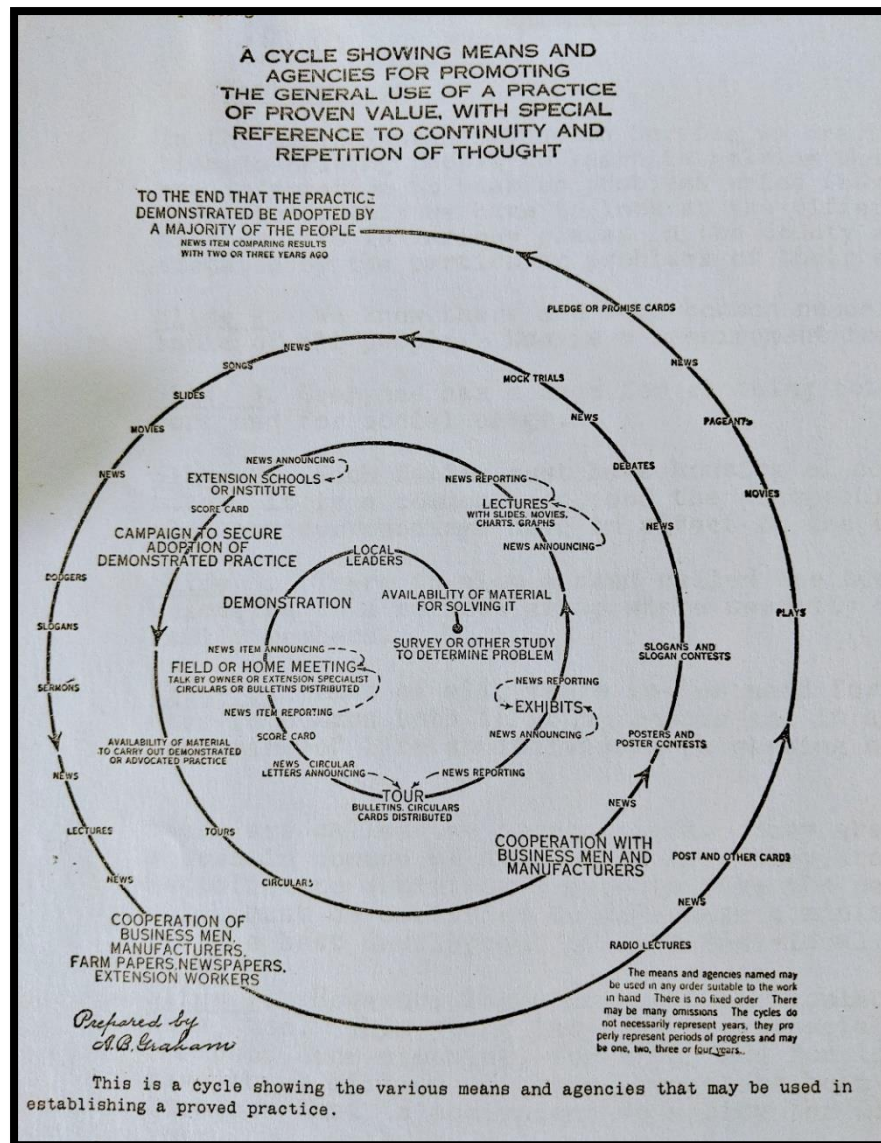


Figure 6. USDA mimeo: Cycle for the Successful Promotion of Practices of “Proven” Value. Permission to reproduce from Purdue University Archives and Special Collections (USDA ca 1958)

I would like to call attention to the description at the bottom of the image that states this method should be used for establishing a “proved” practice, thereby supporting the idea that technoscientific innovations were to be prioritized over local knowledges. This image also illuminates the specific methods of knowledge transmission that were used to encourage a reliance on technology and support the shift to farm management systems.

In the following subsections, I will provide insight into the

perspectives of two key figures in the agricultural transition of the twentieth century: Earl Butz and Don Paarlberg.

### 2.5.1 Earl Butz

In an oral history interview between R.B. Eckles and Dr. Earl Butz in 1970, Butz reflected upon the state of agriculture in Indiana upon his return to Purdue from his posts in the USDA and the Food and Agriculture Organization in 1957.

...agriculture was really changing from a way of making a life to a way of making a living. I grew up in an agriculture where half of our people were in agriculture. It was a lot of handwork; a lot of hard work. Productivity per man was relatively low. It was just becoming fully mechanized at that time. When I came back here in 1957, we were just then entering into the era of undersetting agriculture with tremendous amounts of science and technology. The productivity per worker was zooming. The number of workers was decreasing. The amount of capital involved in agriculture was increasing a great deal. The amount of technology and research was greater than ever before. We were on a fast track. Research in agriculture was widely and well accepted by the American public. It was going good at Purdue. (Eckles 1970)

I would like to draw your attention here to some of the key points in this quote from Butz's oral history that succinctly summarize the enormous shifts in the ideology and practice of farming in the United States over the course of the twentieth century. The emphasis on technology, productivity, and capital as markers for progress in agricultural research and education at the university assumes that the end goal of agriculture and its relative success are dependent upon the use of industrial standards of production. Hand work and hard work, the physical labor of the farmer, were insufficient in the new system that emphasized productivity per person. By emphasizing productivity over other measures of success, mechanization became a necessity, but at what cost? As Butz notes here, the number of farm workers was decreasing in direct proportion to the increases in capital investment, and this was the "fast track" to agricultural success. As the need for human labor diminished, rural populations left for urban centers and alternative sources of income, thus reifying the need for increased efficiency and production as fewer people were farming and producing food. As a result of this and the need for economies of scale, the decrease in the number of farmers (and farms) has been inversely proportional to the size of farms.

Butz continued, "Furthermore, I set out to give dignity to agriculture here, to make agriculturists proud to be in agriculture, to make our students proud to be agriculture students." (Eckles 1970) Taken at face value, this statement seems innocuous enough. If we interrogate the implications however, it becomes reflective of a salient trend in the post-war culture of the United States. If Butz needed to *give* dignity to agriculture and to imbue farmers with pride, the implication is that they had nothing to be proud of, that their vocation lacked inherent value. I propose that Butz's statement here is symptomatic of a societal de-valuing of traditional agriculture that occurred as

an iterative process with each successive development of farm technology. As I have described previously, the increased reliance on expert sociotechnical systems for improved efficiency and capital expansion was cultivated at the expense of expert local systems and knowledge for localized food communities. As farmer values shifted from stewardship and engagement with the land to an orientation of scientific and administrative use of the land, agriculture became synonymous with business, productivity, and efficiency.

### **2.5.2 Don Paarlberg**

In a 1971 address given at the Annual Convention of the National Milk Producers Federation, Don Paarlberg described the rapid changes occurring on most family farms through the lens of agricultural economics. As the Director of Agricultural Economics for the USDA, Paarlberg's vision for the "Future of the Family Farm" was founded solely in the economics of farming, and seemingly in contradiction to some of his other articles and presentations that nostalgically recalled his upbringing in a small farming community in Lake County, Indiana. In his 1971 address Paarlberg poses a question which could have easily been pulled from a blog or op-ed in 2019: "Are the family farms going to survive, or will they be swallowed up by huge corporate farms?" (Paarlberg 1971) *Family* farms are presented here in juxtaposition to the *corporate* farm; the family farm, as a unit of measure, is also presumed to be much smaller than its *huge* commercial counterpart. The question of farm management and scale also becomes a signifier for other categories and portends a dialogue about the relative virtues (or lack thereof) that accompany the divergence from the family farm as a unit of operation and as a cornerstone of the community. Paarlberg uses corporate and commercial almost interchangeably in the early part of the address, but goes on to define corporate as a type of farm organization and commercial as a signifier of production and scale. Family farm is used to indicate a farm on which the majority of decisions are made by the operator and *his* family.

Paarlberg describes farming prior to the "scientific revolution in agriculture" as an art and a skill; a farm-raised *boy* could gain sufficient training and resources to successfully run his own operation through life experience. Paarlberg stated, "The family farm became a tradition, deeply embedded in our economic, political and social structure. The emotional commitment to this form of agricultural organization was tremendous." (Paarlberg, Future of the Family Farm 1971)

The transition of agriculture from art to science was accompanied by much larger investments of time, knowledge, and capital. With this transition, it became commonplace for the “factors of production” (land, labor, capital, and management) to be divided among multiple individuals to maximize efficiency. By consolidating farms into managed associated units, this process was reified, thus raising the bar for necessary capital, land, labor, and management skills. In the context of Indiana, the end result of these processes is apparent in the vast expanses of corn and soy in most parts of the state, seemingly in direct contradiction to census data which notes a majority of smaller farms. Stated more simply, smaller farms growing commodity crops are frequently operated as part of a larger whole, not by an individual farmer or family, but instead by an agricultural business that is run by a manager. The distinction between “new” and “old” farming in the 1970s in Indiana (and the United States) came down to larger scale and the reliance on management as utilized in other industries. Additionally, in his 1971 essay, Paarlberg uses the term “factory farm” to describe large scale farms, and specifically those that operated with management and production quotas, much like a factory. Used descriptively here, it seems likely that the modern use of “factory” as a negative descriptor of large-scale farms originated with the increase in non-family farms. It is interesting to note that even in 1971, Paarlberg felt the need to define what he meant by large scale farms. He acknowledged that scale could be defined in terms of hired labor, volume of sales, legal form (e.g., whether they were incorporated), or method of sale (e.g., advance contract). This variability in the ways that farm scale is defined has diffused into current discourses, making it difficult for food systems advocates to define what small scale means and to position it in juxtaposition to its large-scale counterpart. Often, quantitative measures of scale are qualified with other indicators like “independent” or “human scale.”

In 1975, Paarlberg made his prognostications for what the future of agriculture would look like (in 200 years). Many of his predictions have already come to bear, and it seems feasible that several others will as well if we continue on the current trajectory. It is difficult to state with certainty whether this accuracy was due in some part to Paarlberg’s affiliation with Purdue and the research that was happening there or whether it was coincidental. But if we assume that the Purdue connection was a contributing factor to his prescience, it seems clear that the University’s research played a significant role in shaping conventional agriculture. Many of Paarlberg’s

predictions focused on technological advances in agriculture: increasing protein content in grains, hybridizing of crops, biological control of insects and diseases, long range weather prediction and modification, the use of satellites in crop reporting, greater environmental control for plants and animals to improve efficiency and standardization, etc. (Paarlberg 1975). Since Paarlberg's predictions in 1975, we have rapidly moved past hybridized crops; genetic modification of crops now creates increased protein and nutrient content, as well as biological control of insects and diseases. Apps and drones facilitate the remote monitoring and management of fields and crops, and computer technology supports the emphasis on productivity and efficiency that is a signifier for conventional agriculture.

In addition to his technological predictions, Paarlberg's prognosis described future agricultural spaces where the family farmer would be all but obsolete:

The production of crops and livestock will require farms so large – so much land, so much capital, and so much managerial skill – that a single person will be unlikely to supply them all....the nearest thing to a family farmer will be a farm operator who lives on the land with his family, rents his farm, borrows his money, and hires his labor. (Paarlberg 1975)

Paarlberg went on to envision a future marked by part-time farms, wherein food production and off-farm jobs would be combined with rural living to reimagine rural communities and economies. In Paarlberg's imagined future, the prospect of mixed income was a choice, not a necessity, and would be paired with the benefits of rural living: "warmer relationships, cleaner air and water, greater privacy, and greater social stability (Paarlberg 1975)." In reality, most family farms now have at least one adult household member working off farm to guarantee financial stability. Moreover, as time has passed, the fabric of the rural communities that Paarlberg described has become threadbare, with a decline in population, local economy, and community ties. Paarlberg seems to have been conflicted over the course of his life and career. On the one hand, as an expert economist, he championed the benefits of efficiency. On the other, his nostalgic writings about the strength of community and the bucolic landscapes typified in the farms of his childhood indicate that on some level he recognized that efficiency did not hold the answer to every question.

## 2.6 Emergent Farmer, “New” Directions

Even if the new generation of prospective farmers has a desire to farm commodity and row crops at the agro-industrial scale, the price of entry has become prohibitive because of the combined costs of necessary capital investments, smaller annual purchases like seed and inputs, and, most importantly, exponential increases in price per acreage- for although proponents of generational stewardship would be reticent to name land as a commodity, the fact remains that it is a finite resource. We have effectively reached a tipping point of the financial viability of large-scale farming. The “average” contemporary farmer in the U.S. by statistical indicators is 58, white, and male. In Indiana, *he* is also most likely producing commodity and/or row crops: corn, soy, hogs, and layer hens. The expansion over the course of his career that was in part facilitated by various farm policies, farm busts and consolidation, and immense investments of capital now requires a return on investment if he is to retire. Farmers with no heirs (or none that want to farm), understandably want (or need) to get market value for their land. Those with heirs must work out transition plans that allow the land to stay in the family while also providing for their retirement years.

According to the National Young Farmer Coalition’s 2017 survey, young farmers, or those that have farmed for less than 10 years, cite land access as the number one barrier to farming, followed by student loan debt, labor, and health care (Ackoff, Barenburg and Lusher Shute 2017). Although the number of farmers who are under the age of 35, historically underrepresented, or new entry is on the rise, most farmland in the United States is still owned and managed by farmers who are over the age of 55. National Young Farmers Coalition, AFT, the USDA, and researchers in the Land Grant system have long recognized the lasting impact that the coming widespread land transitions could have if the land is developed instead of stewarded. However, solutions to keep agricultural land in production or conservation have been slow to keep up. In Indiana, there is no state-sanctioned agricultural easement or trust program, and limited resources for the independent organizations attempting to do this work. As a result, land prices remain at a level that is attainable only for developers, and land continues to be valued for its development capacity rather than its capacity for food production. New entry farmers rely upon non-traditional land tenure agreements, off-farm jobs, diversified revenue streams on the farm, and other measures in order to get their start in farming.



In spite of the tenacity of smallholder and alternative farmers, a deeper understanding of the unequal access to resources and support systems they receive relative to their conventional counterparts is crucial to developing a more equitable alternative. The focus on conventional agriculture and farm management systems as a solution to food production and food insecurity did not develop organically over the course of the twentieth century, but rather was intentionally cultivated by federal farming programs, land grant research and education, and targeted investments from agribusiness entities. The successes of land grant institutions like Purdue in securing buy-in from the farming community could, if applied differently hold great promise for a transformative shift in agriculture that equally supports smallholder and alternative farmers, methods, and farmsteads. Contemporary programs such as the Purdue Diversified Farming and Food Systems, the Indiana Small Farms Conference, the nascent Urban Farming Program, and multiple research programs being led by individual Purdue researchers have great potential to shift narratives and foment greater support and acceptance of alternative farmers if they are provided adequate funding to achieve their goals. Moreover, the extension model (Figure 6) that was successful in catalyzing uptake of technoscientific methods could be used in the implementation of educational efforts that equally value alternative knowledge systems as an alternative to technoscientific solutions, thus providing situated and nuanced options that are suitable for multiple scales and methods of farming.

## CHAPTER 3: SMALLHOLDER AND ALTERNATIVE FARMERS IN INDIANA

### 3.1 Introduction

*“...we live under the illusion that big is best, that big produces more, that big is more powerful. When it comes to food, this translates into the idea that we need big farms and big corporations to feed the world...But the reality is that small is big-ecologically, culturally, and economically. The future of food security lies in protecting and promoting small-scale farmers.”*

--Vandana Shiva (2016, 55)

Drawing on three seasons of ethnographic research with smallholder farmers in Indiana, this chapter explores smallholder farmer communities, their motivations, their farms, crops grown, challenges faced, and coping mechanisms. Despite recent media trends that frequently cite the decline of rural America, new farmers actively chose to live and work in rural and peri-urban communities. The most recent census statistics indicate that owner and operators of small-scale farms represent a new and growing diversification of farmers and farming practices. New farmers are frequently well-educated and are more likely to be women or come from BIPOC communities. Many of the farmers I worked with in this study are additionally at least one generation removed from farming and have no family agricultural resources or knowledge to rely upon. Many *choose* to farm after completing one or more degrees, or after establishing themselves in a first career; farming may not have always been the end goal, but it is frequently chosen as a pathway to a different lifestyle and as a mechanism of effecting change within Indiana and the local communities they farm in. The concurrent increases in small farms and new entry farmers in Indiana are *changing agricultural spaces*.

Small scale and alternative farmers reimagine and reoccupy agricultural spaces by changing land use in urban, peri-urban, and rural spaces throughout the state and challenging the notion that farms are defined by expansive fields of amber waves. By farming at the margins, smallholder alternative farmers engage in the transformation of urban communities through the addition of green space and contemporary commons, they grow diverse crops in small spaces, and they frequently demonstrate a commitment to biodiverse ecosystems with the inclusion of pollinator strips and re-naturalized spaces on their farms. These choices, in lieu of mono-cropped fields

have created a diverse array of alternative farms that are visually diverse but that coalesce around an ethos of stewardship that is predicated on the possibility of future generations having agency in the ways they produce and procure their food. They facilitate these changes by building mentor communities as both a coping and learning mechanism. Maintaining loyalty to the communities in which they live in many cases provides an opportunity to interface with and educate a public that is conditioned to grocery store prices far below parity. These farmers are doing more than rebuilding their soil or a regional food system, they are rebuilding a sense of communalism and improving the resilience of the communities in which they live and work across Indiana.

Not only are smallholder farmers and farming practices diversified, but their reasons for farming are multiple. However, the particular challenges experienced by smallholder farmers also means that their households need to diversify income in multiple ways. In addition to challenging the current conventional agriculture paradigm and the technofixes and dominative narratives that are associated with it, smallholder farmers must navigate zoning and regulatory issues, a lack of hard and soft infrastructure and the resultant need for vertical integration, a lack of capital and land access, and a cultural emphasis on cheap food that has cultivated a consumer base who frequently values low food prices over food quality. The driving questions for this chapter are: Why have smallholder farmers chosen to farm (and farm differently)? What specific challenges do they face? What can be learned from the alternative narratives and reimagined spaces smallholder farmers engage with? How do adaptive strategies contribute to farm viability and food systems resiliency?

### **3.2 Dominant Imaginaries and Emergent Alternative Farming Practices**

Food and farming are inextricably entwined with Indiana's history, and deeply embedded in the fabric of our collective culture. In Northwest Indiana, I am never more than a twenty-minute drive from fields of green and gold. Indiana's highways and state roads are lined on either side by vast fields that reach to the horizon with the occasional farmhouse, barn, or stand of trees for aesthetic diversity. In the summer months, amber tassels sway in the breeze atop green stalks. Corn that is "knee high by the fourth of July" is taller than most people less than a month later. It obfuscates all but the tallest of landmarks, leaving only the blue of the sky and a sea of green

circumscribed by asphalt roads trailing off into the distance. After the harvest, these same fields are littered with the stubble of harvest, remnants of corn stalks greying as the winter sky does the same.

Growing up in Indiana, I was perpetually aware of the role of the Hoosier state in feeding the U.S. and the rest of the world. I cannot recall the moment when I became explicitly conscious of this status, but it was somehow



Figure 7. Indiana Beach Promotional Image featuring I.B. Crow  
(Indiana Beach 1997)

clear that Indiana and its agricultural products was

instrumental in filling plates and bellies. Indiana could do this because it was and, in many regions of the state, still is composed primarily of farming communities and vast fields of corn (and soy). Indiana Beach, an amusement park founded in the 1926, paid tribute to these expansive fields of corn in their commercials from the 1990s. Indiana Beach's mascot I.B. Crow (a crow dressed in beach attire), would appear on the television screen crooning, "There's more than corn in Indiana...." Of course, there has always been more than corn in Indiana, but the perceived necessity of stating this fact implies that conceptualizing the state as one giant field of corn is an easy mistake to make. As Indiana established and expanded a tourist industry, Indiana Beach sought to distinguish itself from the dominant economy in the state, and specifically corn production.

Ask many Hoosiers to describe a "typical" farm or farmer in Indiana, and their stories will sound suspiciously alike. Farms have become synonymous with fields of soy, endless waves of amber colored corn tassels, and the stench of large-scale hog operations. A participant in this exercise with a particularly nuanced vision of agriculture in Indiana might also mention smaller dairy

farms- black and white Holsteins on rolling fields of green and iconic wooden barns. They might mention the monolithic Red Gold silo visible from I65 and go on to ask, “Where do those tomatoes come from anyhow?” In this description of farming, a typical farmer is ubiquitously white, aging, and male. *He* wears flannel and speaks in colloquialisms, has rough hands and leathery skin. Our “typical” farmer on *his* bucolic farm reifies an archaic yet idyllic vision of agriculture in Indiana, one that is rural, scenic, and undeniably masculine. In this vision, the art and the craft of agriculture remain, instead of an overemphasis on technology and wholesale removal of humanity. The fact remains, however, that for most conventional farmers in Indiana producing monolithic fields of corn and soy technology and a hands-off approach is a prerequisite for successful farming. The farm is something to be managed, like any other production system; efficiency is the penultimate goal.

In a paradox that defines much of the modern food system, most of the corn in Indiana is not the sweet corn you find at a farm stand or local grocery store. Throughout the Midwestern breadbasket, most corn fields are devoted to a product that is practically inedible and is used for animal feed, biofuels, and secondary food products like corn syrup and meat fillers. In Indiana, specifically, much of this corn is grown for animal feed and seed. Similarly, the majority of soybeans grown in Indiana are also used for animal feed. In 2018, corn farmers in Indiana planted five million acres of feed corn valued at over \$3 billion USD, and ranked fifth in the United States for the production of grain corn. Feed corn comprised 31% of crops, while sweet corn made up .1% of crop production (Matli and Reynolds 2019). This is one reason why the notion that Indiana is feeding the world or even the nation via corn is problematic. It’s not that Hoosier farmers don’t contribute to dinner plates - many do. But it is not the vast fields of green and gold that are helping to mitigate food security issues, or at least not in a way that is substantively nutritive. Moreover, the crops produced in these expansive fields are heavily reliant on global markets, all while Indiana imports 90% of all of its food, and 98% of its fruits and vegetables (Meter 2012).

While relatively few Hoosiers describe themselves as farmers today (approximately 1.4%) (ISDA 2020), most of us can still claim some connection to the farm via our family and friends, a favorite roadside stand or market, or the annual anticipation of Indiana-grown sweet corn and

sun-warmed tomatoes. In spite of these connections, many Hoosiers revert to the dominant agricultural narrative when thinking about or describing our state's farm(er)s. Why is this? The small scale and alternative farmers I interviewed over the course of this study provided an alternative vision of agriculture in Indiana. Perhaps more importantly, they also provided a reimagining of our local food system- a dream of a robust and vibrant value chain that supports the health, culture, and local economies of the state's residents. In these alternative visions, many farmers emphasized the importance of stewardship of the land, of communities, and of the situated knowledge they had developed through the care of their farmsteads. A defining characteristic of reimagined agricultural spaces is that they are specific to the environment they are in; thus, there is no singular portrait of an alternative agriculture, though every farmer I spoke with did grow diversified specialty crops. Which crops are grown is dependent on soil (clay vs sand), space available, community consumer preferences, and the preferences of the farmers themselves. In lieu of expansive amber fields, an alternative farm will most often boast a patchwork of shades of green with pops of red, orange, yellow, or purple from ripening fruits and vegetables. Many farmers seeking to extend the growing season utilize hoop houses, which intersect the verdant quilt of the plants outdoors. Every farm I visited also had space dedicated to pollinator-friendly flowers, herbs, and/or native plant species to encourage plant pollination and the revitalization of natural ecosystems. A few of the farmers I spoke with also raised animals (poultry or livestock), though many raised them for personal consumption or the sale of eggs. The majority of the farmers I spoke with were also women, a distinct departure from the "typical" farmer described above.

Many emergent Hoosier farmers and small-scale farms do their part to fill plates and bellies. They grow diverse crops, raise livestock and fowl, and advocate for the abolition of hunger and malnutrition. However, new farmers are not always part of the dominant agricultural narrative in the state. For most, a farm is instead normatively defined in terms of its equipment and acreage and, in this instance, bigger is definitely better. The tenacity and resiliency of smallholder farmers and their farms is often invisible in these narratives. The broader landscape of monocultures and the industrial "modern" agriculture complex dominates. Popular narratives about agricultural techno-optimism and feeding the world circulate widely.

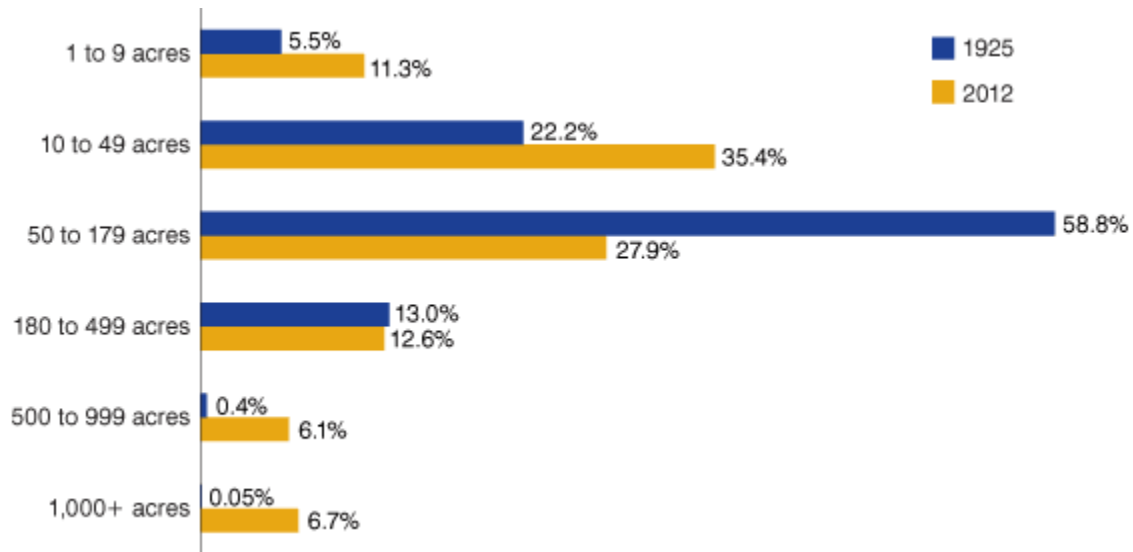


Figure 8. Indiana Farms by Size 1925 vs 2012 (Hall 2015)

Although smallholder and alternative farming methods have remarkable and multifaceted potential they remain, in much of the Global North, a marginalized (and often trivialized) minority. In the Global South, smallholders have been criticized for the unwillingness to embrace modernity under the presumption that modernity is the “correct” answer (Patel 2007) (Patel and Philppon 2018). Smallholder farmers in the U.S. are frequently devalued by agribusiness interests and commodity growers and further marginalized as hobby farmers, homesteaders, or survivalists, and in other nations they are considered “backwards” or unenlightened by some development initiatives (Ikerd 2008) (Shiva 2016). The fact that a portion of their income often comes from off-farm jobs is seen as evidence of failure in the farming endeavor instead of an intentional strategy of income diversification and self-supported insurance against the unpredictability of nature and markets (Netting 1993). However, these strategies and general adaptive capacity are precisely what makes smallholding a resilient strategy for farming futures; the smallholder farmers I worked with frequently referred to their ability to negotiate complex pressures by responding to and adapting their production methods and relationship building, as well as through the diversification of their revenue streams.

Small scale farmers have historically been written off as hobby farmers (by legislators, agribusiness lobbying efforts, and many commodity growers), delegitimizing their role in food production and in the rural community and economy. Delegitimization happens on multiple

levels. First, smallholder farmers work at different scales than agro-industrial farms. Second, smallholder farming households have diversified incomes, professional identities, and intensive labor inputs into the farm. For example, one or both adult members of a family may work off farm jobs. This tendency to work off farm, though, is not unique to small scale farmers, however, in this case is often used to question farmer occupational identities and practices. Large scale and commodity crop growers have for decades opined that they can no longer support a household on the farm's income alone. Large-scale, commodity growers are also likely to have at least one adult member of the household work off-farm jobs. What then, is the difference between the two? Why is one perceived as necessity or positively impacting the household income and ultimately supporting the work of farming, while the other is ridiculed and used to delegitimize the farmer and the farm household? Implying that smallholder farms are a hobby farm because they work off-farm jobs and have other revenue streams effectively devalues the farm and farmer. In one meeting I was in, with multiple government and community stakeholders present, a commodity grower responded to my comments about support for small scale farmers being critical for food security and local economic development by laughing and saying, "No *real* farmer makes a living at that scale." The devaluing of smallholder farmers that was emphatically stated as *truth* in this meeting, is a logic that I have heard repeated many times in meetings and rural spaces. The prevailing logic is that *real* farmers have to farm at large scales to make a living, with apparent disregard for the subsidies and crop insurance payments that it possible to make a living off of large-scale commodity systems.

In spite of this narrative, smallholder farmers in Indiana are working alongside food systems advocates to change perceptions and carve out a space for robust localized food value chains. In reality, small scale farmers and the land they work are more flexible and adaptable, more resilient; they are more likely to operate a diversified operation that is better poised to withstand the pressures of things like tariffs, weather, and climate change. In the case of the farmers I spoke with, it seemed that the more diverse and intentional the revenue streams were, the more resilient the farm was. There was, however, a fine line between improved and decreased resilience for farmers that worked full-time off farm jobs; specifically, for farmers attempting to work full time off-farm and develop the farm business by simultaneously farming full time, there is a high rate of burnout if the off-farm job cannot be eliminated, or hours reduced within the



first five years. Diversity in income generation as a form of household resilience is supported by the *scale* of the farm. Smallholder farmers benefit from their lack of reliance on specialized heavy machinery that dictates which crops can be grown. They are able to adapt and react to external pressures like weather or consumer demands, by adjusting their planting schedule and crop choices. This adaptive capacity is a critical component in farming resilience, particularly as weather patterns continue to shift as a result of climate change. For example, when Indiana experienced unprecedented precipitation in the spring and early summer of 2019, many commodity farmers were unable to plant their fields because they were either flooded or too wet to accommodate the machinery needed; they faced additional pressure from the constraints of their contracts and requirements of crop insurance and subsidy programs that effectively limit the window in which crops can be planted. Smallholder farmers, on the other hand, were able to adjust their planting schedule and crops planted to ensure that they were still able to produce something for market. Although they were impacted by rain and flooding, they were better positioned to adapt and consider alternative crops. Large-scale farmers, on the other hand, simply cannot operate a diversified operation because of their size. Their scale necessitates certain efficiencies and use of mechanization to make it feasible to complete a harvest or planting; these efficiencies and technoscientific reliance provide a stark contrast to the realities of small-scale farming (Meter 2004).

Innovation has, for all intents and purposes, become synonymous with technology in the field of agriculture (Ikerd 2019) (Herren, Haerlin and IAASTD 2020). Agriculture has been reliant on successive versions of technological investments for agricultural growth and increased yields since the first half of the twentieth century: mechanization, seed technology, pesticides, herbicides, and now computer programs, apps, and drones. One farmer I spoke with over the course of this study, Bradley, reflected on the current conventional agriculture paradigm, “We [collectively] haven’t shaped our lives to fit the land and the spaces we inhabit, but rather have attempted to shape the land to bend it to our will and fit a prescribed version of our lives.” But what has this dominion over nature gotten us? We are currently in a space where we are faced with a “climate crisis” that has been contributed to by a reliance on petroleum and petroleum-based products, intensive industrial scale agriculture, and confined animal feeding operations (Wittman, Desmarais and Wiebe 2010) (Herren, Haerlin and IAASTD 2020). I propose a

reimagining of foundational precepts of innovation, where innovation is defined by a divergence from this conventional agriculture norm. In this instance, innovation would be mindful of indigenous, local and traditional ecological knowledges (IK, LK, TEK) that emphasize a holistic systems approach to social-ecological systems that embraces the logic that ecosystems and social systems are inextricably linked (Mies and Shiva 2014). Carl Folke has described the importance of supporting adaptive approaches and experimental learning models in the facilitation of transformational change (Folke, et al. 2010). Smallholder farmers in Indiana utilize adaptive approaches as a strategy for fomenting transformational agricultural and food systems change at a larger scale. Folke has described how this tactic was effective in Latin America, where small-scale experimental adaptations to ecological pressures resulted in a transformation of the region's farming systems in what he has called an agrarian revolution (Folke, et al. 2010). In Indiana, broader adoption of smallholder adaptive practices would provide a framework for a shift that could begin to redefine our rural landscapes and agri(culture) by improving environmental, social, and economic resilience.

### **3.3 City Farm/Country Farm: Farming at the Margins**

#### **3.3.1 Sylvia's Farm**

It was a typical Indiana August evening the first time I drove to Sylvia's farm- exceedingly hot and so humid you could drink the air; the cicadas were buzzing as if to provide a soundtrack. I had my son with me, and I wondered if we would both be miserable with him strapped to me in the baby carrier. I had been invited to a community meal at the farm, and Sylvia assured me that there were always a few children there. As I checked my directions for the next turn, I noticed many of the houses I was passing needed repair. From what I had observed so far, neighborhoods in this city in Northern Indiana were delineated by how recently they had been painted and by the number of weeds growing through the cracks in the sidewalk. I drove, keeping my eyes peeled for the farm. As I approached some apartment buildings and the school, I knew I must be getting closer. As my eyes scanned the field appearing before me for people or cars, I noticed the barbed wire fencing surrounding an industrial building around the street. The farm was situated on what felt like the outskirts of town; there were low-income medium density houses and modest looking homes to the north, an industrial complex to the south, and a school to the east. I

got my son out as I waited for more cars to arrive and made my way to the shelter across the field where Sylvia had said we would be meeting.

As a handful of people began to arrive, they made their way to the shelter or walked into the growing spaces of the farm itself. From where I stood, I could make out tomatoes, peppers, and herbs in the foreground. A short time later, Sylvia arrived and immediately made her way to greet me. She pointed out some raspberries growing nearby, “those are good, you should eat some if the kids left any behind.” She gestured to the field, pointing out fenced areas that I hadn’t noticed before, “There’s the community growing space and our market garden, the bees...the rest is for everyone. Sometimes they aren’t too sure, but-“ Sylvia interrupted herself, as three youths cut across the field, “Do you need a bag? Go take what you need.” She continued where she had left off, “People are curious when they see us here, but once they come and get to know what we’re doing they come back. Some volunteer, others just for food. But the kids are the ones that really get into it, we do a camp every year.” Sylvia excused herself as more people began to arrive for the community meal; the evening I attended, there were 10-15 people there over the course of the evening, with people coming and going throughout the evening. I wandered a bit, noticing that everyone seemed to know someone else. People smiled and chatted, wandered off into the gardens, returning with a tomato or a pepper. I noticed another woman wearing a baby in a carrier and smiled. “Aren’t these great,” I said, gesturing to my son sleeping in his carrier with his head on my chest. She smiled back and we began to chat. When I asked if she was there for the dinner, she replied, “Oh yes, we come every month. Sylvia has been so great, everything she’s doing...”

Although I would be interviewing Sylvia tomorrow, I had been lucky enough to get into town on the day of the farm’s monthly community meal. Sylvia had informed me that they used these meals to build commensality among the volunteers, but also as a critical component of their outreach - particularly to the residents of the low-income housing across the street. Each meal featured a cooking demonstration using fresh veggies from the farm, along with a pitch-in style meal. “But,” Sylvia emphasized, “everyone is welcome, they don’t have to bring something to share.” As everyone sat at the picnic tables or gathered around the edges of the pavilion space, I reflected on how rarely I had seen this sort of thing in the urban and rural farming spaces I had

visited thus far. At the time, I was not aware of anyone else hosting community meals and nutrition demonstrations, particularly not in the open air. This event combined the conviviality that is emphasized in the Slow Food Movement,<sup>17</sup> but made it accessible to everyone, while providing access to food and cooking skills lessons for community members who needed it. This type of mission driven work is something that I came to realize was a hallmark of many of the farms I would speak with over the course of this study.

The next morning, I arrived a bit early (alone this time) and looked for the hand-painted sign Sylvia had mentioned. The sign was near a second smaller shelter, and I made my way over to wait so I could stay dry from the steady drizzle. Almost as soon as I got to the shelter, Sylvia appeared and let me know that a few other people would be joining us for the tour that morning, “I hope you don’t mind.” I assured her it was no problem and set about finding my notebook and pen. As I waited, I noticed what looked like a farm stand display case. I asked her about it, and Sylvia explained that it was the free shelf. If community garden members had more than they could use they would put it there, or if the open beds needed to be harvested, it would go there as well. “A few days ago, someone stopped by and dropped off tons of zucchini from their home garden.” I chuckled and noted that it was the time of year when zucchini seems to take over the garden.

As the rain cleared for a moment, the other people arrived, and Sylvia began to give us the history of the farm. She had been working in healthcare and noticed that many of her patients had underlying issues caused by the food they were eating. She started the community gardens with the city’s blessing, and from that modest start the farm grew to around ten acres that they had tenure of through a long-term low-cost lease arrangement. “We kind of figured it out as we went....Water was hard at first, but we’ve figured that out now.” As we left the shelter, Sylvia pointed out an area to our right that was filled with wildflowers, “That’s the pollinator garden that we’re building. We’re trying to create an entire ecosystem.” She took us back up to the community garden beds I had seen the night before, pointing out a keyhole garden and a

---

<sup>17</sup> The Slow Food Movement emerged in the 1980s in Italy as a distinct counterpoint to the expansion of fast food. Carlos Petrini, the founder, has emphasized the importance of community, localized knowledge systems, and biodiversity since the movement’s inception. However, Slow Food has often been criticized for its apparent lack of awareness of the exclusivity it perpetuates, particularly along lines of class and race.

shipping container that had been painted with vibrant colors. Next, we saw the market garden area up close, and Sylvia told us that the market gardens are what keep the farm financially sustainable. “We will share everything, but this and the community gardens stay fenced so that we can keep this going.” The only other fenced area was the stacks of hives that supported pollination on the farm and provided the honey that was one of their best-selling items at market. We followed her as she talked, and I noticed that in addition to the nutritional needs the farm was fulfilling, it was like an oasis in the midst of the industrial space and disinvested community it was in. In this peri-urban community (and other like it throughout the state), the creation and subsequent exodus of industrial fixtures accompanied by disinvestment in marginalized neighborhoods has created a legacy of minimal green space and food apartheid. Sylvia’s farm effectively provides green space and supports food sovereignty in a neighborhood that has few other options. Trails meandered through, encouraging visitors to linger and experience the farm while they were getting fresh foods. I was impressed with the work they had done to transform this space that had been an empty field of grass in its previous iteration. As we walked, I pondered the impact that could be made if every city was this supportive of food production in city limits. As I would learn throughout my fieldwork, zoning is often a huge barrier to those farming at the margins. It dictates what structures can be built, whether bees or animals can be kept, and, in some cases, whether food can even be grown. Through tenacity and with the support of many in the surrounding community, this farm had received variances, but this is not always the case.

### **3.3.2 Douglas’s Farm**

On another summer day, I rolled down my windows as I left the city. Away from the buildings and traffic, the temperature always seemed to drop, and the air cleared. It’s difficult to describe the change in air quality, but to me the air in the country is sweet and verdant. As I drove, I passed the monolithic fields of corn and soy that are familiar to anyone who has spent any length of time in Indiana. This first meeting on Douglas’s small scale, diversified vegetable farm would be a quick one. It was the height of the summer growing season and there was always work to be done; like many of the young farmers I spoke with, Douglas also had a full-time off-farm job to help support the growth of the business while still providing stability for his family. For most farms I talked with that were for-profits, finding labor was hard and paying for it was

prohibitive; if you bring on outside labor too soon, it can limit the farms growth and profitability. Even if the farm is mission-driven, it won't attract volunteer labor in the same way that an urban or peri-urban farm non-profit farm will.

As I pulled up to Douglas's farm, my eyes scanned the landscape as I tried to find him before I resorted to calling his phone. As I got out of the car, I noticed him in the distance headed towards me. He waved me over and we started to walk. In contrast to Sylvia's farm in the middle of a post-industrial city, Douglas's space was surrounded by trees and neighboring fields. Although he is not directly adjacent to any conventional commodity farmers, the county does have a lot of corn and soy producers. "We don't do corn," he said when I asked about what he grows. "It's hard here because you have to plant around their schedule, so it doesn't cross-pollinate; and it takes a lot of space. It just isn't worth it for the return." Like many market farmers,<sup>18</sup> Douglas focused on growing a handful of high demand vegetables that bring a good return, and commuted over an hour each way to sell his food in city markets. Since that first visit, his catalogue of vegetables has expanded to include 20-30 (at a minimum) over the course of the season, as well as his customer base. Like many diversified farmers, Douglas grows a lot of "salad" veggies, or vegetables frequently consumed raw. Situated in the northern half of the state, Douglas has also expanded to include a growing catalogue of storage crops and is honing his skills to extend his production of greens and cool weather vegetables into the winter months. Instead of commuting into the city, Douglas has successfully pivoted to selling to the rural community that immediately surrounds him and to others willing to come to his farm. He also has a handful of smaller wholesale accounts that provide some consistency of income. Douglas left his off-farm job a couple of years ago and is now farming full time and expanding production rapidly. To be clear, his expansion is not predicated on increasing his acreage. To the contrary, he farms about 10-15% of the land he owns; the rest of the acreage has been planted with other trees, restored to prairie, used for composting, and restoring native habitats and ecosystems. These implementations are representative of one of the adaptive strategies employed by many smallholder farmers I spoke with over the course of this study, namely an effort to

---

<sup>18</sup> Market farmer is a collective term used to refer to farmers that produce food for sale in direct to consumer markets. Although it seems to be used most frequently in reference to fruit and veggie growers, I have also heard it used in reference to farm(er)s that raise animals.

improve productivity and embody stewardship by supporting biodiversity through the restoration of native landscapes. When small scale intensive market farmers expand production, they do so by implementing season extension techniques, inter-planting, and succession planting. Douglas has mastered the art of timing succession planting, something he was working on during that first visit. As we walked through the half acre or so that was planted at that time, he pointed out sprouts that were coming up under plants that were nearing the end of their season. My mind swam at the complexity that lay just beneath the surface of this peaceful and seemingly simple landscape.

“How did you choose this space?” I asked on that first visit. He laughed, “Well it was what we could afford, and it had enough space to do what we wanted. We’re close enough to family.... We’ve done a lot of work though. Building the soil, clearing invasives, there was trash....If I was starting again I’d probably choose differently, but we aren’t going anywhere.” Soil is a perennial issue throughout much of the state: contaminated in urban centers, heavy clay or high sand in rural places. Much of the best soil was claimed years ago by commodity farmers, which means that when a beginning farmer finds their land it often takes time to build soil that is easily worked and nutrient dense. The building of nutrient dense soil, rich with microorganisms that support plant health, is an additional adaptive strategy employed by smallholder farmers, and one that is frequently a priority in building the success of the farm. Discussions of building soil in the early years of the farmstead seem too ubiquitous among farmers that did not inherit land.

Douglas’s farm is in one of the rural counties that surround the metro centers of Indiana. For many farmers, buying land in these “donut” counties provides proximity to urban centers and markets, but at a price that is more reasonable and allows for faster growth of the farm business. Although my entry point to the farming community was usually through the urban centers they sold in, most farmers have effectively been priced-out of buying land in the counties that bring many of their sales. The problem here is not space, as many market farmers can produce a staggering amount of food in very small spaces. Instead, the accelerated rate of development near urban and peri-urban centers has driven land prices up to a point that it is nearly impossible for a business-savvy farmer to justify the investment. Instead, they buy in the borderland donut counties at a fraction of the cost as an intentional adaptive strategy to begin farming sooner and

resign themselves to including long commutes as a part of their scheduling. To clarify, there are spaces available at a lower price point, particularly in historically red-lined communities in Lake and Marion County. However, these spaces are accompanied by issues of soil contamination, zoning conflicts, etc. While some do choose to farm in these spaces, it is typically on more of a homestead subsistence model, or a mission-driven non-profit farm (often with a complementary mission of education, outreach, or improving food access in neighborhoods severely impacted by food apartheid).

Although these two farms could be framed as radically different from one another in terms of their location, financial structuring, and their local communities, they also hold much in common. Both farms operate in distinct juxtaposition to their large-scale industrial counterparts and seek to serve the communities in which they are situated. They also encounter similar challenges: runoff or pollution from nearby industrial efforts (for Sylvia the factory, for Douglas nearby commodity farmers), establishing themselves and their farms in marginal spaces, gaining market access and fair market prices, and the rebuilding of social-ecological systems that have been in a state of decline for many years prior. Both farmers employ adaptive strategies that are appropriate to their scale and specific situation in an effort to improve the viability of their farms and the resilience of their local communities and ecosystems. Although their scale is similar, the specific adaptive strategies that work for them are divergent, which points to a need for specific contextualized farming strategies in lieu of one size fits all approaches. They, like every other smallholder farmer I spoke with, could benefit from improved support systems for access to land and capital, scale appropriate infrastructure, and supportive policy initiatives.

### **3.4 Economy**

Indiana's economic viability has, since the settler-colonial era, been predicated upon extractive industries. Although the extractive and exploitative tendencies of the agro-industrial complex intensified over the course of the twentieth century, they were built upon a cornerstone of extraction that is firmly rooted in the settler-colonial era. Ken Meter, in his 2012 study, noted that yeoman settlers arrived with the means to buy land and farming implements, but found that most of their settler neighbors were farmers as well. As a result, and to pay debts and move beyond subsistence level farming, the food they produced was shipped back east to urban centers



or, to regional cities and trade centers with declining space for food production like Chicago and Indianapolis. As transport to urban centers became more efficient (via rail, water, and other transport services), farmers celebrated expanding markets. However, the same pathways that facilitated the export of food, also enabled an expansion of imports into the Hoosier state. In this section, I will explore some of the economic tensions between small and large-scale farming in Indiana. Because large-scale commodity farming systems have been established as the dominant norm in Indiana, smallholder farmers are frequently overlooked and marginalized based on a narrative that presumes their scale of production is ineffective in providing food and a reasonable livelihood. However, smallholders have intentionally used the adaptive strategy of income diversification through off-farm jobs and the cultivation of diverse on-farm revenue streams to improve the resilience of their individual farms while simultaneously improving the social-ecological resilience of the communities they serve. In spite of their tenacity, they do face specific economic challenges: namely a lack of access to land and capital, as well as difficulty in communicating the true cost of food production in a national food landscape that has prioritized cheap food at all costs.

Farmers in this study have, for the most part, taken a distinctly different approach from dominant agricultural norms that is founded on ideals of eating more locally, building community, and supporting local economies. Their success in doing so, however, is highly variable- all have faced challenges in marketing and selling their food, and relatively few have found the success that has enabled Douglas to leave his off-farm job. Individual farmers often work off-farm to provide a steady source of income that keeps the lights on in the early years. Others, with spouses or partners, will sometimes work themselves or rely on the off-farm income of their partner to help support the household and farm. Working-to-farm takes its toll. For those that work an off-farm job themselves, farming is done in the early mornings, evenings, and on weekends. If they sell at farmers' markets, their time is further divided by market days. For some, this is managed by working during the off-season or at least minimizing the time spent off-farm during the harvest season. Although the decision to work off-farm is often necessary and provides an example of adaptive strategies that are employed to improve the resilience of the farm, the cumulative effect of working full or part-time while negotiating the needs of the farm (e.g., production, marketing, transport, etc.) is a high potential for burnout that can decrease the

long-term viability of the farm without proper support. The adaptive strategy of working off-farm improves the resiliency of the individual *farm* in the short term, but in the long term can decrease the resiliency of the *farmer*. At the 2019 Farm Viability Conference, the high rate of burnout among farmers in years 6-10 was cited as a growing and concerning trend that was contributing to the closure of some farms nationally; the proposed solution was unequivocally to ensure better supports for emergent farmers in their first ten years.

Smallholder farmers face a Herculean task if they expect to “graduate” to working the farm full time. Unlike larger scale commodity farmers who produce at a scale that is well-suited to selling to processors or other components of the conventional food value chain, smallholders cannot typically rely upon wholesale contracts, especially in the earliest years of production. The farmers I spoke with over the course of this study who had secured wholesale agreements<sup>19</sup> had spent years developing relationships with buyers to establish trust. Farmers stated that this was necessary because many purchasers who were used to the convenience of using distributors were ill-equipped or unaware of the sometimes-volatile nature of vegetable production; weather and pests can quickly wipe out a crop, but the perception is that it is the farmer who is inconsistent or unreliable. The investment of time into relationship building with consumers and wholesale purchasers is a necessary adaptive strategy for smallholder farmers that can ensure the availability of diverse markets and increase reach through word of mouth. More recently, some farmers in defined regions of the state have discussed the potential for collective marketing strategies through the formation of formalized or ad hoc cooperatives, but these relationships and efforts were still being developed at the conclusion of this study.

Most independent beginning farmers get their start with direct-to-consumer sales models that might include farm stands, a farmers’ market (or two or three), and Community Supported Agriculture (CSA) subscriptions. In addition to working the land, they are responsible for the transport, marketing, and sale of the food they produce. If they can make this work, they do have the distinct advantage of setting their own prices and having the capacity to pivot fairly quickly if

---

<sup>19</sup> Note that contrary to the written contracts that are frequently available to commodity growers, independent smallholder farmers struggle to find purchasers who will agree to a written contract. As a result, wholesale agreements are often sealed with no more than a handshake; their success is dependent on long term relationship and trust building.

necessary. This has become increasingly important as we have seen in recent years, with record setting spring rains throughout the Midwest that make it impossible to plant row crops on time, tariffs that have decimated the global market, and other external pressures. The smallholder farmer can shift planting schedules or crop plans when necessary, whereas commodity row crop farmers are beholden to their contracts and the capacity of their machinery.

Regardless of farm scale or management style, it is clear that both small-scale and industrially operated farmers in the United States have universally suffered from a devaluing of the work that farmers do and the goods they produce. What makes the current shift in agriculture stand apart from prior moments, is that it is accompanied by a revaluing of the farmer, their work, and their goods within local food and food justice movements (Bradbury, von Tscharner Fleming and Manalo 2012) (Hodgkins 2017). In the local food and regenerative agriculture movements the farmer is heralded as a champion of climate, a champion of soil, a champion of nutrition, and of community. Their role in our society and in our culture is being re-elevated, and as a result, they are interfacing with the public more.

Farmers that choose to market their products directly to the consumer are, in most cases, able to command a higher price. That being said, this reification of traditional market structures is at times seen as exclusionary to marginalized communities and individuals with limited income. Farmers markets, one of the most visible embodiments of the renaissance of traditional market structures, are open for limited hours and dependent upon municipal sponsorship, volunteer labor, and farmer engagement to succeed. Community Supported Agriculture, another hallmark revenue stream of alternative farmers requires a significant up-front investment to partake in a season's worth of vegetables. Although the total price per vegetable in CSA's is typically equal to or less than grocery store prices, the CSA model also requires the consumer to share in the farmer's successes and failures; in a bad growing season, the consumer will receive less produce. The vast majority of traditional market structures also require the consumer to travel in some fashion to the farmer, which severely disadvantages individuals with limited mobility. Additionally, there is frequently a perception that local food is expensive. Regardless of actual prices (local organically produced food is frequently comparable in price to organic produce available at retailers) and debates about fair prices for farmers that emphasize the hidden costs of

cheap food, the fact remains that individuals living on the economic margins are unable to afford the privilege of values-based consumption (Allcott, et al. 2019). While most can agree that the farmer should receive a fair price, a fair price for the farmer may not be the same as a fair price for a consumer of limited means.

The devaluation of farmers over the course of the twentieth century was reified with the increased industrialization of the food system that prioritized cheap food over “good” food.<sup>20</sup> As American society became accustomed to paying much lower prices for food than what is paid globally (as a percentage of income), consumers came to expect this. The implicit assumption is that anyone who charges more (than the grocery store) for food is engaging in price gouging or a sort of boutique agriculture that holds no meaningful value. Instead, farmers who are claiming a higher price are demanding a fair wage and demanding for their product a price that is indicative of its quality. While these efforts do advance a notion of a new valuation of farming systems, without a larger political and economic restructuring they can result in uneven impacts on access to local foods, markets, and spaces.

Further, it is imperative to acknowledge that cheap food comes with hidden expense. These externalized expenses go beyond the typical arguments about complex subsidies paid into the conventional agricultural system that artificially deflate consumer pricing on food “from the middle” (of the grocery store). While it is important to remember the impact of subsidies, we must also acknowledge the hidden costs of cheap food that impact our environment, our health, and the welfare of farm workers on a global scale. These hidden costs disproportionately impact BIPOC communities and women in the United States and the Global South in international context. In light of growing external pressures from shifting weather patterns, global trade challenges, and the like, the time is ripe to support and cultivate a thriving local economy that captures and retains local dollars, talent, and products, while providing high quality nutrient dense food to the community. But how can we reconcile the divide between fair prices for farmers and affordable food for those who are most in need?

---

<sup>20</sup> I use “good” here as a signifier for food that is fresh, nutrient dense, and that is produced using methods that are truly sustainable. “Good” has also been used by the Slow Food Movement to indicate food that is accessible to all, and good for them, the people who grow it, and for the environment.

### 3.5 Transparency

Local food and farming advocate, Greg Gunthorp, has become a spokesperson for localized meat processing and regenerative agriculture. He is also a farmer in Northeast Indiana who has been directly impacted by consolidation in farming and processing. Gunthorp has publicly spoken at length about the challenges that come as a result of greenwashing in large scale and commodity agriculture and agribusiness (e.g., processed food companies). During his keynote panel at the Indiana Small Farms Conference, Gunthorp spoke at length about the lack of transparency by large scale farms and food companies. To paraphrase,

They are co-opting vocabulary from the local food movement to drive sales, but without the same level of transparency and authenticity that one could likely expect from a local farm(er). This is problematic because these institutional scale or agribusiness scale farms, companies, and processing facilities have the advantage of built-in efficiencies that enable them to co-opt the label and sell at a much lower price. Those that are producing food in a way that the consumer associates with the words (i.e., green, natural, cage free) cannot compete and simultaneously pay themselves a living wage. This would be less troubling if large-scale producers were meeting consumer expectations instead of just using the words as a marketing strategy.

Although Gunthorp's point of reference is the meat industry (he produces pork and poultry for several restaurants in Chicago and Indiana), the ethos applies to fruit and vegetable production. Since its inception, the USDA Organic label has been the consumer gold standard for ethically and sustainably produced food. However, critics of the program note that its biggest beneficiaries are large farms that sell wholesale into the national retail distribution system (Guthman 2004). They are critical of the fact that the program still allows use of certain chemical amendments and that it is often cost prohibitive for a small farmer to sign up. Although there are some cost-share programs that are available to the persistent farmer, for most farmers selling direct to consumer the cost of certification still outweighs the benefits. Additionally, many farmers expressed frustration with the growing number of third-party certifications available, each with requisite fees and applications.

Perhaps the biggest source of frustration, however, is the mandate that farmers who use organic growing methods who are not certified cannot use the word in their marketing, even if they are only selling at a roadside stand or farmers' market. Certified Naturally Grown, a grassroots alternative to the USDA program, was developed to provide farmers of all scales a viable option

for certification of their growing practices. However, according to the farmers I spoke with, CNG is less widely recognized by the average consumer and it seems to carry no weight with potential wholesale customers. Many farmers instead search for workarounds to get the message across to potential new customers at market. I spoke with several farmers who are “beyond organic,” who grow “organically,” or who are, more to the point, “chemical free.” “The relationships are more important than the label,” explained Alvin, “but the label gets them in the door.” The intentional use of language that implies organic production without explicitly claiming to be organic is an additional adaptive strategy that enables farmers to occupy a middle ground between labeling by nationally recognized certification frameworks and selling the food they produce with no attempt to engage with the niche organics market that supports higher prices.

The unfortunate consequence of avoiding certification is that it is often more difficult for the farmer to get “organic prices” for their food, even if they are completely chemical free and thus labor intensive. Lack of certification also significantly inhibits prices from all but the smallest of wholesale accounts, and in some cases limits which wholesale accounts will consider cultivating a relationship. For example, if a value-added food producer who makes sauces wants to maintain their organic certification, they must purchase certified organic ingredients- regardless of how (or where) the food was grown. This is a source of frustration for buyers because they frequently need to look outside the state or even outside the Midwest region to find certified organic ingredients that are produced at the scale they need. But the certification process takes several years, and demand from a smaller value-added processor now does not guarantee demand once certification is obtained. Many farmers I spoke with over the course of this study were understandably frustrated by the framework of the organic certification and its incongruities with their farming practices, marketing, and end consumers.

### **3.6 Knowledge**

“Buy local is said in reference to money...but the money comes and goes. It's more than money, it's the knowledge....You're supporting a local knowledge base that's crucial. These are the relationships that go with buying local and supporting local, and you're supporting the knowledge. These stories are all part of what makes our lives.” As Bradley alluded to,

knowledge was a recurring theme in this study and is positioned as one of the diverse adaptive strategies that distinguished smallholder farmers from large-scale industrial production. Smallholder farmers discussed their commitment to farming differently than farmers included in the dominant agricultural narratives by highlighting their investments in community and knowledge building. Although fiscal viability is critical to the overall sustainability of the farm, knowledge is undeniably a key factor in growing and marketing food in direct-to-consumer markets. As I've previously mentioned, the market farmer must wear many hats- including that of an educator for the community and consumers they serve. To put it simply, we don't know what we don't know, and most consumers are unaware of the struggles faced by farmers in both rural and urban settings. Enculturated into food systems that are predicated on low prices and distance, it can be difficult for them to understand why they should buy local; specifically, it can be challenging to help them understand why it is worth the extra effort and expense to buy local when there are grocery stores and delivery services available.

Moreover, in addition to educating customers about why and how they should buy local, farmers and local food advocates also frequently need to educate consumers about how to use raw ingredients. This educational interface is dependent upon farmer knowledge and engagement with the public. Alice Waters' Farm to Table movement may have started nearly 40 years ago, but in middle America, generational knowledge about how to prepare food has been lost as convenience food has strengthened its grip on purchasing habits. In neighborhoods where fast food and convenience stores abound in lieu of grocery stores, the challenge of getting fresh food into households can seem insurmountable.

I contend that the devaluing and deskilling across all sectors of the food system over the course of the twentieth century has been intentional. The agency and active nature of food production and preparation has been removed and has effectively separated both (large-scale) farmer and consumer from the source of their food (Jaffe and Gertler 2006). For consumers, we see this in the labeling of meat with words that insert space between the animal and the end product. (i.e., pigs=pork, cows=beef, etc.). Generational knowledge loss has also separated people from the preparation of their food. On the one hand, food preparation is outsourced to restaurants and meal delivery services. On the other, convenience foods from the middle of the grocery store

have taken the place of scratch cooking. Although home cooking is making a comeback, it doesn't mean that people feel comfortable with experimentation in the kitchen. "But what do I do with that?" is a frequently heard question at most farmer's markets. The savvy market farmer, then, must also come to market prepared with simple recipe ideas for that rutabaga, eggplant, or the garlic scapes. For customers that are brave enough to admit that they don't know what something is or how to cook it, the sharing of recipes cultivates another point of connection with the farmer, and you may hear them come back the next week to share how the cooking went. However, others who are afraid of sounding uninformed may avoid the vegetable in question altogether. It takes considerable time, skill, and planning to create a market set up that is welcoming and contains items that a.) the farmer is able to grow and b.) will contain something for all customers, from the most knowledgeable to the least. Other consumers might have the requisite knowledge to cook, but no time to do it, and thus they are seeking produce that can be eaten raw, cooked quickly, or pre-prepared foods. This loss of knowledge and subsequent outsourcing of food preparation has critically endangered the resiliency of communities while building the success of the food service industry, and also shaping the trajectory of the national and global food system. Re-instilling this knowledge in communities can facilitate a localized shift in food systems and a reinvigoration of knowledge systems.

For agro-industrial farmers, the devaluing and separation of farmer from food has been done by scaling farms to a level that requires machinery and heavy equipment to do the work instead of the farmer themselves, and compounded by the emphasis on commodity crops that require some form of processing to complete their transformation to food (e.g., dent corn). In juxtaposition to farmers that tend to their crops from vantage point of tractors, combines, or even drones, the farmers in this study are in the field daily. With dirt under their nails, they plant, cultivate, and harvest food that is meant to be eaten within a short window of harvest or that is chosen for its storage properties (e.g., winter squashes). They may have a tractor for moving compost or other heavy jobs, but much of the work is done with low tech tools that require significantly more labor. In their stewardship of the land, their blood, sweat, and tears become one with the soil. "We left [the farm] for like 18 hours for the first time in years...they checked in, but they didn't know what to look for. The signs. The animals let you know. Every curl of a leaf means something." Sylvester went on to tell me that they probably would not be leaving for any length



of time any time soon because it “just wasn’t worth it.” Although he was surrounded by other farmers, he indicated there were a lot of “bad” farmers. In addition to his frustration with being able to leave the farm and keep any peace of mind, Sylvester was expressing a value judgement on “bad” farmers that illuminates the tension between commodity growers and independent diversified farmers. He was referring here to the fields of corn and soy around him and the farmers who worked them. In this instance, his value judgement was independent of scale- most of the commodity farms around him are cultivated on a relatively small scale (a few hundred acres instead of a thousand or more). Rather than scale, Sylvester’s judgement of the “bad” farmers was rooted in his perception that they lacked the requisite knowledge and ability to “know what to look for” when visiting his 10-acre diversified farm that produced vegetables, flowers, heritage breed animals, and wholesale scaled niche products.

But how do these farmers, many of whom are at least one or two generations removed from farming, learn how to do the work of farming? Many mentioned that there was a lot of trial and error in the early years, and copious note taking that is added into next year’s plan. As was demonstrated in Sylvester’s example above, attention to detail is one of the most useful skills that can be used by the smallholder. This attentiveness and engagement with the farm (and customers) enable a farmer to more successfully implement short, mid, and long-range strategies that will better ensure the long term viability of the farm and, in some cases, avoid a state of burnout for the farmer. In the short term, during the growing season, this attentiveness and daily time in the field enables the farmer to identify potential issues such as pests that are easier to isolate and eradicate when caught early. They are also able to discern if certain products need to be harvested sooner than thought. Both of these measures assist in the mitigation of waste and lost revenue. In the mid-range, the copious note taking allows the farmer to identify crops that grow well on their farmstead, those that sell well at market, and, most importantly to avoiding burnout, those which they enjoy or are good at growing. Although most diversified vegetable farmers will almost certainly grow some crops because they are in high demand during market season (e.g., heirloom tomatoes), they are also cognizant of the fact that there will always be competition at market for some items (like tomatoes). Identifying early on the varieties and types of crops they are able to grow well allows them to eliminate those that create headaches every year from the crop planning process, while weighing the costs (labor) and benefits (customer

demand and sales). For example, even though tomatoes are in high demand, if a farmer's primary sales outlet is farmers' markets and every other farmer that regularly attends their chosen market brings an abundance of tomatoes, it may make sense to plant something else or to be intentional about season extension measures that will allow them to bring tomatoes to market earlier or later than other farmers. In the long range, customer engagement and attentiveness to fields facilitates planning that allows smallholders to invest in on-farm infrastructure to preserve harvest and save labor. For example, the introduction of on-farm cool storage or a well-designed wash pack station is a top priority for many farmers in their first five years. Both of these pieces of on-farm infrastructure are critical investments that will facilitate better preservation of harvest by cooling the field temperature of produce and lengthening the shelf life.

In conventional agriculture, the art has been taken out of agriculture, and for that matter, so has much of the traditional science, as technology is heralded as the epitome of successful (e.g., efficient) farming (Berry 2014). Wendell Berry has opined at length of intentional erasure of culture and traditional knowledge systems from conventional agriculture. But for the farmers I spoke with, farming is imbued with culture and the intense desire to cultivate diverse farming communities, enskillment among workers and customers, and an eye towards generational stewardship of the land. It is a craft, and it is one that defines the very fabric of their lives. Wendell Berry once said, "We have neglected the fact that a good farmer is a craftsman of the highest order, a kind of artist." Berry's essays on agri(culture) and rural life run like a current through the local food movement, pushing emergent market farmers towards something they often have difficulty defining - lamenting something that has been lost but can again be found. And so, these farmers seek to find these missing puzzle pieces, by building intentional communities of mentorship and knowledge sharing, attending workshops and conferences in the winter, cultivating relationships with their customers, and blending advocacy into their farmer toolkit (Bradbury, von Tscharnier Fleming and Manalo 2012). In a practical sense, there are some examples of diversified vegetable farmers that can be examined by the new farmer for best practices: Eliot Coleman, a farmer in Maine who has developed tools tailored to the small farm and uses season extension; Jean-Martin Fortier, a farmer in Quebec that emphasizes human scale production and farm viability; Karen Washington, a farmer in New York that emphasizes food sovereignty and cooperative organization; and Leah Penniman, a farmer in New York that

advocates for food justice and self-determination of communities. These well-recognized names in the alternative farming movement frequently appear on conference schedules, all four of these farmers have published books or articles, and they are outspoken advocates for the smallholder farmer. They have made great strides in identifying practices that are effective for season extension (Coleman),<sup>21</sup> cultivating a successful market farm (Fortier),<sup>22</sup> and cultivating food justice and equity for BIPOC farmers and communities (Washington and Penniman).<sup>23</sup> But none of these superstars of the regenerative agriculture movement are from Indiana, or even the Midwest. For help that is specific to the growing conditions here, many farmers turn to each other.

### 3.7 Community

The decimation of economy in rural America was precipitated by a deconstruction of the social economy in rural America. This was achieved through intentional efforts to restructure the family farm as a commercial enterprise that was modeled after factories and industrialization. In essence, the industrialization of agriculture followed the industrialization of urban centers that resulted in the isolation of farm families and farmers. As the social economy eroded, the tendency to help in times of harvest or labor shortages disappeared and farmers became reliant upon paid labor (Ikerd 2019) (Berry 2015). We can see a distinct juxtaposition to this in faith-based communities such as Amish communities who resisted this industrialization and preserved social capital that facilitates cooperative practices in times of great labor need like harvest season (Netting 1993) (Berry 2009). This process was accompanied by neocolonial tendencies to delegitimize traditional ecological knowledge and cultivation practices that are now being championed as a solution to soil health and other environmental concerns (i.e., biochar) at land grant universities. Once efforts to delegitimize traditional knowledge were successful and a generational lapse in knowledge occurred it became possible for research centers to “discover” these methods and market them. To some extent, they have also been commodified through companies built to sell compost, cover crop seed, seeds, consultants to re-instill lost knowledge.

---

<sup>21</sup> For more on Eliot Coleman’s work, please refer to his books: [The New Organic Grower](#), or [Four-Season Harvest](#).

<sup>22</sup> For more on Jean Martin Fortier’s work, please refer to his book [The Market Gardener](#).

<sup>23</sup> For more on Karen Washington’s work, please refer to her website for a list of her articles: [karenthefarmer.com](http://karenthefarmer.com). For more on Leah Penniman, please refer to her book [Farming While Black](#).

As technology replaced physical labor on the farm over the course of the twentieth century and land grant institutions encouraged intensive farm management in lieu of intensive farming, rural communities lost large portions of their residents to urban and suburban centers. The process of urbanization was exacerbated by the farm crisis of the 70s and 80s where thousands of farmers lost their land to foreclosures when they were unable to pay the bank notes on their equipment and mortgages. This cycle of exodus and foreclosure precipitated consolidation of farms and the rapid expansion of farm size. In the below graph prepared by Ken Meter, we can see a sharp decline in the number of farms in Indiana, with a slower trend of growth since the early 2000s. This graph does not illustrate the concomitant growth in farm size. The uptick in farms since the early 2000s, upon closer examination, also reveals larger numbers of new entry farmers, small scale farms, and farms that are owned and operated by women, BIPOC individuals, and other historically underrepresented farmer groups like veterans and first-generation farmers. The consolidation of family farms through the mid-twentieth century contributed to the expansion of farm scale and supported dominant narratives about the prerequisite of large scales for farm viability; however, the recent growth in the number of small farms and farmers, indicates that an illumination of alternative farming narratives would facilitate better support of smallholder and alternative farmers.

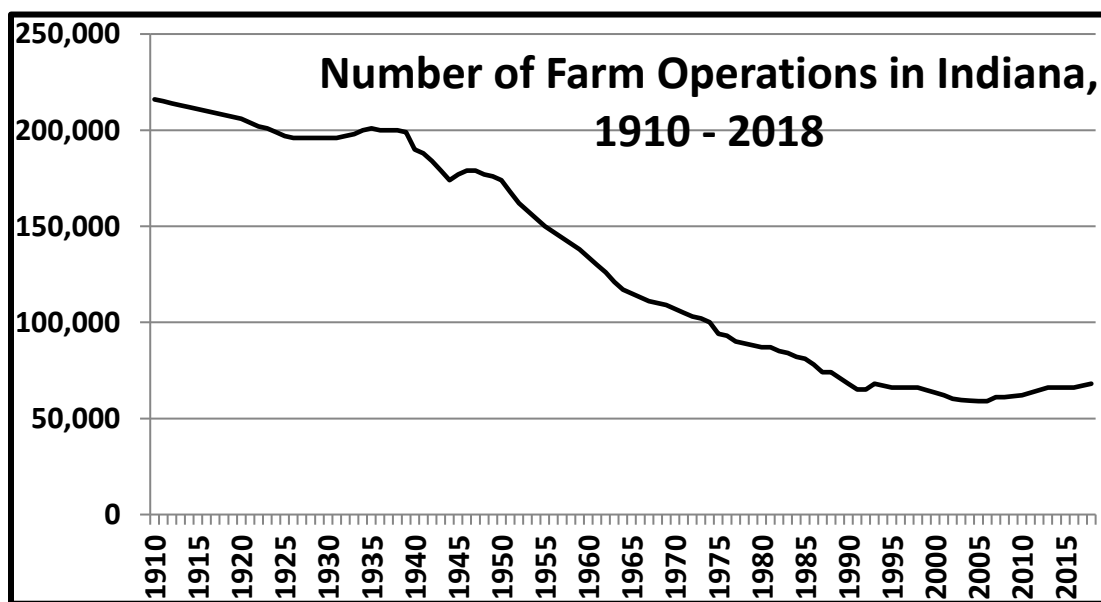


Figure 9. Number of Farm Operations in Indiana. This graph depicts the sharp decline in the number of farms and more recent uptick. Source: Ken Meter using statistics from the USDA Economic Research Service and Census of Agriculture

Although a portion of the growth in the number of women farmers can be explained by the changes in USDA census reporting that were explained in Chapter 2, this uptick is more than just a categorical blip on the data radar. In my conversations, I found that women smallholder farmers are leaders in the local food community in Indiana. However, these women do not find themselves represented in traditional farm narratives, and frequently find it challenging to identify sources of support through traditional channels like their local Extension office. “We had no idea what we were doing when we started, it was a lot of trial and error. I wish there was more [help] for us,” Marta lamented. She went on to explain that she thought that she and her partner would be further along if she had been able to find better support for the type of farming she wanted to do. She continued, “It took us 7 years just to find the land...Now I have to commute to my day job because this is where we could afford to buy, and there just isn’t much time left to do everything that needs to be done and learn how to do it at the same time.” At the time of our conversation, Marta was hopeful that recent connections she had made would provide the support that she needed. Marta explained that her farm, located about an hour outside of Indianapolis, provided space for growth and she was hopeful they would be able to buy another plot next door in the coming years. However, none of her neighbors were operating diversified farms and she struggled to identify a community of practice with whom to connect and learn from, a problem that was exacerbated by the necessity of she and her partner commuting to the city for their “day” jobs. Sadly, in a more recent follow up, Marta informed me that although they were keeping the land to “preserve it,” she was abandoning her dream of a small-scale diversified farm “for now.” “There just wasn’t time, you know? Our whole lives were work and putting things in and there wasn’t even time [to go to market]... I still have my gardens and my chickens, and I still put stuff up, and we’re able to actually enjoy it. Someday we’ll do it [farm].”

In stark contrast to Marta’s difficulties in finding community and support, other farmers that I worked with had mindfully built networks of support and mentorship as an intentional adaptive capacity for knowledge transmission and support. Although many of them lived far apart geographically, the shared experience of farming at the margins codified their connections. This sense of community is founded in a deep sense of obligation to the success of the local food movement and continued (and improved) viability of the independent small-scale family farm.

“It’s not about competition...of course we have to make a living, but if they do well, so do I. We’re building something bigger.” At the most recent Indiana Small Farms Conference (2020), I overheard someone use the word “co-opetition.” This ethos of cooperative competition in support of a greater good seems to be an underpinning of the foundation of the local food and farm movement in the state. In my work and my volunteerism, I have heard it and seen it over and over again. Carole Counihan, noted anthropologist and foodways scholar, stated, “Unlike non-capitalist societies where food exchanges reduce social distance and solidify relationships, in our capitalist society, food is a commodity, an object whose exchange creates distance and differentiation.” (Counihan 1992, 55) Counihan’s assessment of the food system is, in part, accurate. However, in the reimagined spaces and exchanges of the Hoosier local food system, the rules are being re-written. In smallholder farmer spaces, an emphasis on reduced scale and the closing of value chains points to an alignment of circular economy principles as described by Patrick Schroder, a scholar of development studies (Schroder, et al. 2019). Although localized systems are still developing, the underpinning ethos of small scale and cooperation combined with less easily defined markers such as an intense desire to build something new, indicate a pervasive sense of the inadequacy and inability of existing systems to meet the needs of smallholders and local food systems.

### **3.8 Regeneration**

When I began this study, I had in mind an organizing framework of “sustainable” farms. However, I quickly learned that sustainability was a problematic framework or defining term for the farms I wanted to work with. Although some farms still refer to sustainability, the word as it relates to farming practices and environmental impact holds little meaning or import with the farmers I worked with. Sustainability, defined by the Oxford dictionary as “the ability to be maintained at a certain rate or level,” or the “avoidance of depletion of natural resources in order to maintain an ecological balance,” is no longer enough. Moreover, the term, like so many others, has been used by the agro-industrial complex to describe practices that few in the alternative farming movement would describe as sustainable. Sustainability as an organizing concept, more often than not was used by the farmers I worked with only to refer to the long-term viability of farms and communities, not as a descriptive term for farming methods.

When I asked Sylvester whether he would use the word sustainable to describe his farm he laughed. “Some people might use that. I don’t think it means that. Sustainability is generational. You have to stay small to connect...We’re community driven, we’re here for the people that come and support us every day...It’s generational. Where we grew up, we came back to.” The concept of building something for the future was closely bound with the motivation for farming and local food systems for all the individuals I spoke with. Regardless of family status, the idea of future generations came up frequently in formal and informal interviews, as well as conversations with consumers and market customers. More than preserving a vocation, the concept of working for the next generations alludes to maintaining a way of life and the adaptive strategy of constructing a support system for the future viability of the farm.

In addition to concerns about preserving the environment and a way of life, building health is of utmost importance to farmers and the communities they serve. “...we really started making an effort to eat all our own food...No one has been sick in a year. Before that someone was sick all the time. We need to know what we’re eating...cancer? It’s all this junk in the food.

Autoimmune? Depression? Something has to change to go back to how it was,” Sylvester stated as he explained his family’s motivations for building the farm business. For some farmers, what started as a deeply personal mission has evolved into a mission to save their community through nutrient dense food. For those farms with value statements on their websites, the goal of feeding the community *good* food is ubiquitously included within them. When asked to tell the story of the farm, they frequently also talk about healthy soil as a prerequisite for nutrient dense food. Thus, as farmers build the soil on their farm, creating “black gold,” they are simultaneously improving the health and productivity of the crops they grow as well as the nutrient density of the food produced (FAO 2015).

Instead of *sustainable* farming, farmers I worked with ascribed to the ideas and methods of *regenerative* farming. In regenerative farming, smallholders I spoke with emphasized that they are building instead of maintaining. They build health: of soil, of people and communities, and dream of building a locally oriented and thriving food system. In addition to its commitment to building something more, regenerative farming as a concept has the added benefit of still being firmly situated in and “owned” by the alternative farming movement. Additionally, the Rodale

Institute has recently established a Regenerative Health Institute. I propose that “regenerative” is poised to become a signifier for change across disciplinary and industry boundaries, in a movement towards supporting improved resilience in the Anthropocene.

### **3.9 Resilience**

Over the course of the twentieth century, several key moments held the capacity to greatly change the face of agriculture. Each of these agricultural epochs catalyzed reactions that were unilaterally predicated upon farm expansion and technological advances. The Dust Bowl of the 30s encouraged the adoption of low till methods, but it also sparked a cascade of farm foreclosures that ultimately resulted in farm consolidation and increasing acreage. This in turn necessitated increased mechanization. During the energy crisis of the 1970s, petroleum inputs skyrocketed, which contributed to the farm bust of the 1980s. Like the post-depression era, farms were again consolidated as acreage expanded. I contend that since the early 2000s a parallel cycle has started, that has the capacity to accelerate a systems level transformation of large-scale farms as well (Folke, et al. 2010). Low-risk methods of environmental protection like cover crops and low/no till are being used by a growing number of conventional farmers; as these practices become more commonplace, some are looking for additional practices to implement (see [APPENDIX A: COVER CROPS IN INDIANA, 2011-2018](#) [APPENDIX B: NO-TILL IN INDIANA, 1990-2019](#) [APPENDIX C: CONSERVATION TILLAGE IN INDIANA 1990-2019](#)). In several conversations I had, there was an indication that conventional farmers are beginning to look to their diversified farm neighbors for alternatives as commodity markets continue to plummet; anecdotal evidence suggests that a growing number are diversifying at least a portion of their fields to other crops, considering organic, or naturalizing less productive land. In the alternative farming movement, advocacy is now the norm, and equity in the food movement is a constant undercurrent within programs and conversations. There is a focused effort to renew conversations about land rights, justice, and reparations. Food sovereignty, or the concurrent rights of people to healthy and culturally appropriate food that is produced using ecologically sound methods in food systems that are defined by the communities they serve, is more than a fringe notion.



Although agriculture booms and busts are cyclical, each successive generation of conventional agriculture has ushered in a growing dependency on automation and technology. At the crux of this dependency is an inverse relationship wherein improved access to and reliance on technology corresponds to reduced resiliency, a marked reduction in traditional knowledge, and a loss of the sense of community and social economy. This reduced resiliency is a result of a narrow focus on productivity and efficiency in lieu of stewardship of social-ecological systems. At the margins of farming, and in distinct opposition to this decades long trend, there are a growing number of farmers that present an alternative narrative. In this narrative, re-imagined agricultural spaces are not dependent upon efficiency and scale, but rather benefit from the improved adaptability and resiliency, the connectivity that comes with smaller places.

Rather than being dependent on large scales and production of excess that are predicated on efficiency, the smallholder farmers I worked with over the course of this study were driven by something much less tangible. Yes, farming is risky and yes, the long-term viability of the farm business is dependent upon the farm(er) generating *enough* revenue. But more than finances, the farmers I spoke with were unequivocally driven by the desire to cultivate a thriving local food system and steward the land and their communities for future generations, independent of whether they themselves have children. The same standards that underpin the values-based markets they prefer (transparency, knowledge, community, resilience, regeneration) were considered evidence of success that were at least as important as financial gain. All farmers talked about the importance of being paid fairly for their work and the food they produced, yet money was rarely talked about in specifics. Every farmer I spoke with who had transitioned to full time farming elaborated on how it was, in many ways, a leap of faith. Lucinda explained, “You’re doing this because you know you need to and you know - you have to just trust that you’ll be taken care of in other ways, and trust the journey.” Financial viability is specific to each farm and dependent on family size, debt, and whether the farm needs to hire external labor. Rather than explicating financial viability in discreet financial terms, most of the farmers I spoke with had developed a concept of “enough” that was in alignment with Wendell Berry’s explanations of “enough” that provide an alternative to capitalist notions of boundless financial growth. Berry has argued that quality of life should be the emphasis (Berry 2015). What is the quality of life that you, as the farmer, would like to achieve? How much money do you need to

achieve that standard of living and keep the farm afloat? This emphasis on quality of life is reified through farm conference sessions on work life balance, farming with family, and a growing number of sessions that explicitly address food access and equity. Farmers ensured they are generating “enough” by implementing adaptive strategies that further distinguished them from conventional models of agriculture, global supply chains, and traditional capitalist models of economy. The emphasis on building something *new* or *different* has effectively generated a space in which farmers are envisioning (and creating) a radical alternative to these traditional norms that is aligned with degrowth principles.

## CHAPTER 4: CULTIVATING FOOD JUSTICE

### 4.1 Introduction

*“...the land and ability to grow our own food are where our power lies.”*

—Karen Washington

By examining the recent growth in local food movements and food justice initiatives<sup>24</sup>, in this chapter I will illuminate the relationships between food justice, food advocacy and the recent uptick in emergent farmers. Food justice encompasses several advocacy perspectives, including food access and security, socio-environmental sustainability, workers’ rights, and biodiversity (Clendenning, Dressler and Richards 2015) (Glennie and Alkon 2018). Through the lens of food justice, the current state of the conventional food system is firmly rooted in the legacy of the colonial endeavor, the exploitation and enslavement of BIPOC communities, and the extraction of natural resources at the expense of ecological resilience (Cadieux and Slocum 2015) (Salvador 2019). These complicated webs of issues within food justice movements have resulted in a relational space in which emergent farmers are able to gain traction in market spaces and build their farm businesses with attentiveness to equity and relationship building, all while many emergent farmers are still “working to farm” due to the challenges of equitable and affordable land access.

As smallholder farmers in Indiana establish their farms and the localized food systems they are advocating for as an alternative to conventional agriculture and national supply chains, they have positioned themselves as advocates for equity embedded in a food *value* chain. To better understand this positionality and its relationship to the food justice movement, I analyze some of the deeply rooted inequities within the conventional food system and how it is embedded in multiple institutions, including land grant university systems. I also analyze how the devaluation of certain knowledge systems are now seeing a resurgence through commodification and uptake

---

<sup>24</sup> Food justice is a grassroots holistic approach to food systems work that emphasizes food as a human right and seeks to establish equity throughout the food value chain, with recognition of the specific ways that BIPOC communities have been harmed by the conventional food system. It often intersects with environmental justice work and is influenced by the civil rights movement.

of new “biological” farming methods. Analysis in this chapter utilizes ethnographic data from interviews and observations, archival sources, and observations of the growing attentiveness to food justice in food and farming meetings and conferences. The driving questions for this chapter are: How do alternative agricultural models and knowledge systems contribute to the socio-ecological resilience of nearby ecosystems and communities? What can be learned from the alternative narratives and reimagined spaces smallholder farmers engage with? What role does food justice and advocacy play in farming?

## **4.2 Land Grants and the Morrill Legacy**

The Morrill Act and the subsequent creation of land grant colleges were an outgrowth of the belief in the superiority of Western ideology of land ownership and the taming of nature (Wittman, Desmarais and Wiebe 2010) (Alkon and Agyeman 2011). The assumed superiority of settler-colonial land tenure and management systems implicitly created spaces in which local indigenous knowledge systems were presumed to be inferior. In essence, land grant universities institutionalized ideologies and practices firmly rooted in settlement era policies that focused on the colonization of indigenous land and epistemologies. Some of these ideologies can be traced to the original precepts of Manifest Destiny, wherein the superiority of settler colonial knowledge systems and lifeways were founded in divine right. In this vein, because Indigenous Peoples and epistemologies were not ordained by God, they were necessarily considered inferior to those of new settler-colonizers (Berry 2015) (Salvador 2019). I contend that from these beginnings, both Land Grant colleges and the undergirding settler colonial ideologies that supported them, created a “new” agri(culture). New agriculture was founded on values of efficiency, mechanization, and industrialization that developed over the course of the twentieth century. These processes, and the ideologies that supported them, would not have been possible without the “taming” of land, “taming” of knowledge systems, and the restructuring of land tenure systems to systems based on ownership, fence lines, row crops and grains, and domesticated animals. As the land was colonized, so to were Indigenous epistemologies violently eradicated and oppressed, and an ethos predicated on bending the environment to the needs of the people began to develop. As the idea of the American wilderness became engrained into the American national mythos, Indigenous Peoples and ideologies were conflated with wildness and animalistic behavior (Deloria 1998) (Nash 2001) (Nadasdy 2003).

In addition to the restructuring of land tenure systems and a prioritization of domesticated species and Eurocentric methods of agriculture, land grant universities were charged with the endeavor of agricultural education. These universities benefited directly from the dispossession of land stewarded by Indigenous Peoples. A recent investigative report published by Robert Lee and Tristan Ahtone demonstrated that the Morrill Act, by design, allowed states and land grant universities to profit from land that was dispossessed from Indigenous Peoples across the United States via treaty (ratified and unratified) and theft (Lee and Ahtone 2020) (Ahtone 2020). The land was allotted to scrips which were developed with the express goal of enabling the nascent universities to raise the funds necessary to establish themselves or expand their operations. In sum, 52 land grant universities benefited from land scrips, which amounted to approximately 10.7 million acres of land that were stolen from at least 245 tribes and bands across the United States, and \$495 million in endowments (adjusted for inflation). For land grant universities in the West, the land was mostly allotted from within state boundaries and became the future site of the university. In the East and much of the Midwest where forcibly seized Indigenous lands had already been distributed and settled, land grant colleges were awarded scrips of land to sell or manage; these funds became the cornerstone of financial viability for fledgling universities with minimal resources. The Morrill Act, which outlined a process of distributing lands in the “public domain” to support the endeavor of a Eurocentric education, failed to acknowledge that these lands were, in fact, acquired through dispossession and conflict. Each state or territory was awarded 30,000 acres of land per senator and congressional representative, ranging from 90,000 acres at the low end, up to nearly 1 million acres at the high end. It should also be noted that through the privatization and monetization of these “public domain” lands, the Morrill Act effectively removed them from the stewardship of indigenous commons so that they could be built on and built with (utilizing the funds raised from sale of lands). Moreover, land grants continue to benefit from this legacy today, not only via their occupation, theft and institutionalization of sovereign territories that had been stewarded by Indigenous Peoples, but also from the endowments that were established from the sale of scrips in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Meanwhile, enrollment at the 52 benefitting universities by Indigenous Peoples constitutes less than .5% of total enrollment numbers (Lee, Ahtone and Pearce, et al. 2020) (Lee and Ahtone 2020).

# Indiana Agricultural College

Indianapolis, Indiana  
May 1<sup>st</sup> 1866

The Board met in pursuance of a call from the Governor to determine what disposition should be made of the 390,000 Acres of Land scrip, which had been received since the last meeting of the board and for other purposes in connection with their duties as trustees. All present.

The minutes of the last meeting were read and approved.

The letter of transmittal from Hon. J. H. Edmunds, Commissioner of the General Land Office, under date of April 12<sup>th</sup> 1866, to Governor Morton, accompanying said Scrip, consisting of Two Thousand four hundred and thirty eight (2438) Pieces of Scrip each for one Quarter Section, except the last number which is for a half Quarter, to make up the exact quantity of 390,000 Acres, being the amount in full to which the State of Indiana is entitled under the Act of Congress, was read, and the Secretary

Figure 10. Board of Trustees Minutes May 1st, 1866, Describing the Allotment of Land Scrips for Purdue University Permission to reproduce from Purdue University Archives and Special Collections (Purdue University Board of Trustees 1866)

In Figure 10, the Board of Trustees Minutes from May 1, 1866 describe the scrips granted to Indiana through this process, in the amount of 390,000 acres, for the formation of the Indiana Agricultural College (which would later come to be known as Purdue University). The entire land scrip was sold in 1867 for over \$212,000; this money was invested in bonds which established the University's permanent endowment. Lee and Ahtone's research demonstrated that Purdue has benefited from the dispossession of land from 42 Indigenous tribes and bands, primarily from Midwestern states, but also in California, Montana, and Colorado. At Purdue, the Land Grant legacy and its mythos has been memorialized in an expansive mural titled *The Spirit of the Land Grant College* (See Figure 11). The mural depicts *Progress*, which is defined by the education of farmers and their children through the beneficence of the university which was facilitated by the Morrill Act. The act of crossing the educational bridge is depicted alongside the spirit of *Truth*, to enrich the yeoman farmer and his progeny, and the provision of *Abundance* in the form of agricultural, engineering, and other products provided in service to Hoosiers and the United States. The emphasis on abundance is portrayed as a defining characteristic of Indiana agriculture, and a necessary service to the nation. The emphasis on abundance highlighted in the mural created in 1961 is closely bound with the foci of agricultural programs and projects enacted at Purdue and other Land Grants, as well as through the USDA (Ahtone 2020).



Figure 11. Spirit of the Land Grant College (Savage 1961)

Conventional agricultural norms were constructed at settlement when Indigenous land tenure systems were destroyed in lieu of land ownership and fence lines. Traditional ecological knowledge systems (TEK) of Indigenous Peoples were disrupted as they were dispossessed of their land and uprooted from the environments that were enmeshed with their knowledge systems and, later, as Indigenous youth were forcibly re-educated in boarding schools. In this chapter of the settler-colonial era, the disruption of TEK ultimately suppressed ways of knowing that would have patterned settlers and subsequent generations to approach the land and its

sovereign Nations differently, instead of emphasizing a model that was dependent upon erasure, transformation, and extraction (Shiva 2012). As settler-colonial populations and knowledge systems continued to expand and grow in Indiana and the Midwest, they were reified by the development of export markets back East and in Europe (Meter 2012). Export markets were closely bound with the agricultural endeavor from very early on, in lieu of locally integrated food systems. I contend that these early export markets in the eighteenth and nineteenth centuries fomented the need for specialized farmers who grew a lot of one or two things, and effectively set the stage for the pre-eminence of monocropping systems that became the norm in the twentieth century. Monocropping, in juxtaposition to polycropping, was unable to benefit from the dynamic, complex, and biodiverse systems, nor did monocropping contribute to them. To the contrary, we now know that monocropping systems have critically depleted the levels of our water tables, and by virtue of their heavy reliance on synthetic inputs, had a deleterious effect on pollinators and soil health as well (Shiva 2008) (Herren, Haerlin and IAASTD 2020). In ecosystems and planting systems stewarded by TEK, the need for inputs to suppress weeds and encourage plant growth is mitigated by interdependent relationships between plants and the microbiota in the soil, and beneficial insects are supported by biodiverse plants.

One of the more familiar (to most) examples of this today is interplanting based on the Three Sisters. The Three Sisters (maize, beans, squash) were traditionally planted together and represent an excellent example of the capacity of plants to work together, and to provide staple foods for the people growing them. In a Three Sisters garden, maize is planted in the center of a mound with concentric circles of beans and squash around it. The stalk of the maize provides a support system for bean runners, and squash has room to spread around the base of the mound. However, the beans also replace nitrogen that is used by the maize, and the spreading habit of the squash serves to naturally suppress “weeds.” These three crops could also be stored for the winter and provided substantive nutrition throughout leaner months (LaDuke 2005) (Weatherford 1988). The Three Sisters are one specific example of a method of polycropping that has been used by Indigenous Peoples throughout the Americas. These methods are frequently referred to as *milpa* and represent one alternative to the row cropping systems that are perhaps more familiar throughout the United States. The implementation of *milpa* as an alternative, however, is likely best suited for smallholder farmers because *milpa* systems are



complex, diverse, and locally situated. To be done well, they require the use of locally adapted seed and responsive engagement with the land that is impractical on a larger scale. Traditionally, milpa systems were used as one component of ecosystem management that emphasized Indigenous Knowledges and intentional cultivation and selection of seeds. Although a milpa system may appear to require little maintenance to a practitioner of conventional agriculture, they do in fact require active and intensive management, and are closely bound and situated within local spaces and knowledge systems.

Milpa systems, in juxtaposition to the conventional agricultural norms that are espoused for commodity crop production, do not use heavy machinery, but they do help to minimize some of the heavy labor inputs that are required from other production methods (Nigh and Diemont 2013) (Lopez-Ridaura, et al. 2021). Milpa systems are perhaps best known for their applications in South America by Indigenous Peoples, and were often implemented as one component of a resource management system that supported subsistence of communities without depleting the health of the soil or forests (Nigh and Diemont 2013) (Lopez-Ridaura, et al. 2021). Moreover, traditional milpa systems were closely bound with Local Knowledge systems and were locally defined by land management practices like burning, as well as spiritual practices and cultural engagement with local ecosystems. Central to the implementation of milpa systems was an emphasis on maize and a wide variety of other crops, but generally including varieties of beans and squash as well (Nigh and Diemont 2013) (Lopez-Ridaura, et al. 2021). Some contemporary applications of milpa systems in the United States place an emphasis on the ease of planting a “random” mix of seeds and the minimal labor inputs that will be required for successful harvests. These applications, however, pay no heed to the nuanced complexity of traditional milpas and obfuscate the intensive resource management with which milpas are associated. They also fail to acknowledge that milpa systems traditionally use locally adapted seeds that are stewarded by the community and closely bound with the spaces and places in which they are found; a mass marketed, one size fits all seed mix cannot replace the generational stewardship of milpa systems and locally adapted seeds. In 2020, I happened across a seed company that begun to market a “milpa mix”. Green Cover Seed markets their Milpa Garden Warm Season Mix as “an excellent way to utilize a small portion of land to produce food without going through the hassle of tillage, weeding, and hours of planning.” (Green Cover Seed 2020) More recently, the milpa has been

heralded as a fruitful cover crop and a solution to food insecurity in rural communities. The Flower Hill Institute distributes Green Cover Seed's Milpa Mix for free under their Resiliency Garden program (Flower Hill Institute 2020).

In the discourse of conventional agriculture, however, milpa gardens have also been referred to as *chaos* gardens (D. Miller 2020). In an article published in May 2020, Daphne Miller, a writer for the food advocacy blog *Civil Eats*, described the disconnect between conventional agriculture and the needs of the rural communities, specifically the need for greater attention to food insecurity and demand for food crops. In the article Tom Cannon, a conventional farmer who was already utilizing cover crops to improve soil health in his corn and soy fields described his "chaos garden" and noted that it enabled him to supply local food pantries while also improving yields in his adjacent soy fields. The agricultural blog *Successful Farming*, heralded the milpa as an opportunity to "Use Soil Health to Feed Your Neighbors." (Spiegel 2020) However, despite the attention given to the potential for milpa gardens to provide nutrition to the community, the emphasis on *chaos* and the absence of planning diminishes the importance of milpa management systems and fails to acknowledge the Indigenous Knowledge Systems that developed them. Although the milpa may appear *chaotic* in comparison to the standardized rows of conventional agriculture, it has customarily been a method of ecosystem management that is deeply enmeshed with the production systems, cultures, and epistemologies of Indigenous Peoples in the Americas.

### **4.3 Commodification of Food Justice Practices**

In the above example of the Three Sisters, I explained that the squash helps to suppress "weeds." However, in this discussion of TEK I would also like to acknowledge that classification as a weed is also part of a dominant discourse that prioritizes conventional agriculture. As Ralph Waldo Emerson once said, "What is a weed? A plant whose virtues have not yet been discovered." Many of the plants that are today classified as weeds within the constructs of conventional agriculture were perceived differently within TEK systems. Healing modalities utilizing "weeds" were also espoused in Eurocentric applications until the advent of the pharmaceutical industry. This is critical to our understanding of how the ideals of conventional agriculture have shifted over the course of the twentieth century and ways in which dominant

discourses begin to structure and pattern land use and management. Dandelions, plantain, purslane, chickweed, and other “weeds” were once valued for their nutritional qualities and medicinal properties, but are no longer. Vandana Shiva argued that the process of rhetorically vilifying once useful crops and turning them into weeds is reified by the lack of market value such “weeds” hold, in spite of their nutritive qualities (Shiva 2012).

In the context of alternative agriculture, weeds can also be useful indicators of relative soil health or lack thereof. One homesteader I spoke with named Amelia said, “I don’t pull [what other people call] weeds. Those plants have a use, and they want to be there for a reason...it’s the Earth telling me what it needs to heal, to build the soil.” Interestingly, while homeowners and farmers alike attempt to eradicate “weeds” like dandelions, seed catalogs with an emphasis on heirloom varieties have monetized the sale of “rare” varieties of what many would consider a weed. In their 2020 catalog, Baker Creek Heirloom seeds offered three varieties of dandelions, three varieties of plantain, two of purslane, etc. (Baker Creek Heirloom Seeds 2020). These seeds are extolled in the catalog for their medicinal and culinary value, with descriptions that frequently cite their use over hundreds or thousands of years.

Strictly Medicinals, another seed company, carries a wide variety of seeds for plants that have traditional medicinal uses, but would most commonly be classified as a weed (Strictly Medicinal LLC 2020). Other instances of the commodification of traditional medicinal uses for “weeds” are easy to find as well: dandelion and other herbal teas in grocery stores, salves and serums crafted using calendula and arnica flowers, and the rapid expansion of the essential oil industry in recent years. These plants and the knowledge systems that defined their use were devalued over the course of the twentieth century. Now, with a growing interest in “natural” healing and alternative medicine, they have been commodified and are available for purchase at the local grocery chain or drug store. Although none of the farmers I worked with over the course of this study were intentionally cultivating dandelions or other “weeds,” I have noticed a growing number of market vendors selling dandelion greens, herbal tinctures, teas, salves, etc. over the last few years, as well as foraged items on restaurant menus.

#### 4.4 Seeds: Biological Farming and GM Agriculture

At the Indiana Small Farm Conference (2017), Eliot Coleman delivered a keynote address discussing the tendency of conventional agriculture to focus on plant pathology, in lieu of plant health. His assertion that cultural practices and engaged stewardship of the land can replace pesticides and synthetic inputs echoes Amelia's assertion that "weeds" do in fact serve a purpose in gardens and the cultivation of food, despite their perception as a nuisance and a hinderance to efficiency. But Coleman, as a market farmer, did not go so far as to extoll the virtues of "weeds." Instead, he focused on the presence of insects and plant disease as an opportunity for determining the root of the problem and the remedy. Although it is a radical notion today to consider pests a source of opportunity, Coleman contends that this type of "biological farming" was common traditional knowledge of settler-colonial farmers in the 1700s and 1800s. Coleman stated, "Nature isn't malevolent, but benevolent. So, the farmer's role isn't to minimize sick plants but to optimize healthy ones...When we enhance the positive, we simultaneously eliminate the negative." Essentially, Coleman is arguing that by improving soil and plant health, pest control becomes unnecessary as pests will generally attack unhealthy plants. Coleman's views have some interesting parallels to concepts of holistic health and food systems, with an emphasis on "food as medicine" through vegetable prescription programs. However, preventative measures and symbiosis with the land are non-commodifiable. Coleman continued, "Ideas that become common are often commodifiable. And plant health is non-commodifiable," whereas the pathologizing of plants and treatment of symptoms through synthetic inputs is.

The commodification of TEK and subsistence methods has been well documented in regard to seeds and their related intellectual property rights. Vandana Shiva has noted that in many cultures around the world, women have traditionally served as the guardians of seeds (Mies and Shiva 2014) (Shiva 2016). However, in the context of the United States, the Genetically Modified (GM) seeds that are frequently used in conventional agriculture have been declared the intellectual property of multinational companies like Monsanto and Syngenta. In this system, farmers are forbidden from saving patented seed for the following season, thus necessitating annual seed purchases and eliminating the option of developing locally adapted seed through alternative methods of plant selection. In her *Manifestos on the Future of Food and Seed*, Shiva refers to the GM seed industry as an example of food fascism, "But food fascism isn't just in the

seed; it's in the methods of production as well....This is another element of food fascism- the fear of the small, the decentralized, the local, the free.” (Shiva 2007, 36-37) While Shiva has been clear about her disdain for the seed industry, I would argue that her criticisms are at least as much about what is lost by local communities through the commodification of seed. Food and seed provide sustenance, but also can represent the hope of future generations and the situated perspectives of local people and places. The International Commission on the Future of Food wrote:

Seeds are a gift of nature, past generations, and diverse cultures. It is our inherent duty and responsibility to protect and pass seeds on to future generations. Seeds are the first link in the food chain, the embodiment of biological and cultural diversity, and the repository of life's future evolution. Since the onset of the Neolithic Revolution some 10,000 years ago, farmers and *communities* (emphasis added) have worked to improve agricultural yield, taste, and nutritional value. They have expanded and passed on knowledge about the health impacts and healing properties of plants as well as their peculiar growing habits and their interaction with other plants, animals, soil, and water.....Throughout this period the free exchange of seed among farmers has been the basis of maintaining biodiversity as well as food security. This exchange is based on cooperation and reciprocity.... (Shiva 2007, 77-78)

What is lost, then, in the genetic modification and commodification of seeds is much more than property rights. Seeds simultaneously represents the past and the future; space, place, and taste; they are a tangible embodiment of Traditional Ecological Knowledge and women's knowledge systems (Shiva 2012). Seeds that are regionally and locally adapted are enmeshed with Local Knowledge systems and ecosystems. Thus, the food they produce is a manifestation of the nuanced, responsive, and situated knowledges and environments that cultivate them over time. A focus on singular varieties of seed that are optimized for efficiency also jeopardizes future biocultural diversity and resilience to pathogens. It also effectively results in an erasure of multiethnic foodways and inhibits the capacity of communities to access culturally appropriate foods. Moreover, as a colleague of mine has noted, local food is only as local as the seed it is grown from. This observation is supported by the International Commission on the Future of Food:

The disappearance of local seeds has gone hand in hand with the disappearance of small farmers and local food cultures. And with them, local knowledge about the use of cultivated and wild plant varieties in their different ecological and cultural habitats has likewise been lost. With the extinction and reduction of languages and cultures the indigenous names for and distinctions among thousands of plants have been lost, as have the experiences and traditions of their cultivation. (Shiva 2007, 80)

The Commission's recommendations for ensuring the future viability of seed and localized food systems include an emphasis on diversity, freedom [sovereignty], and stewardship for future generations, with acknowledgement of the theft of land and knowledge systems from Indigenous Peoples and communities within the Global South.

Interestingly, more recently there has been a resurgence in the investigation of “natural” and integrated growing systems and methods. After the dispossession of land of Indigenous Peoples and several generations of the suppression of TEK, universities and research scientists seek to institutionalize this knowledge, and thus re-legitimize it. This is yet another example in a long line of sanctioned theft of intellectual property and colonized epistemologies within conventional agriculture. Although this research ultimately has the capacity to catalyze a broader re-imagining of agricultural spaces in the United States through the extension education system, it comes at great expense and with little acknowledgement of the sacrifices made by BIPOC Peoples here and within the Global South (Nadasdy 2003) (Alkon and Agyeman 2011) (West 2012) (Zanotti 2016). I contend that the delayed acknowledgement of the validity of situated knowledge of localized ecological systems has historically contributed directly to the current emphasis on efficiency and monocultures in the current agro-industrial complex. Research that emphasizes the utilization of available resources, soil health, and the importance of holistic approaches to healthy ecosystems is now a complementary focus of research for specialty crop growing systems, instead of a fringe perspective.

Frequently, research programs make adjustments to practices utilized within TEK systems. These adjustments could represent an effort to utilize the most beneficial constructs within TEK and Western Science if there is a more cohesive effort to find middle ground between the two (Conklin and Graham 1995) (Zanotti 2016). For many food system advocates, the potential for small scale and alternative farming embodies this middle ground. Conklin and Graham (1995) have noted that the bridging of knowledge systems carries insight for stewardship in the Anthropocene, but will require attention to the actors and processes involved in the construction of these knowledge systems. Although a growing number of large scale and commodity growers are embracing the use of cover crops, pollinator strips, and other conservation efforts that mimic the processes of naturally occurring ecosystems, the prerequisite of efficiency minimizes, to

some extent, the degree to which these systems can be implemented. Cover crops *do* assist in the mitigation of soil erosion and help to fix carbon and nutrients in the soil. However, for row crop farmers, cover crops are replaced with large expanses of monoculture commodity crops that have myriad deleterious impacts on the environment, ranging from pesticide drift and contaminated groundwater to reported correlations to the collapse of pollinator species. Tom Johnson, who was mentioned earlier, noted that his soy fields had increased production in the areas adjacent to his milpa plot, but was unsure whether the increased production was a function of improved soil nutrients or increased pollinator activity. To be clear, these efforts *do* have benefits for large scale producers and the spaces they farm in, but these benefits are limited to the scale at which alternative methods are implemented and to some extent by the other growing practices utilized on the farm.

Smaller scale farmers, particularly those who operate diversified farms, are better positioned to experiment with alternative methods of conservation and production with an emphasis on agroecological methods (Shiva 2016). Rather than pollinator strips in marginal spaces around the field, they are able to restore sections of their land to prairie, plant pollinator fields, and leave wooded spaces undisturbed. Because the goal on most smallholder farms is not to plant every square inch of space, portions of the land can be supported in rebuilding ecosystems. Building symbiotic relationships on the farm with an eye towards stewardship aligns with the expressed goals of building something for future generations, and the support of pollinators, in return, increases yields. Many small-scale farmers attempt to restore ecological dynamism to the spaces they farm in, to the extent that they are able. While these efforts can and often do look quite different depending on the space in question, the guiding ethos of stewardship remains. I argue that the variation in how ecological well-being is restored is an example of the importance of situated knowledge in developing adaptive strategies, with great potential for reckoning with the histories of dispossession and oppression of BIPOC individuals. By continuing to diversify agricultural spaces and utilize alternative situated knowledge constructs, farmers further define the re-imagining of the places they farm and the food systems which they participate in while participating in the actualization of food justice.

#### **4.5 Small Scale Farmers in Indiana, Local Foods, and Values Based Food Systems**

To this point, I have focused on national and international context and advocacy initiatives to demonstrate the close relationship between social justice, environmental concerns, and food systems advocacy. Small scale farmers in Indiana that I worked with over the course of this study have all expressed a/or demonstrated a commitment to advocacy within the local food system and other social justice concerns. I contend that this commitment is an expression of their concurrent devotion to supporting their local communities and re-imagining of agricultural and food systems spaces. With an emphasis on self-determination, many farmers discussed ideas that are closely bound with the precepts of food justice. In particular, farmers I worked with advocate for themselves and the communities they serve to improve food access with an emphasis on choice and the ability to define the local food system on their own terms. The diverse smallholder farmers in Indiana, out of necessity, wear many hats. In addition to vertically integrating much of their business plan because of a lack of hard and soft infrastructure, farmers must also educate consumers on the challenges inherent to alternative farming systems and advocate for themselves and each other in order to grow their farm business. Indiana also has a growing number of stakeholder organizations with the expressed goal of advocacy in and for the local food system. Food councils throughout the state work to educate consumers, legislators, and other stakeholders about the multivalent benefits of a thriving locally oriented food system. Programs and initiatives are also developing and gaining traction within state agencies like the Indiana State Department of Agriculture (ISDA) and the Indiana Department of Health (IDH); at this time, these programs are primarily focused on marketing and the implementation of farm to school initiatives in K-12 schools.

One of the most salient tenets of local food systems advocacy in Indiana is the need for consumer education about the benefits of purchasing local food, and the hidden costs of cheap food that is a product of the heavily consolidated and extractive national/global conventional food system. The foundation of this advocacy is the triple bottom line model that is used by the Sustainable Agriculture Research and Education (program). The triple bottom line model emphasizes the equal importance of social, environmental, and economic factors and supports efforts to evaluate the success of our food system(s) holistically, and not just for the potential for efficiency and low consumer cost (Orr 2002) (Burnett 2019). The triple bottom line has been



further developed into a concept of values-based food chains that place emphasis on the importance of health, quality of life, and social relationships (Ostrom, et al. 2017). While values-based food systems do encompass short value chains and local food systems, the concept of a values-based food system also seeks to build cohesiveness in the definition of a food system that benefits producers, consumers, food system workers, and the environment. This re-imagining of food systems prioritizes transparency, long-term shared values and future-oriented stewardship, trust, cooperative decision making, communication, and a shared commitment to equity across the food chain (Burnett 2019). Producers and stakeholders I spoke with that are dedicated to these values emphasize the importance of narrative and relationship building for the support of production practices that are mindful of environmental and sociocultural concerns. A distinguishing trait of values-based food systems is that they establish a departure from bifurcated conceptualizations of the food system (i.e., big/small, local/global).

Thus far, the emergence of values-based food value chains has been limited by lack of access to scale appropriate infrastructure, consumer awareness and access, and limited financial and policy investment from local, state, and federal governments (Meter 2014). In regions where these concerns are addressed, local and values-based food systems experience greater success and community buy-in.<sup>25</sup> When stakeholders listen to farmers and collectively work towards support and solutions, food access and equity is improved, independent farm viability improves, and local food systems are able to move beyond the direct-to-consumer models of farmers' markets and CSA. Although none of the farmers I worked with over the course of this study explicitly referred to the concept of values-based food chains, their expressed motivations for continuing to farm in the face of adversity were consistently rooted in the ideas of stewardship and the tenets embodied in collective action and community service. Yes, every one of these farmers wants to be financially viable, but it seems to be about much more than building a successful and profitable business. Definitions of success for many of the farmers I spoke with are directly tied to cerebral notions of social justice, food access, environmental sustainability, and the overall resilience of communities.

---

<sup>25</sup> See for example the implementation of the Good Food Purchasing Program in Chicago or Michigan's support of Farm to School efforts.

The smallholder farmers I worked with consistently noted the many other “hats” they wear while building their farm business. They positioned themselves as mentors and collaborators and established their role in a variety of non-profits and volunteer positions with the express objective of building something “better” for their fellow farmers and the communities they serve. Some have joined or started food councils, others work directly with public health and hunger relief agencies, and others work to amplify the voices of independent smallholder farmers to legislators. The Hoosier Young Farmers Coalition emerged as a farmer stakeholder organization in 2016, the Indiana Farmers Union has emerged as a leader since around this time as well. These diverse grassroots stakeholder groups hold in common a systems-based approach that recognizes the inextricably entwined nature of food, human health, and environmental resilience. Both seek to amplify the voices of farmers and to advocate for young and underrepresented farmers, as well as smallholders and alternative farmers more generally (INFU 2018) (HYFC 2020). These grassroots organizations align themselves with their national counterparts and other national scale organizations like the National Sustainable Agriculture Coalition in juxtaposition to the lobbying efforts of agribusinesses and the Farm Bureau. Moreover, there is a general acknowledgement of the ethos that a “rising tide lifts all ships,” that results in a collaborative spirit; in a thriving local food system, there is support for the success of more farmers. As one farmer put it, “We may not be able to change the world individually. But we can each change our own world, our land, and the space we farm.” By working together and promoting food justice and stewardship, farmers suggested farmers and food consumers can begin to move beyond the construct of agriculture as an endeavor to conquer, tame, and bend the land to the needs of the farm. By instead, working with the land, plants, and microbiota, and multiple knowledge systems, farmers I worked with suggested we can better support the viability of plants and ecosystems, as well as farms and families. Moreover, farmers suggested an ideology that what was traded generations ago in the name of efficiency and convenience can be actively reclaimed in the name of stewardship and community resilience.

#### **4.6 Food Justice and Broken Food Systems**

The local food and farming movements have done much in recent years to establish a place for smallholder and alternative farmers, and to support the notion that smallholders are in fact “real” farmers (Ikerd 2008). However, though these movements and their participants have done much

to work towards recognition and accountability for historic and ongoing legacies of injustice, there is still much work to be done in the diffusion of the narratives of inequity into institutionalized spaces. The USDA's 2017 Census of Agriculture indicates that there are a growing number of farms operated by women and historically underrepresented populations in Indiana and nationwide (underrepresented is a term frequently used by the USDA to denote BIPOC, women, beginning, and veteran farmers). After the release of the 2017 data in the spring of 2019, Lieutenant Governor Susan Crouch stated, "We are seeing a trend of diversity in agriculture, and I couldn't be more proud to see the significant jump of women and minorities involved in this industry." (Brown 2019) However, the increased representation of women and BIPOC farmers obfuscates their historic participation on farms and in farm labor. These numbers are an indication of an expansion of farm ownership and operation, not farm labor. Moreover, it fails to acknowledge the impact of USDA practices and policies that provided inequitable access to resources for BIPOC farmers and effectively resulted in the dispossession of land from BIPOC and, to a lesser extent, women farmers (Newkirk 2019). Additionally, it continues to obfuscate the fact that the very foundation of agricultural research and education in our nation, the land grant system, was built upon the violent dispossession of land from Indigenous Peoples (Purdue University Board of Trustees 1866) (Lee and Ahtone 2020).

For many years, the rhetoric has relegated black and brown bodies in the food system to passive roles as the recipients of the beneficence of white farmers, faith-based charities, and the farm bill (Penniman 2018) (White 2019). More recently, this rhetoric has shifted to include the stories of the critical roles that black and brown bodies play in shaping the food system: from migrant workers, to food service and processing employees, to urban farmers. However, this shift still constricts BIPOC individuals to passive roles in the food system and fails to reckon with the appropriation of TEK. BIPOC individuals and communities are more widely being recognized as critical to the success of the conventional food and farm industries, but they are presented as components that are only relevant in presumably white farming and food processing spaces. As a component of the conventional food system, they are denied agency and relevancy on a larger scale. In reality, however, BIPOC farmers have actively been denied autonomy: through land theft, denial of services, and the colonization of growing practices (LaDuke 2005) (Newkirk 2019) (White 2019). In his 2019 keynote at the Power of Procurement Summit, Ricardo Salvador

discussed the impact of the continued legacy of Manifest Destiny and colonization in the current conventional food system. He argues that the conventional food system has been intentionally built on exploitation and extraction of land and labor, and that it is modeled on plantation economics. Of BIPOC individuals laboring within the conventional food system, Salvador noted that the pervasive inequities in the conventional food supply chains mirror systemic inequities in the United States as a whole, “We [conventional food system] want your labor, not you.” (Salvador 2019)

Salvador and others have suggested that the “broken food system” is in fact functioning as it was designed to- by consolidating wealth and power into the hands of a few corporations, by externalizing human and environmental costs (J. Jackson 2020). From its colonial era inception, the food system has been built upon extractive policies that exploit people and the environment. I contend that emergent smallholder farmers are attempting to cultivate a re-imagined agricultural space that is built upon a foundation of cooperation, reciprocity, and equity. In urban and peri-urban communities such as Sylvia’s (introduced in Chapter 3), this looks like a revitalization of the commons, with equitable food access cultivated through community gardens and gathering spaces. Even farms located in rural spaces invite customers to visit and engage with the spaces in which their food is grown. This transparency and engagement are situated in direct juxtaposition to commodity scale operations that have benefited from right to farm laws (referred to as Right to Harm Laws by some advocates) and so-called ag gag laws. These laws concurrently limit the ability of community members to document and seek recourse from agricultural practices that have a harmful effect on local environments and the people who live in them. Independent smallholder farmers prioritize relationship building and transparency as a general rule, and understand that educating the consumer about the source of food necessitates the facilitation of their engagement with growing spaces and the farmers who grow the food. In urban and peri-urban locations, this is often reified through the education of community members about how to grow their own food as well as the provision of spaces to do so by faith-based and community organizations.

Improving food access and equity in the food system is not always as simple as cultivating common spaces and farm visits, however. Stakeholders I worked with noted that the lack of food

access in both urban and rural communities is exacerbated by lack of financial and legislative support for local community-driven solutions that are poised to provide the flexibility needed to cultivate food justice. Farmers I worked with during this study suggested alternative options to traditional grocery retail centers (that have shown little interest in investing in urban centers and rural communities), including co-operative retail models, food hubs, mobile markets, and hyper-local retail options utilizing non-grocery brick and mortar locations (i.e., convenience stores, restaurants, etc.) or farm stands. Although these models are seeing more rapid expansion since the start of the COVID-19 pandemic in 2020, their long-term viability is questionable if the onus of their operation falls on the farmers who are producing the food they sell. Just as we would not expect a traditional grocery store to manage the production, transport, marketing, and sale of food, we cannot expect the farmer to handle all points of the food value chain. There is, however, great potential for emergent cooperative marketing strategies and alternative retail models to simultaneously address the needs of small-scale farmers and the communities they serve in ways that are flexible, adaptive, and resilient to future disruptions to the food system(s).

Food and farming advocates in Indiana I spoke with also note the potential mutually reinforcing relationship between localized food systems, smallholder farmers, and support of biocultural diversity. Food grown by diversified smallholder farms is responsive to the community members; instead of prioritizing a limited variety of fruit and vegetable species that are consistent in shape, size, appearance, and viability for shipping, crop decisions are made with the community in mind and can be adjusted to reflect consumer preferences which ultimately results in a greater variety of foods being grown and the potential for improved availability of culturally and ethnically significant foods. Recent collaborations between the historical farming programs in the Department of Natural Resources and the Potawatomi and Miami Tribes are also supporting the food sovereignty of Indigenous Peoples and the resilience of local ecosystems. Some farmers I worked with make specific choices about livestock, poultry, and produce based upon community-identified gaps in the availability of culturally appropriate food through conventional retail locations. In a locally oriented food value chain, this adaptive capacity is the norm rather than the exception. In a re-imagined food system, this adaptive capacity and resilience can serve a complementary function to existing large scale and conventional supply chains with an emergent emphasis on pluralism that allows the small and the large to operate

within their respective niches. However, for a pluralistic compromise to become viable, smallholder farmers must be provided equal support and scale appropriate infrastructure and legislation instead of consistently being left to their own devices.

#### **4.7 Food Justice and Communities of Care**

Another impact of conventional agriculture is the erosion of communities of care and trust. Throughout the Global South, in communities that have shifted to production for the global market, there has been growing attention paid to the dissolution of community ethos and economies of caring (Adams 1988) (Wilk 2006) (Rosin, Stock and Campbell 2012) (Sitko 2013). As farming and production shifts focus from subsistence to engagement with the global economy, farmers are less able to (whether by lack of time or in an attempt to be competitive in the market) help one another- with harvest, in times of scarcity or hunger, in work, in planting, in shared community responsibilities and needs (Adams 1988) (Shiva 2016). These systems of community care once existed in rural communities of the US as well, but were eroded by the growing prominence of mechanization over the course of the twentieth century which eliminated the need for relationship building and cooperative efforts. However, as farms grew in scale and consolidated in number, rural communities began to “fail.” As consolidation of farm support businesses (i.e., seeds, equipment, inputs) continued and wealth was extracted from rural communities, local support businesses closed, and more people left for urban and peri-urban centers (Neth 1995). The flight from rural communities ultimately resulted in further consolidation of farms, which reified the cycle of wealth extraction from rural farming centers. Rural communities are still there, but lack much of the foundation and the structures, the roots, that they once depended upon (Meter 2004) (Meter 2014). Whereas more historically, farmers and rural communities were built upon a different ethos of care built upon shared work: help during planting season, harvest, in the literal raising of barns, and slaughter of animals. As more individuals moved off farm for their income, they were no longer able or willing to work collaboratively for the shared economy.

With the revitalized emphasis on community and non-market economy among emergent and alternative farmers, small scale-farmers are attempting to revitalize community structures. They prioritize community, economies of care, and the needs of their neighbor. Generational

sustainability and community stability are prioritized at least as much as market returns. This is not to say that these rural spaces exist completely within this bucolic romanticization of rural life. To the contrary, in some cases that I observed farmers would extoll the virtues of strong community, while in the next breath making the argument that making a living at farming is very hard in the best of scenarios, or nearly impossible in the worst of scenarios. Clearly, farming IS hard work. If it wasn't, then there would not have been such an exodus to urban centers over the course of the twentieth century. However, the seeming disillusionment with farming that I heard periodically came as a surprise. Why would anyone choose to farm if it was "impossible"? This adamant persuasion that one should not enter farming- because they are unlikely at best to be successful at it would seem to imply that there is no sense of community. However, I would argue that what is at play here is a conflict between alternative farming ideologies and capitalist, consumer-driven precepts that are foundational to the United States' economy (and conventional food system) and are defined by individualism.

#### **4.8 Conclusion**

"Well, I'm a farmer...I mean, I work too- but soon I won't have to...we have to do it[farm]so we can change how it is," explained Gretchen one afternoon when I met with her at her farm. Gretchen's commitment to farming, like many young farmers, was about much more than the selection of a profession or livelihood. For Gretchen, and other farmers like her, the choice to farm is about fomenting transformational change in the food system. The vision for change and efforts towards building something new are shaped by notions of justice, equity, and stewardship. Although the food justice framework was not as salient when I began my fieldwork, it has been a recurring theme during my check-ins and at food and farming conferences in recent years. While many farmers are actively working towards equitable food access and food justice in the communities they serve, they are simultaneously working to amplify the voices and needs of BIPOC communities and lower barriers of entry for emergent farmers from BIPOC communities. The need for change, for building something new and different, was unanimously stated as a primary motivator among the farmers I worked with and is closely bound with the defining characteristics of food justice. The emphasis on community, reciprocity, and stewardship is accelerated by efforts to center previously marginalized voices within the food system. Many of the adaptive strategies smallholders employ to ensure the viability of their

farming livelihoods are complemented by engagement in the surrounding community that is marked by innovation and adaptive strategies to improve food access.



## CHAPTER 5: FOOD AND FARMING POLICY

### 5.1 Introduction

*“Farmers need to know that we have very few friends in high places... We must therefore look to those that do [have our best interest at heart]: our friends and neighbors, our local communities and local economies.”*

-- Mary Berry (2017, 57)

Smallholder and alternative farmers I worked with over the course of this study demonstrate adaptive capacities that are highly resilient, but they do face specific challenges that can be further exacerbated by agricultural policy. Legislation and policy drafted at the national and state level both have the capacity to support or significantly hinder the efforts of small farmers. Most agricultural policy and food regulations, particularly at the national level, are developed with the conventional (agribusiness) norm in mind. As I will demonstrate, these policies can disproportionately and unjustly disadvantage smallholder farms and food producers over their large-scale conventional counterparts. Adapting policy that is better suited to multiple scales is not about prioritizing smallholders or attempting to disadvantage the conventional counterpart, it is instead about accommodating diverse food production systems that will become increasingly more important as non-renewable resources become scarcer and the inputs of modern agriculture become a non-viable option (Herren, Haerlin and IAASTD 2020). This chapter will analyze some key pieces of legislation and their impact on the farmers I work with. This analysis integrates the perspectives of the farmers, media and secondary accounts, as well as my own reading of the policy measures. By engaging with these sources, I will demonstrate how policy often creates barriers for the success of smallholders, while at the same time I identify the strategies farmers employ to ensure the success of their farms and local food systems. The driving questions for this chapter are: What specific challenges do smallholder and alternative farmers face and how might these challenges be better addressed by existing support systems and new legislation? How do farmers navigate the complexities of the legislative space? What adaptive strategies do they implement to mitigate the effects of policy that is ill-suited to their scale? How are contemporary policies reinforced by historic agricultural trends in Indiana?

The smallholder and alternative farmers that I worked with use adaptive strategies to mitigate the effects of policies that are developed at various scales ranging from the international down to the municipal. Some policies, crafted at the national and international scale, reach far beyond the bounds of Indiana and thus impact smallholder farmers around the United States and the globe. I argue that smallholder farmers in Indiana are doubly burdened by the consequences of policy at the state and municipal level. These state and municipal level policies are particularly burdensome for those who farm at the margins. As I learned over the course of this study, policy directly influences decision making for smallholder farmers as they are forced to contend with the myriad issues that arise when their needs are not being met by the legislation. These issues include but are not limited to: land access, crop planning, market availability, and *de facto* limitations to the potential for income diversification through on-farm revenue streams. Although they are a vital component of the local food system, the Hoosier economy, and the communities they serve, smallholder farmers have remained relatively invisible to policy makers, and their voices have been unheard; their visibility is increasing, however, due to their tenacity and the efforts of food and farming advocates to provide an alternative to the dominant narrative of commodity agriculture in Indiana.

## **5.2 National**

Born out of the extreme circumstances of the Dust Bowl and the Great Depression, the Federal Farm Bill was initially crafted in 1933 as a response to the social, economic, and ecological needs of the United States' citizens, its farmers, and its agricultural spaces. During the Great Depression, the concurrent issues of widespread hunger, farm foreclosures, and rapid ecological decline and soil erosion dictated the need for policy that would simultaneously address these needs in an effort to stymie the further collapse of the health and economy of the nation. Early Food and Fiber programs increased the availability of credit, created price supports, and launched a grain warehousing program that were collectively intended to improve the viability of farmers by slowing foreclosures and increasing the farmers' share of the prices received for agricultural products. The legislation also initiated conservation programs that promoted and supported the use of cover crops, low till methods, and crop rotations, in addition to hunger relief and school lunch initiatives (Imhoff and Badaracco 2019).

In the early years, the Farm Bill was representative of the diversity of agriculture in the United States. Dan Imhoff, a farmer and author who emphasizes transparency in the food system, explained that in the beginning of the Farm Bill legacy more than 100 agricultural commodities received some sort of federal price support (Imhoff and Badaracco 2019). However, as technologies developed during World War II were applied to agriculture in the form of mechanization and synthetic inputs, the agricultural labor force shrank; input intensive agriculture that was dependent upon efficiency and monocropping became the norm. Imhoff argues that the Green Revolution of this era could have been more accurately labelled the “Amber Revolution” because of its emphasis on and support for grain products: wheat, rice, and corn. The Depression Era Farm Bill policies that provided price supports for storage crops had incentivized their production and supported the development of technologies that would increase the productivity of farms that cultivated them. As farms became more productive in the mid-twentieth century, the concept of farm management, modeled on industrial management, was born at land grant universities like Purdue (Paarlberg 1971) (Berry 2015). *Managed* farms were dependent upon efficiencies of scale that catalyzed consolidation in ownership a/or operation and the expansion of scale of the American family farm, and effectively created a new narrative for farming that replaced the yeoman farmer myth of the Jefferson era (although pieces of this myth are still reflected today).

One of the most vocal proponents of the agribusiness narrative during the 1970s, then Secretary of Agriculture Earl Butz, was also instrumental in building the international markets that enabled this type of extractive domestic agriculture. The Butz era ushered in Farm Bill subsidies that at the farm level were dependent upon scale to substantively improve farm incomes (Imhoff and Badaracco 2019). The necessity of international markets and extractive agricultural practices was substantiated by Malthusian notions of feeding the world (De La Garza, et al. 1974). Although famine and hunger were an issue, and remain so today, Raj Patel has argued that United States’ agricultural policy exacerbated this issue, through the Green Revolution and in the decades since (Patel 2007) (Patel and Philppon 2018). Ironically, the portions of the Farm Bill that were designed to mitigate hunger domestically are today criticized for contributing to endemic and chronic noncommunicable diseases (e.g., diabetes, heart disease, obesity, etc.)

In the Figure 12, the inverse relationship between number of farmers and average farm acreage can be seen. The lines of the graph intersect in approximately 1960 and rapidly diverge during the Butz era. Although farm acreage has fluctuated some since then, the number of farms has reached a relative plateau. In the

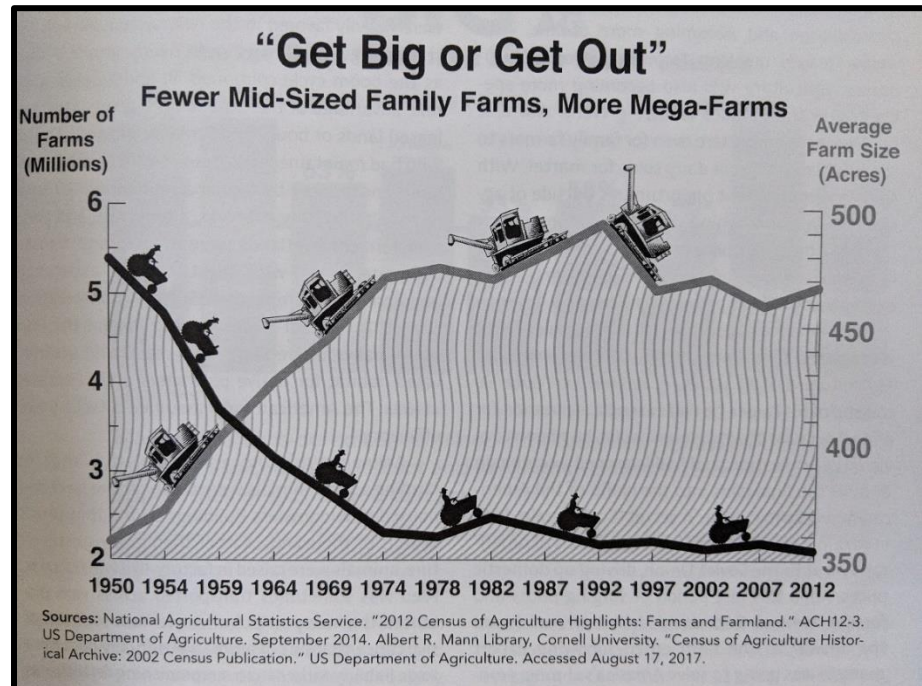


Figure 12. Number of Farms vs Size of Farms (Imhoff and Badaracco 2019)

context of Indiana, we know that the number of farms has increased since the early 2000s. In the graph prepared by Ken Meter that was depicted in Chapter 3, we can see a gradual uptick in the number of farms beginning in approximately 2006. USDA Agricultural Census data indicates that this growth is largely attributable to an increase in the number of small-scale farmers (as defined by acreage). What then, are the implications of nearly 75 years of Farm Bill programs that have been drafted with an emphasis on commodity farming, particularly for small scale diversified farms?

The smallholder farmers I worked with often mentioned feeling that there was a lack of support for them and their chosen methods of farming, as though they didn't matter because they are not a part of the minority of farms that report sales over \$350,000 per year, and because they have chosen to farm diversified operations instead of the main commodity crops. This lack of support in the form of intellectual and capital resources is particularly challenging for new entry farmers who are searching for land, and I contend that this directly contributes to their choosing spaces that are at the margins. As the size of commodity farms has expanded alongside the need for equipment, the price of land has gone up, particularly in areas that are within commuting

distance to urban and peri-urban centers. This is a function of population growth near cities, and land is increasingly being priced at its development value. In states like Indiana, with no land trust or codified tax incentives for keeping agricultural land for agricultural purposes, new entry farmers are effectively priced out of the market. Even if they can get financing to purchase land that is priced for development, it is not feasible for them to build a successful farming business with such a large initial investment or access to already established capital to do so. It can also be challenging to find a retiring farmer that is willing to sell a smaller portion of their land holdings, as they can secure a better price for acreage that is complete and sizable enough for the development of housing additions that are built to serve young professionals looking to live near the city but enjoy the benefits of “country living.” As a result, prospective emergent farmers are forced to stake their claim on the smaller pieces of land at the margins or to move further away from the population density and reliable markets that are more frequently found in cities. In Chapter 3, I described the impact of this paradigm on Marta, who bought land further away from her intended markets because it was what she and her partner could afford. Ultimately, her distance from the market was a significant limiting factor in her farming viability, and she chose to discontinue farming as a business venture.

Farm Bill policies have also indirectly had significant unintended impacts on the environment, from water quality and quantity, to pollinator decline, and soil erosion (Imhoff and Badaracco 2019). Although the Farm Bill was poised from its inception to curb issues of soil erosion through its conservation efforts, the expansion and extraction ethos of the middle part of the twentieth century did little to encourage the cultivation of non-productive crops. Admittedly, we are seeing a shift now in Indiana (and nationwide) towards the use of more cover crops to mitigate erosion, as well as an increase in low and no till methods (Harmon, Cover Crop Trends, 2011-2018 2019) (Harmon, Indiana Statewide Tillage: No Till, 1990-2019 2019). However, monocrop systems that are a prerequisite for large scale operations are necessarily dependent upon synthetic inputs that ultimately contribute to soil contamination and runoff. Moreover, chemical inputs are also contributing to contaminated water supplies and, in the case of pesticides, a sharp decline in pollinator species. Smallholder farmers provide an invaluable alternative to this model, by using labor intensive methods and diversified cropping systems. Most farmers who I spoke with have also dedicated a portion of their land to pollinator friendly

spaces to improve the production of specialty crops that are dependent upon pollination. Many have added honeybee hives to their spaces to simultaneously encourage pollination and diversify their on-farm revenue stream with a high value item (honey).

Amidst growing concern over food contamination outbreaks and resulting media scares, the federal government has faced increasing pressure to develop updated standards for the regulation of food production and exchange (Gilchrist, et al. 2007) (Flynn 2009) (Schnirring 2012). This is due in large part to the fact that few significant changes have been made to the Food and Drug Administration's policies on food regulation since the Nutrition Labelling and Education Act in the 1990s (Food and Drug Administration 2018). In response to the growing concern of consumers and experts alike over food processing and handling practices, the FDA created the Food Safety and Modernization Act (HR 2751) in 2010; the act was signed into law by President Obama in early 2011 (U.S. FDA 2011). This policy greatly expanded the potential for the FDA to enforce regulatory measures relating to food safety but failed to differentiate between large and small-scale food producers.<sup>26</sup> I contend that this lack of distinction, as well as the contradictory nature of more recent policies and initiatives issued by the FDA and USDA is grossly inhibitory to the health and wellness of small business and the American public, particularly in rural and remote regions.

The FSMA covers forty articles that are categorized into four categories (U.S. Food and Drug Administration 2017):

1. Improving capacity to prevent food safety problems.
2. Improving capacity to detect and respond to food safety problems.
3. Improving the safety of imported foods.
4. Miscellaneous provisions. (primarily covering the administrative aspects of the act)

The points of concern that most impact small scale farmers, and thus rural constituents, are sections one and two, regulating the prevention, detection, and response to food safety problems.

---

<sup>26</sup> More recent exemptions issued by the FDA have attempted to ameliorate this issue for the smallest of food producers, but the policy set forth in the FSMA are still problematic for upwardly mobile smallholders and mid-scale farms, particularly those that are attempting to expand their business beyond direct-to-consumer models.

These sections effectively set a precedent for all food producers that intend to sell their product to intermediary distributors or retail locations that requires a series of inspections and certifications, as well as processing by federally certified entities in the case of meat and dairy products.

Although exemptions have been created for those small-scale farmers that sell only in direct-to-consumer situations for certain products, restrictions on “high-risk” foods remain stringent (U.S. Food and Drug Administration 2017); furthermore, by only exempting those businesses that sell directly to the consumer, the act unfairly penalizes smallholders who have intent to expand their business. A widely publicized case in 2015/2016 attempted to prohibit Hawkins Family Farm from selling their chicken, harvested and butchered on farm, from being sold to restaurants. The Farm to Consumer Legal Defense Fund, in an article about the case, stated, “Legislation prohibiting or restricting market access for local food producers is not about food safety but rather about eliminating competition for the industrial food system, often before local producers can get any traction in the market.” (Farm to Consumer 2016) The proposed HB 1267 would have prohibited the sale of uninspected poultry to restaurants under the guise of food safety, in spite of federal exemptions that had been in place for nearly 45 years that allowed small scale producers to butcher up to 20,000 birds on farm and no food safety transgressions on record for the Hawkins. Farms using this exemption, including the Hawkins, were still inspected twice annually by the Board of Animal Health and were required to meet minimum facility requirements, but were not subject to the regular inspections that are required of larger state and federally inspected facilities. Although in this case, the Hawkins were successful in defeating the resolution, they are transparent when speaking about the incident, noting that it was not their record of safety or the facts about food borne illness at larger facilities that swayed the state legislature, but rather advocates and allies throughout Indiana and the Midwest that launched a #KeepChickenOnTheMenu social media campaign and contacted their representatives (Farm to Consumer 2016). The capacity of public pressure to shift the outcome of this case is just one example of the potential for cohesive and consistent advocacy in the state. The regulations outlined in the FSMA are particularly inhibitory to small and mid-scale producers because they were designed to address the specific issues inherent in the industrialized system of agriculture that is dominant in the U.S. Smallholders and alternative food system advocates argue that these

measures are unnecessary for businesses that intend to sell locally or regionally, and that many of the contamination issues of concern are irrelevant on the smaller scale because of lack of incident as well as little potential for widespread food-borne illness (Leib 2013) (Farm to Consumer Legal Defense Fund 2020).

The Director for the Harvard Law School Food Law and Policy Clinic, Emily Leib, makes the case that small scale farms that exhibit more crop diversity are often subject to additional inspections (as opposed to single crop farms that face only annual inspections), and that they are required to meet the same requirements as large-scale producers for kitchen and processing areas. This is especially devastating for small farmers who specialize in meat products and must conform to federal inspection regulations that have effectively put small slaughterhouses out of business; the high cost of slaughterhouse certification results in meat needing to travel further to be processed and means higher costs in terms of transport and time, as well as increased risk for food contamination (Leib 2013). Alternative food systems proponents assert that these policies are contraindicated because food coming from smallholders is safer for many reasons: less circulation to consumers (and thus less potential impact in the event of a contamination outbreak), freshness, fewer points of potential contamination, and less processing. Leib argues that because of these factors federal mandates should operate in a manner more appropriate to the scale of the operation in question (Leib 2013).

In contradiction to the implicit resistance to alternative and small scale food systems present in FDA policy, the United States Department of Agriculture has recently shown increased interest in the success of small farms, particularly those prioritizing “specialty” crops.<sup>27</sup> The USDA has initiated a Specialty Crop Block Grant Program as a portion of its Farm Bill initiatives, a Farmer’s Market Promotion Program, an Organic Cost Share Program, and its Beginning Farmers and Ranchers Loan program. The Block Grant is administered through individual states and individuals interested in receiving funds must first go through their operating state to receive funds, the Loan and Cost Share programs directly benefit individuals and small businesses, and the Farmer’s Market Program has the potential to benefit individuals, non-profits, or state level

---

<sup>27</sup> “Specialty” crops are defined by the USDA as fruits, vegetables, tree nuts, dried fruit, horticulture, and nursery crops. <http://www.ams.usda.gov/AMSv1.0/SCBGP>



projects (USDA AMS 2020) (USDA Rural Information Center 2020). Admittedly these programs are a step in the right direction, but they still comprise a relatively marginal portion of overall Farm Bill spending. In the 2018 Farm Bill, approximately \$2.55 billion was allocated for a ten-year period to the “tiny but mighty” programs that provide support for alternative farmers and research on alternative food and farming systems, compared to the \$142.5 billion that was allocated over the same ten-year period for commodity production in the form of subsidies and crop insurance (NSAC 2018).

These programs are helpful to those entrepreneurs who are aware of them and are able to navigate the application process; they also ostensibly recognize the necessity of expanding the production of so-called “specialty” crops (in lieu of the big five commodity crops) if America’s growing health crisis of non-communicable disease is to be curbed. However, if these types of initiatives are to have any sort of meaningful impact then it is necessary to make available funding for those farms dedicated to the big five (corn, soy, cotton, wheat, and rice) more equitable with those producing “specialty” crops. This is crucial if there is to be any incentive for large-scale farmers to shift from the production of non-food crops to those that are not only intrinsic to a healthy diet, but also represent a much larger proportion of the recommended daily allowances for nutrition in the newest recommendations (USDA 2020). If the true purpose of Farm Bill subsidies is to help ensure food security, then why are we so disproportionately spending on crops that are used more for fuel or secondary food production than they are nutrients? I would also argue that a paradigm shift is in order if the goal of efficacious nutrition improvement and NCD eradication can be reached: the vehicles for crucial micronutrients should not be referred to as “specialty” crops; they should more accurately be termed as food or preventative medicine.

Although food safety laws, by definition, are intended to benefit the public’s health via a food system that can be trusted to be safe and reliable, the FSMA and various state level policies such as Indiana’s Cottage Food Law can actually have the effect of creating food insecurity in food deserts. Furthermore, their exclusionary and prohibitive tendencies can remove economic and job opportunities in the communities that most need them. Since there is a direct correlation between socioeconomic status and both food security and overall health, it stands to reason that

these policies dually burden disinvested communities (Walker, Keane and Burke 2010) (Allcott, et al. 2019) (White 2019).

Food deserts are becoming a more common topic of concern, particularly in reference to their impact on endemic chronic disease. However, until relatively recently these conversations focused on the high prevalence of food deserts in inner city neighborhoods and urban areas more generally. Due to the association by many individuals of rural areas with agricultural production, the plight of rural constituents with diminished access to fresh foods was relatively ignored. Because of a previous lack of studies on the subject and this association, there were few efforts to enact policy or intervention efforts at anything larger than a community level. However, this paradigm is beginning to shift as the public becomes more aware of the relative dearth of fresh food access in rural and remote areas (unless one has the capacity to grow these items themselves). As public awareness has grown, so too has the body of literature devoted to the topic (Ver Ploeg, et al. 2009) (Yousefian Hansen, et al. 2011).

Despite growing recognition of the existence of food deserts in both urban and rural areas, they remain a critical issue for urban and rural residents alike. Food deserts are defined by two primary factors: distance to the nearest food market and mobility; to qualify for any sort of interventions from the USDA or other governmental policy builders, at least one third of the local population must be impacted by these factors (USDA ERS 2020). For the purposes of the USDA, eligibility for assistance is also partially defined by income levels and relative poverty. Food deserts are defined generally as areas where the community question does not have ready access to fresh and affordable food, particularly fresh fruits and vegetables. In urban communities, this means there is no grocery market or other food retail source within a mile and in rural communities, this is extended to ten miles; in both cases, this is also defined by a lack of a vehicle or other viable transport to the market. In many food deserts the only points of access for food purchase are convenience marts or other locations with processed or “fast” food. These regions are also generally marked by poverty and relative high prices for available food (USDA ERS 2020). While the concept of a food desert has become more salient in the public imaginary, food justice advocates are working to shift the conversation with the introduction of the concept of food apartheid. Food apartheid acknowledges the absence of fresh and nutritious foods in

certain communities, but places emphasis on the systemic and structural inequalities that have contributed to this lack. In an interview with Guernica, Karen Washington described the importance of reconceptualizing the absence of food, particularly in BIPOC communities, “Food apartheid’ looks at the whole food system, along with race, geography, faith, and economics,” she says. “When we say ‘food apartheid,’ the real conversation can begin.” (Brones 2018) Advocates who favor the term food apartheid note that the absence of fresh food in BIPOC communities has not occurred by chance. Rather, the absence has been constructed over decades worth of disinvestment and intentional decision-making by grocery stores and other businesses. Moreover, the concurrent high availability of calorie dense and nutrient poor foods at convenience stores and fast-food restaurants illuminates some of the structures that have contributed to variable price points for food; decades worth of subsidies for commodity crops have supported “cheap” food that is highly processed, while fresh fruits and vegetables remain inaccessible to many, whether by geography or price point.

But why is the growing prevalence of food deserts and food apartheid significant to the overall health of the communities they affect in both urban and rural communities? The correlation between diets high in processed foods (foods that are calorie dense and nutrient poor) and chronic noncommunicable disease has been well established. Diet and other behavioral factors have been linked to the steady rise in rates of overweight and obesity, diabetes, and cardiovascular disease (Ver Ploeg, et al. 2009) (Walker, Keane and Burke 2010) (DeBono, Ross and Berrang-Ford 2012). Linkages to behavioral factors like exercise illuminate one point of intersection between the food and environmental justice movements; urban communities frequently have less access to green space suitable for physical activity. Further complicating this issue is the fact that lifestyles related chronic diseases often exist in comorbid states, meaning that an individual suffering from a chronic disease is more likely to suffer from another chronic disease at the same time or at some point in their life. Furthermore, by definition, chronic diseases are long-term and persistent, necessitating the need for prolonged (and costly) treatment (World Health Organization 2018). The need for prolonged treatment is particularly problematic in rural and disinvested urban areas, because in addition to a lack of access to affordable healthful food, these communities suffer from a lack of access to basic healthcare service. They

are triply burdened by a lack of access to jobs and economic opportunities that would enable them to support healthier options.

Although increased access to better foods alone would not solve the above issues, it would improve the outlook for affected communities. However, I contend that a restructuring of the FSMA and other laws impacting smallholder food production companies and persons (like HEA 1309) could have the potential for immeasurable impact. The smallholder farms I worked with, through their planting choices and diversified cropping systems, contribute significantly to the availability of fresh fruits and vegetables to consumers that are able to engage in the direct-to-consumer markets that smallholders are most salient in. Moreover, many of them remain committed to finding solutions to improve food access in communities impacted by food apartheid and food deserts. The juxtaposition of smallholder crop choices to those made on large scale farms is largely due to the fact that large-scale industrial type farms tend to prioritize the commodity crops that ensure a guarantee on return (even in poor growing seasons) (Imhoff and Badaracco 2019) (Ikerd 2020). Due to the structuring of federal subsidy and crop insurance programs, commodity crops are effectively favored over specialty crops like fruits and vegetables. The federal programs cover a limited number of crops and also make payments based on acreage planted. The smallholder diversified farmers has few if any of these support options available and is thus reliant on the adaptive strategies they employ to diversify revenue streams and ensure the fiscal viability of their farms. Although this choice by large scale farmers is understandable and is not likely to change under the current structuring of agricultural subsidies, it does inherently imply that the responsibility for the production of more healthful foods lies elsewhere (Ikerd 2020).

In urban and peri-urban areas, efforts to combat the deleterious effect of food deserts have utilized farmers markets and the creation of community gardens (Ackerman-Leist 2013) (Penniman 2018) (White 2019). For those that have the time and prerequisite skills, community gardens provide the space to grow diverse, healthy foods at a minimal cost. Farmers' markets in these areas also increasingly accept WIC and SNAP as forms of payment to help offset the cost of fresh foods and increase their accessibility (Larsen and Gilliland 2009) (Holben 2010) (McCormack 2010). This approach is more efficacious in these areas than it can be in rural areas,

however, due to the higher concentration of people and residences in cities. In rural and remote communities, it can be more difficult to identify a central location for hosting markets or creating gardens. Furthermore, even if such a place is identified it may be difficult for individuals to find the necessary transportation to it if it is several miles away.

Table 1. Chart of Policies Impacting Indiana Farmers

| Policy/Certification Name                 | Abbreviation  | Scale                           | Description  |
|---|---------------|---------------------------------|--|
| Food Safety Modernization Act             | FSMA          | National                        | Designed to standardize the regulation of food safety in the U.S.  |
| Produce Safety Alliance Training          | PSA           | National, Executed by state     | Training for produce growers that emphasizes good agricultural practices and food safety; aligned with FSMA  |
| Good Agricultural Practices Certification | GAPs          | National, 3 <sup>rd</sup> Party | Often confused with PSA training by buyers, the GAPs certification requires annual inspections.  |
| Home Based Vendor Law                     | HBV/ HEA 1309 | State                           | Indiana's Cottage Food Law that allows for the production of "low risk" value-added products to be sold in limited markets and with specific labeling requirements |
| Home Rule                                 | n/a           | State                           | Indiana is a home rule state, meaning that state level guidance from the ISDH is interpreted at the county level   |
| Agricultural Trust/ Easement              | n/a           | Multi-Scaled                    | Indiana has no state or municipally sponsored agricultural trust, easement, or tax incentive programs  |
| Zoning                                    | n/a           | Municipal                       | Zoning is particularly burdensome to smallholders who are farming in urban and peri-urban communities  |

### 5.3 State

Although FSMA is a federal law, its regulation occurs at the state level. Though the implementation of the law has been delayed several times, each state will ultimately be responsible for the interpretation of FSMA at the state level and the application of that interpretation at the farm level via mandatory inspections. Diversified farmers have expressed frustration that the prohibitory fees associated with necessary licensing and processing make it difficult or impossible for many smallholders to consider expanding their operations to include fresh meats or dairy. They are also restricted from using more cost-effective (and traditionally based) forms of horticulture and agriculture. If these farms choose to use composted manure or

certain other more organically based fertilization methods, they can fail inspections. Moreover, the traditional method of year-round crop cover necessitates frequent and costly inspections as each successive seasonal crop is implemented (U.S. Food and Drug Administration 2017) (Leib 2013). Recent developments in the implementation of FSMA inspections in Indiana imply that only a single inspection will be required, but inspections of the small and very small farms are just beginning so it remains unclear how this guidance will be implemented.

Although FSMA was passed in 2011, the inspections provisions have yet to be fully implemented. Inspections of small farms<sup>28</sup> began in the summer of 2020, and the inspection of very small farms is scheduled to begin in 2021. This delay was due, in part, to the expressed goal of allowing farms time to learn the regulations and get into compliance in advance of inspections. However, many aspects of the legislation have also been debated, particularly in regard to which farms are covered by the act. Additionally, FSMA was written with the intent that inspection and regulation would occur at the state level. State inspectors are required to uphold the minimum standards of FSMA but have the flexibility to enact standards that are more specific or stringent. In Indiana, growers are required to register, complete Produce Safety Alliance training, and either demonstrate that they are exempt from FSMA regulations or be subject to inspections to ensure compliance. The complaint amongst many growers (across scale) is that it has been unclear what is expected of them and that they have received variable guidance over the last nine years dependent upon who they spoke with. While the varied guidance is due largely to the fact the details of FSMA have been in flux since the legislation is passed, it is nonetheless frustrating to growers I worked with over the course of this study. Further, the expected standards are still somewhat unclear, with much left to the discretion of the inspector. Official guidance within FSMA frequently uses descriptors like “adequate” and “reasonable” to describe food safety measures and farming systems. However, it is up to the inspector to determine whether each farm, on a case-by-case basis, has implemented “adequate” food safety mechanisms. Although the flexibility of the case-specific decision making is meant to benefit diversity of small-scale farms, it is frustrating to the farmers who indicate that they are unclear

---

<sup>28</sup> Farm operation scale is defined by sales for FSMA: more than \$500,000 in sales constitutes a large farm, \$250,000- \$500,000 is considered a small farm, and \$25,000- \$250,000 is classified as a very small farm. Farms with less than \$25,000 of farm revenue are not covered under FSMA and thus are exempt from regulations.

on what is expected of them. In a phone conversation, Emerson, one smallholder I worked with, expressed his confusion and frustration, “Every time I talk to someone [referring to phone calls he had made to the State Departments of Health and Agriculture] they tell me something different.... It’s like they keep changing their minds. I’ll just wait it out.”

Produce Safety Alliance (PSA) trainings are offered in Indiana through a partnership with Purdue. These trainings provide an overview of best practices for safe fruit and vegetable production, harvest, and post-harvest handling for farmers, and are a part of the Good Agricultural Practices (GAPs) certification process. Although GAPs certification is a third-party certification that is often a prerequisite for dealing with wholesale buyers and distributors, it is not a requirement for FSMA compliance. In Indiana, however, PSA training is highly recommended as part of the process for FSMA compliance, which also includes registration with the state and a farm inspection (with an optional readiness review in advance of the official inspection). The PSA recommendation creates an extra layer of confusion for farmers who are unclear about the differences between the inspections conducted by the Indiana Department of Health and third-party GAPs inspection and certification. Farmers who have previously inquired into the GAPs certification process, are now wary of federal and state mandated FSMA inspections because of confusion about the blurred distinction between the two inspection programs. Some have noted that this blurriness is contributed to by state representatives who may have previously used PSA and GAPS as a signifier for food safety initiatives like FSMA, because the details of the FSMA rollout were constructed over several years. It seems the assumption was that PSA would provide a minimum framework that would most likely meet FSMA standards, but the lack of distinction between the two programs over the years has contributed to farmer confusion.

Moreover, GAPs certification can be an arduous and pricey process dependent upon the crops that are grown by the farmer and their intended end user. For farmers whose business spaces are closely bound with their personal and home spaces, there is often a reticence to welcome inspectors of any sort onto the farm until it is absolutely necessary. Although many small-scale farms that market products directly to the consumer will likely be classified as FSMA exempt, exempt farmers are still subject to an inspection of financial records in which they must

decisively demonstrate their qualifications for exemption (e.g., selling a majority of product to a qualified end user *and* total gross sales under \$500,000). The complexity of these distinct yet complementary inspection and certification processes has led many farmers, like Emerson, to be resistant to the process in its entirety. However, by opting out they limit their ability to expand to wholesale markets and run the risk of FSMA non-compliance.

In addition to the complexity of navigating the muddled lines between federal, state, and third-party inspections, there has been an overall lack of direction or guidance from the regulatory bodies in Indiana. Seemingly in acknowledgement of the diversity of Indiana farms, and particularly those that are classified as very small or small for the purposes of FSMA, the state has opted to utilize language from FSMA that describes food safety measures as noted above, as “adequate” and “reasonable.” These highly subjective terms are left open to much interpretation and beg the question, adequate and reasonable to whom? A recent (2020) check-in with some of the farmers I worked with over this study revealed that the subjective nature of these terms is leading to a heightened sense of uncertainty about whether they will be able to pass inspections. As more than one farmer said, “what does that even mean?” Adequacy will ostensibly be determined on a case-by-case basis and in collaboration with farm readiness inspectors and the ISDH inspectors. However, this necessitates farmers inviting a pre-inspection or farm readiness review to determine if their farm management systems are indeed adequate. For farmers, whose business is run in close proximity to their home, the repeat visits and inspections can feel like an invasion of privacy. What farmers hear when they are told decisions about “adequacy” will be made on a case-by-case basis, is that although inspectors and regulatory agencies are unwilling to clearly define the standards they are looking for, “they’ll know it when they see it.”

For smallholder farmers that have faced hurdles along every step of the way of building their farm business, there is a fear of uneven application of the minimal guidelines, where some farms will pass, and others won’t. If a farm does not pass, they are faced with the prospect of making costly upgrades or changing their business model which can severely impact the accessibility of markets. We must remember that if a farm is unsuccessful, the farmer is at risk of losing their home in addition to the farm and farm business. Emerson told me that in a one-month period, he



had two different inspectors from the same regulatory body show up, without a scheduled appointment. This is almost certainly contributing to his decision to “wait it out.”

Food safety regulations are somewhat ameliorated at the state level by Cottage Food Law exemptions, ostensibly to benefit small-scale producers and those that are beginning to expand into Value Added Production to further diversify revenue streams and add higher margin products to their catalog. Cottage Food Laws are highly variable from state to state, and can impact the types of products made, where they can be marketed, etc. Indiana’s Cottage Food Law (HEA 1309) allows for the home production of certain food items as long as they are sold only at farm stands or farmer’s markets and meet certain labelling requirements; all food products are required to display a label that acknowledges the food was prepared in a kitchen that was not inspected. The types of food allowed are considered “low risk” and primarily include baked goods, canned items, and other processed goods, with specific restrictions within these categories. All of these items must be sold to the consumer with no involvement of intermediary vendors (Gilliam 2009). Fresh and “potentially” hazardous food items are still subject to more stringent regulations. These regulations focus on the storage and transport of fresh items, as well as any necessary processing of items like meat or dairy products (ISDH 2006).

If local legislation such as the Indiana Cottage Food Laws were less restrictive on allowable points of sale, smallholder producers would be better positioned to consider other methods of delivery for their food. Home delivery could be a viable option, and they would be able to provide food at wholesale rates to non-profit food pantries or food delivery systems, as well as existing convenience marts or food sale locations. If these structures were reorganized in some way to guarantee the safety of food while not inhibiting the productive capacities of small-scale farms by eradicating restrictions on types of food allowable, community members impacted by food apartheid might also have improved access to a diverse diet of fresh foods. In an apparent effort to expand the provisions of Indiana’s Home-Based Vendor Law, the Indiana General Assembly proposed the Indiana Food Freedom Act as an amendment to Indiana Code IC 16-42-5.5 in 2019. This provision would have allowed for the sale of prepared foods that were previously classified as high risk at all markets allowed under the Home-Based Vendor rule. Under the prior rule, for example, the sale of tomato-based products (i.e., salsa, marinara, etc.)

and pickles was disallowed, while jams and jellies were allowed. The Food Freedom Act would have allowed for the sale of these items with certain provisions and with documented informed consent from the qualified end user (consumer). However, the mechanism by which informed consent was to be acquired was inherently burdensome as it required the farmer or food producer to obtain a signed notarized contract from the consumer at least one week in advance of the transfer of goods. Moreover, the contract was not valid in perpetuity- a new, notarized contract was required for each sale. The Food Freedom Act never made it out of committee, but from this example we can see that there is a growing acknowledgement of the status of Indiana's lack of legislation in favor and support of local food systems. However, this well-intended but misguided attempt failed to take into consideration the logistical implications of requiring a notarized contract. Is the farmer to become a notary in addition to the many other hats they wear? Are farmer's markets supposed to carry the burden of contracting a notary for market days? Who would have paid for notary services for the sale of \$6 jar of salsa? As with so many of the regulations that directly impact farmers and food producers in Indiana, the practicality of the Food Freedom Act was never considered, nor were farmers and food producers active participants in its development.

Like the state level regulation of FSMA, farmers looking to expand to wholesale have also faced challenges in determining what exactly they need to do to sell product into institutions like schools and hospitals. While the popularity of Farm to School Programs at a national scale have grown exponentially in recent years, Farm to School has struggled to gain substantive traction in Indiana, particularly in relation to the procurement of locally produced foods. While some neighboring states have seen success in moving the needle towards expanded local procurement, Indiana has remained at a plateau with some notable exceptions in individual school districts. The success of Farm to School in other states is due in no small part to the support of these efforts through state, municipal, and school system policy, as well as financial support for the programs to offset the added cost of buying local food in lieu of commodity products that are partially subsidized by the Department of Defense. In Michigan, for example, the development of a ten cents a meal program has yielded immense success (Colasanti, et al. 2010) (Groundwork Center for Resilient Communities 2020). In this program, each school meal that utilizes locally produced and procured food is subsidized with an additional ten cents in addition to the standard

meal allotment. In Indiana, not only is there a lack of policy in support of Farm to School, but there has historically been an issue with conflicting information on what is required of a farmer looking to sell to a local school. For instance, until recently, the Indiana Department of Education website indicated that oftentimes costly GAP certification was a requirement for farmers to sell to K-12 schools. Although this was changed to indicate that produce safety training and GAP certification is a recommendation, it has been difficult to clarify this misconception for well-meaning food service directors who are seeking to ensure the safety of the food that they serve. This conflicting information is due in part to the amount of interpretation that is left to local county health inspectors, but also to misinformation that has been distributed by state agencies. The recently developed Indiana Grown for Schools program has been working to clear these misconceptions and level the playing field at the state level, but a farmer must still contend with variable interpretations of minimal state level guidance by local health inspectors and school policies.

In addition to the lack of support for institutional sales by smallholder farmers, Indiana has done little to prevent the consolidation of food value chain infrastructure. This consolidation is perhaps most apparent in regard to meat processing, with only a few USDA inspected butchers remaining in the state. Although there are still smaller state inspected facilities, farmers who choose to use these butchers are limited by state and federal legislation as to where they can sell their products. A farmer using a non-USDA butcher is prohibited from selling their product across state lines. In addition, when using the smallest of butchers, producers are restricted to sales from the farm or some farm markets (with exceptions and restrictions). These consolidations have also impacted diversified fruit and vegetable growers who have little to no access to minimal processing facilities that would allow them freeze or preserve food for year-round sales, or shared use canneries and kitchens that would eliminate the home-based vendor restrictions for value added products. There is one remaining artisanal mill that will accept grain from small scale growers and preserve the point of origin of the product. This mill was in the process of closing down in 2019 but was recently purchased by new owners in 2020. The lack of this infrastructure effectively means that farmers must grow the food, market and sell the food, run the business side, and find a way to preserve food in their home kitchen (thus subjecting themselves to the home-based vendor rules) in order to minimize and mitigate food waste and

preserve their profit margins. Many of the farmers I spoke with over the course of this study are effectively acting as a comprehensive vertically integrated food value chain because they have no other options available. The links in the supply chain of the conventional food system have become highly specialized, with specific actors that perform the tasks needed to move to the next link in the chain (i.e., transport, distribution, marketing, sales, etc.). For the smallholder farmer in Indiana, there is little to no access to scale appropriate infrastructure and specialized support along the food value chain, and the farmers I spoke with had little interest in integrating into national supply chains. While they wait for scale appropriate and locally oriented infrastructure to be built, they perform all of these tasks themselves.

The average farmer in the United States is 58 years old according to the 2017 agricultural census data. This continues the trend of the “greying of agriculture,” wherein farmers are aging out and we are faced with the very real possibility of a shortage of farmers in the coming years. Although first generation and emergent farmers are on the rise, land access is a frequent topic of conversation in farm advocacy groups.<sup>29</sup> Because agricultural policy in the United States has so ardently supported industrial scale farm operations, many of these aging farmers are burdened by debt that was incurred through the purchase of land and the necessary machinery to work it. In order to retire, they must sell their land and equipment at higher rates in order to provide for themselves in their retirement years. However, as I’ve discussed previously, this frequently means selling to developers or at the going development or residential rate for land instead of selling for the agricultural value. In other states and, in some cases, municipalities, this issue is mitigated through a complex and complementary system of zoning restrictions, tax credits, and agricultural trusts. Although in some cases agricultural land trusts are developed as independent non-profit organizations, their efforts are often supported by and complemented by state led land trust initiatives. In Indiana, there is no state sanctioned agricultural land trust, and the handful of land trusts that are well established around the state have traditionally focused on conservation and naturalization efforts.<sup>30</sup> Land trusts and tax credits function in a complementary fashion to

---

<sup>29</sup> See for example the advocacy platforms of the National Young Farmers Coalition, the National Sustainable Agriculture Coalition, and National Farmers Union, as well as the Indiana Farmers Union and Hoosier Young Farmers Coalition.

<sup>30</sup> Some, like Shirley Heinze land trust are beginning to explore options for agricultural land preservation and the facilitation of equitable land transitions, but they are just beginning this work as of 2019.

enable retiring farmers to receive the price they need for their land while simultaneously keeping the price low enough that new entry farmers can purchase it. To briefly summarize, the development rights are paid for through the trust and tax credits, and the purchaser signs an agreement to keep the land for designated agricultural purposes for a minimum period of time or in perpetuity. Through these efforts, the retiring farmer who is selling land effectively receives the development price (or something close to it), and the new farmer who is purchasing the land is able to do so at prices that support the building of a successful farm business. Tax credits are a newer solution to the issue of land transitions, but they are seeing some success in other Midwestern states. In states with a tax credit system, the seller will receive a significant tax break or credit if they sell their land to an existing or prospective farmer instead of to a developer. This is intended to incentivize the protection of agricultural spaces.

Although many of the state policy initiatives have effectively inhibited the growth of the smallholder farming community, there are some programs that have a positive impact, though they are generally limited by a lack of dedicated funding. Like other states, Indiana does sponsor a local food promotion program. Here, the program is called Indiana Grown (and is paired with the newer Indiana Grown for Schools which is a joint effort between ISDA and ISDH) and is an effort through the Indiana State Department of Agriculture. Indiana Grown has, since its inception, attempted to support the marketing efforts of diversified farms, value added food producers, and the nascent Hoosier beer and wine industry. Members of Indiana Grown are able to use the Indiana Grown label in their marketing, receive promotion through the website and partner retailers and restaurants, and, more importantly, receive assistance and technical support in connecting with markets and other needs. While this program has been instrumental in amplifying the voices of Indiana farmers, it is limited in its impact by the types of complementary and supportive policies and programs that exist elsewhere, and limited funds allocated to implement programs that address the needs and concerns of farmers and food producers.

## **5.4 County and Municipal**

Legislative and policy barriers at the county and municipal level can primarily be categorized in two ways: zoning issues and food safety inspection inconsistencies. For emergent smallholder

farmers, local county and municipal barriers are often the first encounter a farmer has with regulatory agencies. A negative initial experience can, at a minimum, temper the farmer's expectations and plans for growth of the farm and business. In more extreme circumstances, farmers who are new to navigating these spaces may give up on farming all together. Marta, who has been mentioned previously is one example of a farmer who found the complex web of legislative hurdles, market access, and life balance too much to handle at this juncture. However, other farmers I spoke with, particularly those farming at the margins, had experienced difficulties with zoning commissions who did not understand what diversified farming spaces look like. One zoning official apparently stated, "We didn't see rows when we flew overhead, so it isn't a farm." This statement again points to the salience of the dominant agriculture narrative in Indiana. Not only must farmers produce, transport, and market food, but they must also convince local officials that what they are doing qualifies as farming. The primary issue in the case of both zoning and food safety policy is that they were developed with the consumer/citizen or city goals in mind, with little consideration of and input from farmers. This represents a disconnect between the conceptualization of farms as businesses and farmers as food providers, and the perception of them as irrelevant to the development of local communities. It is not that policy was developed to inhibit farms; to the contrary, farms were never a part of the consideration.

Much like regulation of FSMA is primarily the responsibility of states, oversight of the health inspection regulatory space is within the jurisdiction of the county where the farm is located or where they are selling their product. The exception to this "home" rule, lies in Lake County, where two municipalities have developed their health inspection offices that operate independently of the county. While a farmer may develop relationships with the inspector in their home county, they can and often do have to learn separate sets of rules for each county (or city) in which they intend to sell products in direct-to-consumer spaces (e.g., farmers markets). If a farmer were to sell in every county, they are potentially subject to 94 different interpretations of the guidance provided by the Indiana Department of Health. In the examples I have seen, these interpretations are frequently actualized at the level of the individual health inspector, with evidence to suggest that ordinances and guidance can be interpreted differently even within the same county. In peri-urban communities, this can mean that the farmer's burden of obligation can be vastly reduced or increased simply by crossing the street to another county (or city).

Moreover, the variability of interpretations makes it difficult for farmers to build mentorship relationships or seek the advice and support of their farmer colleagues, because everything is decided on a case-by-case basis.

One of the most egregious examples of what can happen with the home rule inspection framework is in Lake County, where inspectors are notorious for their narrow interpretation of state guidance. In conversations with the county health department, the justification for these interpretations is often cited as an ordinance that drafted and passed in the 1970s. Although no one has ever produced a copy of this ordinance, county inspectors continue to use it as the framework for their inspections. The contents of the ordinance are ostensibly passed on verbally when new inspectors are hired. This illusive ordinance most severely impacts Value Added Food Producers and farmers who sell at Farmers Markets. In Indiana, a farmers' market must have a minimum of two farms; however, in Lake County, I have most frequently been told that there is a minimum requirement of two or three farms, though I have also heard as many as five from the stakeholders I have spoken with. The market must also be reoccurring to fall within a farmers' market classification. If a market does not meet the minimum requirements of farmers' market classification, it will be reclassified as a community market or festival which impacts the necessary permitting and types of product that can be sold.

However, in addition to the variability in the number of requisite farmers, there is also no guidance for how frequently the market must occur. An annual market, for example, might be (and has been) arbitrarily reclassified because it does not occur "often enough." This is also critical to the viability of farms that produce value added products under the home-based vendor rule because of the restrictions on where they can sell. If a market is reclassified, a farmer can no longer sell food that falls under the home-based vendor law or meat that has been processed in certain facilities. Because Lake County also has additional city level health departments in East Chicago and Gary, a farmer who sells in those cities in addition to other markets in the county will be subject to three or more interpretations of the same state guidance. The most notable burden from the municipal departments is the addition of the requirement of a food vendor license for farmers in Gary. This food vendor license is the same licensing that would be

required of a food truck vendor; licensees must submit to a blood test and pay hundreds of dollars per year.

For farmers and food producers hoping to avoid the complications of the home-based vendor rule and with the resources to access a commercially inspected kitchen, there are still concerns about unfounded interpretation of state guidance. Shelf stable food that has been produced in a commercial kitchen must, in Lake County, must also be stored at the preparation site or in another inspected facility. This stipulation effectively means that the use of a shared inspected kitchen space or rental of a commercial kitchen through collaborative partnerships with restaurants, bars, churches, etc. is eliminated as a viable option. I am aware of at least one value added producer who has moved the production of their products out of the county as a result. The unnecessarily restrictive interpretations found in Lake County while perhaps intended to protect the community and support food safety, has the unintended consequence of weakening the local food system and discouraging the presence of entrepreneurs, farms, and food businesses; it is simply easier to produce and sell food elsewhere. Unfortunately, Lake County is also severely impacted by food apartheid and high numbers of documented food deserts within the USDA food desert mapping program (USDA ERS 2020). By limiting the capacity of local producers to serve their home communities, local health inspectors are also further restricting food access, and the capacity of their citizens to develop community driven, hyper-local solutions to food insecurity and economic revival.

In addition to concerns about local health departments and inspectors, emergent farmers must also contend with the unintended consequences of poor long-range planning that fails to accommodate for food production and zoning enforcement. For individuals farming at the margin, local zoning issues are particularly problematic. As I have already discussed in chapter 3 and again in the beginning of this chapter, land access is a ubiquitous problem amongst new entry and emergent farmers. Because smallholder farmers tend to use labor intensive management systems that maximize production on relatively small spaces, they are uniquely positioned to take advantage of the “leftover” spaces at the margins of urban and peri-urban centers. However, by doing so, they run the risk of encountering zoning conflicts, particularly if their parcel has already been zoned Residential or is re-zoned after they purchase. Although



many people might assume they can do what they like with their land, this is not always the case. Even on relatively large plots of land by city or neighborhood standards (1-10 acres), residential zoning can legally restrict the structures that can be built on the property as well as where and what can be grown (or raised). Most localities have a phased classification system for residential areas (e.g., R1-R3) that determine the minimum size of property and allowable population density, but also the types of structures that can be built, whether home businesses are allowable, whether bees and poultry are allowed, and where food can be grown. The impact of zoning is, unfortunately, most often a case of “you don’t know until you know.”

More recently, municipalities have begun to include provisions for green space in their comprehensive strategic plans, with concurrent provisions (or at least mentions) of food and agricultural support. In Indianapolis, the city provides support for the Indy Food Council, and supports a variety of consumer facing initiatives designed to improve food access (e.g., community gardens and urban farming). In the Northern half of the state, LaPorte has directed funding towards community driven initiatives that seek to improve community health and food access by supporting food, and the City of Crown Point in 2019 explicitly listed support of food, farming, and green space as a priority in their comprehensive strategic plan. As they relate to food, these plans are typically quite vague however, with minimal solicited input from the people working in food and agricultural spaces (e.g., farmers). Moreover, collaborative stakeholders such as food councils and advocates also appear to be absent from foundational planning conversations. Although the absence of stakeholder input can be difficult to document, anecdotal evidence from advocacy groups around the state indicate that these exclusions are the norm.

The development of the large-scale commodity farming narrative in Indiana and the rest of the United States over the course of the twentieth century has directly impacted policy initiatives at all scales (national, state, and local). Smallholder farmers, in addition to their work as producers of food must establish their legitimacy as farmers in the eyes of policy makers who frequently reify the stronghold of large-scale commodity farming through policy initiatives that emphasize and support the “bigger is better” ethos, at the expense of smallholder farms and farm livelihoods. Smallholders in Indiana must advocate for themselves and their communities in an effort to ameliorate the impact of ill-suited policy and utilize a broad spectrum of adaptive

strategies to ensure the success of their farm spaces. These adaptive strategies redefine innovation in terms of localized and situated knowledge systems in lieu of technoscientific solutions and mechanization. The farmers I worked with over the course of this study all spoke of *building* something different as they work towards transformative agricultural systems change. These adaptive strategies serve as a mechanism for affecting change, while also providing visible distinctions between farming at small and large scales.

## CHAPTER 6: CONCLUSIONS

### 6.1 Introduction

*“We started out to save the family farmer. Now it looks like the family farmer is going to save us.”*

--Willie Nelson (2017, 5)

As we sat waiting for the keynote presentation to begin, Susanna and I talked about the food system. Like most food and farming conferences<sup>31</sup> I’ve attended in the last six years, the room was filled with a palpable energy as people networked, talked, and developed connections for future collaborations. In these spaces, there is no need to convince those you are speaking with of the value and importance of alternative food and farming systems. As I talked with Susanna, I commented that we had a long and arduous journey ahead of us, to re-build the broken food system. Susanna looked at me and fervently stated, “But the food system isn’t broken.” She paused, and I was momentarily shocked by the statement as the evidence of how poorly our food system works for producers and consumers alike is well known by the advocates who work in these spaces. She went on, “It isn’t broken, it’s working exactly as it was designed to- to benefit a few people who run it and profit, not the rest of us.” The conventional food system is effectively supporting profits, not people and ecological systems; it is also alarmingly fragile because of its dependence on distant production and transport that is easily upended if a single link in the conventional supply chain is disrupted. Susanna’s sentiment represented a significant turning point in my own thinking about the current state of the conventional food system, as well as the various stakeholders I have worked with over the last several years. It is also a sentiment that I have heard repeated many times since, which indicates a growing awareness of the intentionality of how we have gotten to this point, the fragility of the national and international supply chains that provide much of our nation’s food, and illuminates insight into how change can be cultivated. Rather than *fixing* the conventional food system, then, we must build and

---

<sup>31</sup> In Indiana, the Indiana Small Farms Conference provides space for farmers and farm service providers to network and build community. Other conferences I’ve attended at the regional or national scale include: National Farm Viability Conference, National Direct Ag Marketing Summit, National Good Food Network Conference, Local Food Summits around the state of Indiana, and the local Food Expo and Discussion that is hosted by the Northwest Indiana Food Council annually.

amplify a values-based alternative rooted in equity and stewardship that advocates, producers, and mindful consumers are asking for. Thus far, I have discussed several of the adaptive strategies that are used by smallholder farmers to counteract dominant agricultural narratives and improve the viability of the farming livelihoods. These adaptive strategies, including agroecological growing practices, direct-to-consumer marketing strategies, advocacy and education, community building, valuing of multiple knowledge systems, and an emphasis on transparency do much to improve the general resilience of localized food systems while working towards transformative change.

The commodity crop system that is well-supported in the United States has had local and global ramifications for agriculture, food access, biodiversity, food justice, and economies. As a ranked producer of several of commodities (corn, soy, hogs, and chickens), Indiana has historically played a role in shaping these trends at multiple sites of production and consumption: local, national, and global. The emergence of values-based and localized food systems presents an alternative to globalized food systems that are reliant on externalized markets and management systems that can be characterized as extractive and exploitative. Moreover, emergent alternative food systems and value chains, as well as the farmers who drive them, carry with them the potential to re-imagine agricultural spaces and cultivate food justice in the communities they serve by shifting consumption patterns. The transformation of food systems over time has been supported by policy initiatives and institutional research programs at land grant universities. My archival research in chapters two and four demonstrated that these intentional transformations are closely bound with the erasure of alternative knowledge systems and the violent dispossession of land from Indigenous Peoples.

A shift towards more localized production, consumption, and economy signifies a tipping point that embodies a re-imagining of agricultural spaces that are founded in increased resiliency of individual farms and the communities they serve. This tipping point is also an early indicator of the capacity for transformational change catalyzed by smallholder farmers and food justice initiatives. It also has the capacity to create spaces in which personal connection and stewardship are emphasized at least as much as market economies and efficiency. This shift can also support improved food security that embodies local community-driven needs and enhance biodiversity

through the tendency by smallholder farmers to espouse integrated, holistic, and agroecological production methods instead of focusing on efficiency that is achieved through monocropping and mechanization. Moreover, the smallholder and alternative farmers I worked with over the course of this study have demonstrated a commitment to food justice and the amplification of marginalized voices, desires, and labor that have previously been silenced. In this concluding chapter, I will explore the ways in which the COVID-19 pandemic has illuminated many of the issues in the conventional food system and brought them to the forefront of discussion within the local food and food justice movements, as well as in the media and conversations among the wider public in the United States. Next, I will review the key points that have been discussed in early chapters and how these arguments have been amplified in light of the pandemic. I will conclude with a brief discussion about the changes that can be made by legislators and invested stakeholders to expand upon current support for smallholder farmers that operate outside of the conventional agriculture system.

## **6.2 The COVID-19 Effect**

In March 2020, the United States was thrust into global conversations regarding health that were catalyzed by the spread of the COVID-19 virus in the U.S. Until this point, the virus had primarily taken hold in Asia and Europe, with China being identified as the original hotspot for the virus' spread. In the earliest weeks of the virus' spread in the United States, it remained unclear just how severe the impacts would be. At the Indiana Small Farms Conference during the first weekend in March<sup>32</sup>, COVID-19 was discussed, but nobody could anticipate how much would change over the next few weeks. Two days after I returned from the Small Farms Conference, I left for the National Good Food Network Conference in New Orleans. I and others like me still assumed at this point that we could travel safely as long as we took necessary precautions; no one wanted to miss the opportunity to network and learn from one another at a national scale conference. I arrived in New Orleans on Monday, March 9<sup>th</sup>, the day before pre-conference sessions and two before the official start of the conference. On day one in New

---

<sup>32</sup> The 2020 Indiana Small Farms Conference was the last in-person meeting I attended in the state before the stay at home orders went into place. My travel to New Orleans a few days later would have likely been cancelled if the conference had started any later than it did. This moment was a major turning point in discussions about the pandemic in the United States and also catalyzed conversations about our national conventional food system as the pandemic caused supply chain issues.

Orleans, things seemed “normal”- the palpable tension about the pandemic that would permeate the city in the days to come was not yet salient.

At the conference, the impacts of the growing health crisis brought on by the pandemic became clear from the first full day of conference sessions. In the two days that had passed since my arrival in New Orleans, multiple organizations and institutions across the country had put a moratorium on most travel, presenters were unable to join in person, the cohort of attendees was noticeably smaller than what might be expected, and hand sanitizer began to appear in every conference room. The networking and deep connections that have been a hallmark of every food and farming conference I have attended were inhibited by the empty seats left between session attendees. As the week went on, conference organizers were constantly pivoting to respond to the rapid-fire adjustments to best practices. People who had made it to New Orleans began to be recalled by their organizations as overseas travel bans and shelter in place orders took effect. The tension in the air was omnipresent, so thick it was inescapable. By the morning of Friday, March 13<sup>th</sup>, conference organizers were forced to cancel the final day of the conference because New Orleans was rapidly becoming a hotspot and the city desperately wanted to slow the spread. By this time, half of the tables in the main hall had already been removed as people had left early amid concerns about possible domestic travel restrictions, their health, and the uncertainty of what lie ahead.

Throughout the conference, that had been organized around a theme of improving food equity and expanding food justice, conversations immediately emerged around the implications of the rapidly expanding COVID-19 pandemic. Sessions that were cancelled because presenters were unable to be present or join remotely were replaced with roundtable discussions that worked to identify all of the possible impacts and develop cohesive strategy for solutions. The food and farming systems advocates and practitioners that were present knew immediately that the impact of shutdowns and travel restrictions would have far-reaching effects on individuals in the service industry, producers, and communities that were food insecure. As schools began to close on the coasts and then in New Orleans, there were discussions about how to ensure that the free and reduced school lunch program could still get food to at-risk students; a consistent underpinning

theme of these conversations was how the impacts would most likely be highly gendered and worse in BIPOC communities.

However, many of the effects that would later come to bear, and their longevity, were not yet realized. As I moved through the city during my conference stay, I noticed a tangible shift in the atmosphere. The near-constant stream of cars leaving the city and impending closures that were foreshadowed by the cancellation of all events affected service workers that quietly confided to me that they did not know what they would do if this lasted for very long. A well-known fact among service industry employees is that service work is underpaid and often results in living paycheck to paycheck, and rarely comes with health insurance. Most food service workers I spoke with during my stay had a small cushion because Mardi Gras had just passed, but in a city dependent on tourism it is difficult to make money when events have been cancelled.

In the weeks after my return from New Orleans, my work as a Value Chain Coordinator for the Northwest Indiana (NWI) Food Council<sup>33</sup> was driven by the pandemic. Unable to leave the house because of my self-quarantine, I immediately began compiling resources to share with the community in Northwest Indiana via the NWI Food Council. After my self-quarantine, the implementation of Indiana's shelter in place order halted non-essential activities, and the concerns that had been expressed at the NGFN conference began to unfold in real time in Indiana and across the nation. Restaurants were forced to close to in-person dining, schools closed, and as the weeks went on lay-offs and furloughs became more common and placed additional stress on an already fragile emergency hunger relief network. One of the more visible impacts of COVID-19 was widespread shortages at retailers across the nation that were illuminated by bare shelves, long (socially distanced) lines, and rationing of cleaning supplies, canned goods, and meat. Although some of these shortages were caused by pandemic induced panic-buying, food shortages were also catalyzed by the inflexibility and fragility of the conventional food system. The national and global food system is so large and the various links in its supply chain so specialized, that quick pivots to respond to rapidly changing needs are nearly impossible to

---

<sup>33</sup> In addition to my volunteer board position with the Northwest Indiana Food Council, a statewide USDA Local Foods Promotion Program grant facilitated the hiring of four part-time Value Chain Professionals around the state. I was selected as the Value Chain Coordinator for the food council after a national search.

actualize. This inability to adapt was exacerbated by supply chain disruptions caused by pandemic hotspots, travel and shipping restrictions, and a food system that has evolved to provide more food for the service industry than for retailers.

The inflexibility and fragility of the food system has been a rallying cry for food and farming systems advocates for some time. However, to a nation of people that are unfamiliar with the sight of bare grocery shelves, assertions that we are, at any given time, only a few days away from a complete system collapse and total lack of access to food sound like hyperbole. As news and pictures of bare grocery shelves began to spread around the country, panic induced buying intensified the issue as consumers lined up to buy everything they could.



Figure 13. Empty Shelves in a Retail Produce Department. (Gorman 2020)

David and Edith Simchi-Levi noted that the inflexibility and lack of resilience in the food system that has been illuminated by COVID-19 is characteristic of large-scale globalized industries and has also severely impacted the healthcare industry (Simchi-Levi and Simchi-Levi 2020). They propose that the first step in rebuilding systems resiliency is to map the supply chain and identify bottlenecks. However, their article also notes what many producers and food systems advocates



already know: the conventional food system is highly consolidated, making it nearly impossible to be responsive to sudden disruptions. One of the most visible sites of these consolidations is in the meat processing industry. The consolidation of the meat harvesting and processing industry that began in earnest in the 1980s and 1990s, has resulted in a supply chain where around 50 processing facilities handle 98% of the nation's beef supply, and the situation is comparable for pork (Corkery and Yaffe-Bellany 2020) (LeZaks, Paykin and Silverstein 2020). As workers in these processing facilities contracted COVID-19 over the summer, processing facilities quickly became catalogued as hotspots and, as they shut down, the resulting bottlenecks had an almost immediate impact on the ability of farmers to move their product. Corkery and Yaffe-Bellany proposed that meat plants were the weakest link in the food supply chain, however the weaknesses inherent in over-consolidation are problematic in other sectors as well. In Indiana, meat plant closures resulted in an extreme bottleneck in processing. Tyson and Smithfield plants that closed after employees tested positive for COVID-19 typically process thousands of animals a day and work on contract with the producers that supply them. As farmers found themselves with nowhere to send their animals, conversations shifted to the possibility of culling the herd to stymie the inevitable financial losses that would occur. Others attempted to shift to selling their animals direct-to-consumer via social media; however, this solution was ineffective as well as custom exempt processors quickly became overwhelmed by the number of appointments requested and were booked out into 2021.

As growing numbers of meat, dairy, and vegetable producers found themselves unable to move their product into their typical markets, and without reliable sources of labor due to H-2A visa restrictions<sup>34</sup>, the conventional food system came to a grinding halt. Moreover, much of the unseen work in the conventional food system is performed by immigrants, BIPOC individuals, and women; COVID-19 has illuminated the ways in which these individuals and communities are routinely exploited through the agro-industrial complex with poverty level wages, lack of access to health care, and unsafe working conditions (Seibert and Draper 2020). One example of this is the restrictions on H-2A visas in the summer of 2020. The restrictions, which were ostensibly intended to mitigate the risk of the spread of the pandemic effectively cut off the

---

<sup>34</sup> Amidst increased concerns about the spread of COVID-19 across national borders, international travel restrictions were extended to migrant workers who frequently use H-2A Visas to enter the United States.

migrant labor supply and removed all existing support systems for migrant workers who depend upon agricultural spaces in the United States for their livelihood, while simultaneously making it impossible for large-scale farmers to harvest crops profitably. As a result, many chose to plow the crops under, instead choosing to use food to improve the fertility of the soil for next year's crops. Advocates for migrant workers noted that cramped living and working conditions make farmworkers particularly vulnerable to the transmission of communicable disease, while also increasing the potential risk for spread of the virus due to the necessity of interstate movement to follow the work (Reiley 2020). The media simultaneously reported on food that was being wasted in alarming numbers and the exponential increases in demand for emergency hunger relief. As thousands of gallons of milk were dumped, animals culled, and fields lie full of rotting produce, food banks and pantries struggled to find the resources to feed the community (Yaffe-Bellany and Corkery 2020). Despite the perception that there was a lack of food in the United States brought on by empty grocery stores, the problem was actually one of labor shortage and supply chain management and an inability to quickly adapt and respond to consumers that were suddenly eating the majority of their meals at home instead of in restaurants (Dongoski 2020) (Querolo 2020).

Because of their scale, smallholder and alternative farmers have a flexibility that should have left them well-poised to pivot their operations and markets at the start of the pandemic. Although many farmers did, in fact pivot and rise up to fill the gaps created in the conventional food system, they did so while navigating existing policy hurdles and new guidance released to mitigate the effects of the pandemic, and were afforded little access to the supports that were provided to large scale producers (Abbott, Farms, Anti-Hunger Groups Try to Squeeze into \$1 Trillion Pandemic Bill 2020) (Abbott, USDA Pays \$1.5 Billion a Week in Coronavirus Relief 2020). The Coronavirus Food Assistance Program (CFAP), designed to offset COVID-19 related losses and expenses, paired with Paycheck Protection Program (PPP), designed to provide support to small businesses so that they could keep employees working, both failed to adequately address the financial upheaval experienced by small-scale alternative farmers, who are proportionately more likely to come from historically underrepresented farming populations (i.e., women, BIPOC individuals, and veterans). Just as the PPP program was widely criticized by food and farming advocates for providing financial supports to relatively large companies (or at

least those with more revenue and holdings), CFAP's one size fits all design failed to account for the specific needs of small-scale diversified specialty crop growers. Farmers and advocacy groups charged that the program's design overwhelmingly favored commodity growers, with many specialty crops being excluded entirely (Reiley 2020). Although CFAP was eventually revised to include at least 40 more specialty crops, the program design itself was flawed; CFAP reimbursements were largely based on wholesale commodity prices in lieu of the higher prices many smallholder farmers can command for organically or regeneratively grown produce in direct-to-consumer and small-scale wholesale markets. PPP payments and forgivable Economic Injury Disaster Loans (EIDL) were equally difficult to obtain for small-scale producers, who often run their farms alone or with family labor until the height of the season. In a Washington Post article from July, the National Sustainable Agriculture Coalition's estimates for lost sales revenue in local and regional food systems was projected at \$1 billion (Reiley 2020). Sophie Ackoff, Co-Executive Director of the National Young Farmers Coalition, was quoted in the same article, "One of the potato farmers in our network lost a \$20,000 contract. The CFAP payment would have been \$800. So many small farmers are looking at the price points and just laughing." While the marginal reimbursement rates of the CFAP were criticized by producers of all scales, specialty crop producers are ineligible for many of the other traditional crop insurance and price support programs that benefit commodity growers, so they have effectively been left to their own devices to identify, develop, and utilize alternative market spaces in the midst of a growing season. Many producers I spoke with this summer joked that "pivot" was the word of the season.

Speaking of the problems inherent to large scale interdependent production systems in a recent report, the Organisation for Economic Co-operation and Development (OECD) stated,

Aspiring for maximum efficiency and optimization, such systems have neglected resilience against disruptions whose shocks may leave governments, the public, and the environment in a weakened state. More specifically, the concentration of industrial capacities and economic activity into smaller and more efficient sectors, up to the international level, has produced highly lucrative yet fragile supply chains, and economic exchanges whose disruptions could have significant effects in unexpected areas. (Ramos and Hynes 2020, 2-3)

The report went on to describe the inextricable nature of our global systems and the need for building resilience through the support of adaptive capacity (Ramos and Hynes 2020). To echo the ruminations of Susanna, these "highly lucrative yet fragile supply chains" are working

exactly as they were designed to. However, in the face of a pandemic it is clearer than ever that they are not working for everyone, and are in truth working for the very small group of people that stand to benefit from their highly lucrative nature.

The COVID-19 impact has been mixed, however. The sharp relief of the conventional food system's fragility that has been provided over the last seven months provides some hope to food systems advocates that there will be an acceleration of systems-wide transformative change. Moreover, one of the few bright spots of the pandemic fallout has been the demonstrated resiliency of some smallholder farmers who had the necessary resources and established relationships to adapt or "pivot" quickly. Simply put, in many communities in Indiana when the grocery stores were bare, it was smallholder farmers who filled the gap in innovative and responsive fashion. Farmers that have fared well through COVID-19 thus far are primarily situated in the direct-to-consumer market space. Their direct models have supported a level of flexibility that is simply not possible when dealing with national scale supply chains or regional wholesale accounts (Hackett 2020) (Splitter 2020).

When I checked in with several of the farmers I worked with over the course of this study, those that had invested time into building strong relationships over the years seemed to be doing particularly well. When grocery store shelves were bare, their customer base provided referrals to friends and family members that were happy to find fresh food with an identifiable source. This trend was substantiated in my work as a value chain coordinator and discussions with other advocates around the state. CSA's, often a tough sell in recent years, were selling out, and farmers were quickly shifting to plant more crops and identify additional methods of getting food into the hands of their communities. Many opened farmstands a year or more ahead of schedule, and most implemented some form of e-commerce with delivery or contactless pick-up options. One of the most interesting trends that I noted in the northern region of the state was an almost universal commitment of farmers supporting one another. Instead of trying to grow more of everything, or diversify crops even further, an intra-farmer market developed that allowed independent farmers and small-scale value-added food producers to stock one another's food on their farmstand shelves or in their e-commerce stores. This trend would appear to support the

potential viability of a networked regional food system that is firmly rooted in reciprocity and relationships.

However, not all small holder farmers in the United States have fared well through the pandemic, and a study by Stone Barns Center for Food and Agriculture has indicated that as many as 30% of small and mid-scale farmers may declare bankruptcy or shutter their businesses for good in 2020 (Stone Barns Center 2020). Although it remains to be seen what the long-range fallout of COVID-19 market disruptions will be, the unfortunate irony of pandemic economics has dictated that smallholder farms that would have been characterized as particularly successful a year ago are those that are struggling the most now. Indeed, as we entered the fall of 2020, a handful of highly visible farms in Indiana had already announced that they would be restructuring or not returning in 2021. The farms that have struggled the most are those that had found relative success in smaller scale wholesale markets, with dependable accounts with restaurants, schools, and regional distributors. As stay at home orders swept the nation and Indiana followed suit, school closures and the pivot to carryout business for restaurants had a ripple effect. Not only were restaurants using less food, but some, in an effort to cut costs and keep themselves afloat, stopped purchasing as much local food. For meat producers, this was problematic because of the necessary shift to retail packaging which necessitates more labor a/or additional processing costs. For vegetable growers, there are often handshake agreements to purchase certain crops that are planted with that particular sale in mind. For producers across the scale, the pivot from wholesale to direct consumer sales requires an intense marketing shift, packaging costs, and the identification of markets that are not already being served by farmers who have traditionally operated in the direct-to-consumer marketplace (Splitter 2020). One of the “easiest” answers would be to shift to farmers markets, but in many cases in Indiana markets experienced delayed openings (and at reduced scale) in spite of Governor Holcomb’s [Executive Order 20-08](#) which included a provision that farmers markets should be considered essential businesses (Holcomb 2020).

### **6.3 A Way Forward**

Throughout the year 2020, the fragility of the conventional food system has come under increasing scrutiny in the public eye. No longer a discussion restricted to farmers and food

justice activists, the importance of building support for emergent, small-scale, and alternative farmers has entered the public discourse and has been substantiated by food shortages and supply chain issues during the COVID-19 pandemic. On a global scale, the FAO and TNC have started advocating for “nature-based solutions” to address the critical state of the climate crisis. In a report released early in 2021, the organizations noted that over 52% of agricultural land is moderately or severely degraded by current agricultural practices, and that agriculture is the primary driver in the loss of 80% of natural habitats, declining water tables and quality, and 25% of global emissions. The FAO and TNC propose a paradigm shift rooted in ten critical transformations of the food system that are founded in principles of resiliency and generational sustainability; nature-based solutions are considered the foundation of these transformations and are attentive to IK, LK, and TEK, ecosystem-based adaptations, and green infrastructure (Iseman and Miralles-Wilhelm 2021). Some measures, like cover cropping and reduced tillage are already encouraged in the United States in both conventional and alternative agriculture spaces; others, like regenerative methods, ecosystem revitalization, and silvopasture are common in smallholder and alternative farming spaces, but a significant departure from current standards in Western conventional agriculture. Importantly, the FAO report also acknowledges the critical and concurrent roles of agricultural producers and policy makers in the implementation of nature-based solutions and, more generally, in cultivating a paradigm shift that will catalyze improvements to natural habitats and ecosystems, as well as mitigate the impacts of climate change (Iseman and Miralles-Wilhelm 2021).

In the United States, criticisms of large-scale conventional farming and particularly of consolidation within the food and farming industries began in the months leading up to the democratic presidential primary. For the first time in recent memory, a handful of presidential nominees (Senator Elizabeth Warren, Senator Cory Booker, Senator Bernie Sanders) visibly and publicly decried the consolidation of agriculture, Confined Animal Feeding Operations (CAFOs), and international control of agricultural spaces in an effort to develop support for future legislation that aimed to break up consolidation efforts. In July, Senator Cory Booker introduced legislation that would prevent the creation of additional CAFOs, eliminate existing operations by 2040, and, most importantly, provide critical support and funding for farmers transitioning away from CAFO systems. Booker stated, “Everybody is losing in this system –

except for the massive corporations that have taken over the American food system.” (Held 2020) Booker is quickly emerging as a champion for farming communities and food justice, to date having proposed four pieces of legislation in addition to the Farm System Reform Act referenced above. These include the COVID-19 act which would have placed additional scrutiny and prevented unsafe working conditions in meat-packing plants, the Food and Agribusiness Merger Moratorium and Antitrust Review Act (introduced twice) which sought to eliminate consolidation in food and agriculture, the Climate Stewardship Act that attempted to provide support for ecological stewardship and regenerative agriculture transitions, and finally, the Local Food Assistance and Resilient Markets (Local FARM) Act. In interviews, Booker is outspoken about the importance of shifting our food and farm systems to ones that are more just for producers and consumers, with an overt recognition of the impact that the food system has on health, environment, and quality of life for all people, but particularly in BIPOC communities. Booker continued,

What’s motivating me is that I think we need to really sound the alarm in America. There are so many crises [that relate] to public health, from global warming to economic justice to humane treatment of animals. What should not be surprising is that a senator is taking this on. What should be more surprising is that we as a country have not seen this broken food system, especially after a Covid crisis, which has so exposed the fragility of the American food system. The real question is why isn’t Congress as a whole moving to address this massive threat to public health? (Held 2020)

These statements, which would be unsurprising from advocacy groups, represent a growing awareness of the current state of agriculture and the food system from citizens and legislators alike. Representative Chellie Pingree (Maine), has also been a long-time and outspoken advocate for independent family farms in the House of Representatives. In response to the pandemic, Pingree led 26 other representatives in lobbying Democratic house leadership for the inclusion of support for smallholder farmers in COVID-19 relief efforts. Their seven requests specifically addressed the needs of farmers as well as the growing number of food insecure individuals and included financial assistance for farmers, support to facilitate worker safety, farmland preservation, increased access to local foods for food insecure communities, and a provision for the long-term resiliency of agriculture via technical and infrastructure supports (Pingree.house.gov 2020). As I have discussed previously, smallholder and alternative farms were eventually included in pandemic relief packages. However, their inclusion appeared to be

little more than a technicality after an analysis of the language of the bills; the vast majority of relief funds still went to large scale commodity growers. In conversations with various stakeholders over the last several months, I have heard anecdotally that there is a renewed interest in supporting independent family farmers from federal and state representatives. However, these conversations are framed less in terms of the farmer, instead focusing on farm viability as a pathway to food security and thus national and economic security. This rhetorical shift is inherently problematic in that it directly echoes the same narratives that have been used for nearly 100 years to support the industrialization of farming system and to justify the use of technoscientific solutions.

The sharp focus on the fragility of the conventional food system facilitated by the COVID-19 pandemic has fostered a growing sense of awareness of the need to support independent family farmers. How then do we shift from critiques of the status quo to much-needed support for smallholder farmers and an actualization of a middle ground that embodies mutual support in lieu of continued reifications of bifurcated frameworks for viewing food and farming? Most food and farm advocates acknowledge that we are well past point that commodity scales of production can be dismantled, and also that national and global trade routes can serve a purpose in the provision of foods that are out of season locally. This improved access *can* improve nutritional indicators and food access. However, they contend that by simultaneously cultivating support systems for smallholders and local food systems that are on par with those available to commodity producers, the hidden costs of cheap food could be mitigated, resulting in an improved prognosis of the triple bottom line (environmental, social, and economic) for producers, workers, eaters, and agricultural spaces. Moreover, support for alternative systems would go a long way towards actualizing food justice for all links in the food value chain and the communities for which food is produced.

New Venture Advisors, a food systems consultancy based out of Chicago, performed a survey analysis of the food system over the summer of 2020. This survey focused on stakeholders within the local food and farming movement and revealed eleven salient themes that come as little surprise to those that are immersed in the work of reimagining agricultural spaces and food systems. Unsurprisingly, the first four of these can be organized into factors related to the



necessity of responsiveness and adaptability as food producers identify a new normal- or the ability to pivot. These include: a new emphasis on online platforms, a pivot towards value added processing to minimize product waste, a re-evaluation of service, and the critical nature of partnerships and relationship building. The first four themes are emblematic of the work that smallholder producers are doing to stay relevant and meet the demonstrated needs of their communities, while building relational networks that improve the viability of emergent local food systems. The “most valuable players” during the pandemic or, stated alternatively, the most critical links in the value chain of the local food system for improving food access, are rural independent grocers, food hubs, and *small farmers* (Goertzen 2020).

The final organizing framework in New Venture Advisors’ survey was the identification of existing gaps in local and regional food systems that can lend themselves to long-term fragility and were amplified during the pandemic. These themes have illustrated critical focal points for future work and support. The first emergent theme was the negative impact of an overreliance on undiversified business models as farms began to scale up; farms that were mostly reliant upon restaurant and food service contracts for their sales revenue have universally suffered more financially through the pandemic than those that utilized diverse markets and focused on direct-to-consumer sales. However, if the proposed solution is to encourage small farmers to diversify their markets, we must provide the necessary hard and soft infrastructure support to ensure that they are not tasked with time-intensive marketing work in addition to producing, packing, and transporting food. The next two themes, lack of local distribution and scale appropriate meat processing, address this critical lack of hard infrastructure that would benefit directly and immediately from capital investment (Goertzen 2020).

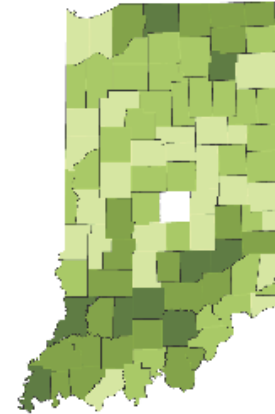
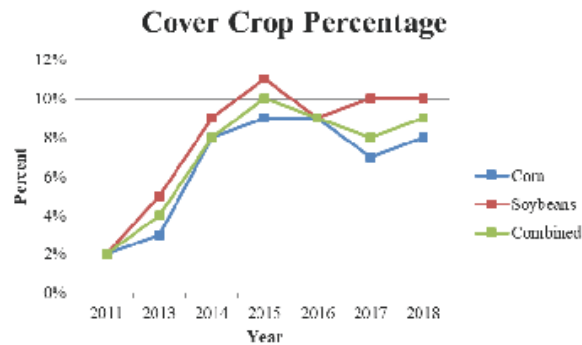
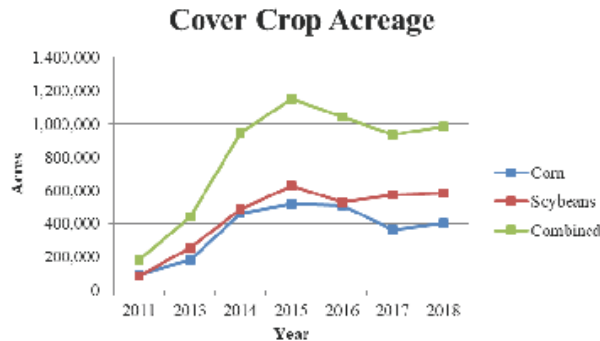
In my work in Indiana, the lack of support infrastructure has repeatedly emerged as a critical gap in local and regional food systems, and one that has effectively forced the hand of smallholder farmers that have an eye towards growth. In order to ensure the future sustainability of their farms, smallholders must implement adaptive strategies that are responsive to the needs of their local communities and their individual farms. When faced with lack of access to transport, storage, and scale appropriate processing, many farmers have been faced with the decision of vertically integrating, bootstrapping, or limiting their sales and markets to the point that they will

perpetually have to “work to farm.” For farmers in this position, it is unequivocally unsustainable; working a part or full time off-farm job, producing food, marketing, harvesting, packing, transporting, and handling the sale of the food would, in a vibrant and supported local food system, employ at least six or seven people - not one.

The final themes in the New Venture Survey revolved around uncertainty: how to hold onto new customers that became more engaged with local food in the absence of consistency from the conventional food system, and a pervasive and generalized sense of uncertainty about what the future will bring (Goertzen 2020). For farmers who have consistently provided food in the face of adversity and with little legislative and financial support, this uncertainty is understandable. However, it also provides a leveraging point of opportunity. By listening to and engaging with local food producers and advocates, and cultivating intentional stakeholder collaboration, there is great potential to improve the capacity and resiliency of socio-environmental spaces. By valuing traditional knowledge systems and cultivating intentional mindfulness of the lasting impacts of settler-colonial extractivism, there is immense promise for the re-imagining of a more just food system that equally values people, environment, and financial viability instead of prioritizing efficiency at the expense of all other points in the value chain.

# APPENDIX A: COVER CROPS IN INDIANA, 2011-2018 (HARMON, COVER CROP TRENDS, 2011-2018 2019)

## Indiana Cover Crops: 2011-2018



\*Note: Darker colors indicate counties that reported a greater percentage of combined corn and soybean acres utilizing cover crops in 2018.

| Cover Crop Acreage Change 2011-2018 |         |                |
|-------------------------------------|---------|----------------|
|                                     | Acres   | Percent Change |
| Corn                                | 305,901 | 318%           |
| Soybeans                            | 493,218 | 562%           |
| Combined                            | 799,119 | 434%           |

| Cover Crop Percentage Change 2011-2018 |                         |                |
|--|-------------------------|----------------|
|  | Percentage Point Change | Percent Change |
| Corn                                   | 6                       | 300%           |
| Soybeans                               | 8                       | 400%           |
| Combined                               | 7                       | 350%           |

\* Data is not collected for Marion County.

\* 2011 and 2013 cover crop data was collected during the spring tillage transect. Figures collected in this manner may not be a true reflection of cover crop implementation because of winter kill and other factors.

\* A fall cover crop transect has been completed annually since 2014. Data from these transects are included.

| Cover Crop Implementation |         |         |         |           |           |         |         |
|---------------------------|---------|---------|---------|-----------|-----------|---------|---------|
| Acreage                   | 2011    | 2013    | 2014    | 2015      | 2016      | 2017    | 2018    |
| Corn                      | 96,200  | 183,100 | 461,081 | 518,808   | 510,925   | 362,494 | 402,101 |
| Soybeans                  | 87,800  | 258,000 | 483,280 | 628,722   | 530,117   | 573,349 | 581,018 |
| Combined                  | 184,000 | 441,100 | 944,361 | 1,147,530 | 1,041,042 | 935,843 | 983,119 |
| Percentage                | 2011    | 2013    | 2014    | 2015      | 2016      | 2017    | 2018    |
| Corn                      | 2%      | 3%      | 8%      | 9%        | 9%        | 7%      | 8%      |
| Soybeans                  | 2%      | 5%      | 9%      | 11%       | 9%        | 10%     | 10%     |
| Combined                  | 2%      | 4%      | 8%      | 10%       | 9%        | 8%      | 9%      |

For more information about the transect program, including county level transect data, please see: <http://in.gov/isda/2383.htm>

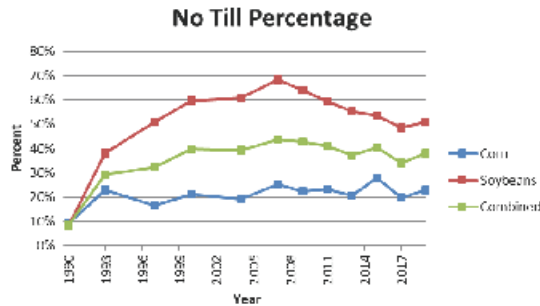
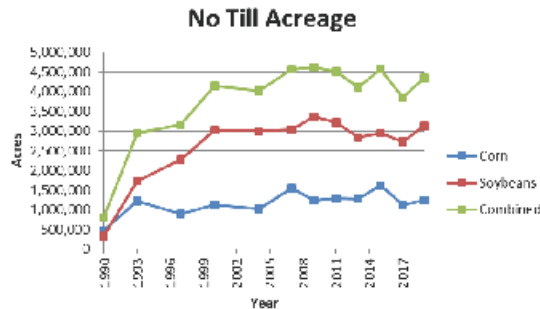
June 3, 2019  
Leah Harmon, ISDA Program Manager

## APPENDIX B: NO-TILL IN INDIANA, 1990-2019 (HARMON, INDIANA STATEWIDE TILLAGE: NO TILL, 1990-2019 2019)

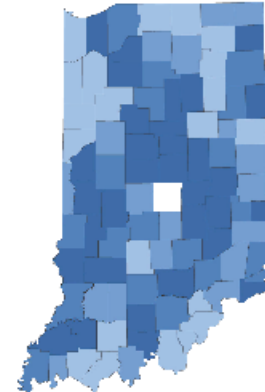
### Indiana Statewide Tillage: 1990-2019



No Till: Any direct seeding system, including site preparation, with minimal soil disturbance (includes strip & ridge till).



\* Please note that not all counties have data for all years. No tillage data is collected for Marion county.



\*Note: Darker colors had a greater percent increase in total no till acres (corn and soybeans) from 1990-2019

| No Till Percentage Change 1990-2019 |                         |                |
|-------------------------------------|-------------------------|----------------|
|                                     | Percentage Point Change | Percent Change |
| Corn                                | 14                      | 156%           |
| Soybeans                            | 43                      | 538%           |
| Combined                            | 30                      | 375%           |

| No Till Acreage Change 1990-2019 |           |                |
|----------------------------------|-----------|----------------|
|                                  | Acres     | Percent Change |
| Corn                             | 751,225   | 157%           |
| Soybeans                         | 2,797,827 | 855%           |
| Combined                         | 3,549,052 | 440%           |

| No Till Implementation |         |           |           |           |           |           |           |           |           |           |           |           |
|------------------------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Acres                  | 1990    | 1993      | 1997      | 2000      | 2004      | 2007      | 2009      | 2011      | 2013      | 2015      | 2017      | 2019      |
| Corn                   | 479,255 | 1,211,769 | 891,962   | 1,120,174 | 1,011,467 | 1,542,152 | 1,244,400 | 1,296,300 | 1,266,700 | 1,621,000 | 1,134,432 | 1,230,480 |
| Soybeans               | 327,249 | 1,726,956 | 2,270,370 | 3,023,134 | 3,002,974 | 3,032,493 | 3,375,300 | 3,225,400 | 2,845,300 | 2,941,600 | 2,726,477 | 3,125,076 |
| Combined               | 806,504 | 2,938,725 | 3,162,332 | 4,143,308 | 4,014,441 | 4,574,645 | 4,619,700 | 4,521,700 | 4,112,000 | 4,562,600 | 3,860,909 | 4,355,556 |
| Percentage             | 1990    | 1993      | 1997      | 2000      | 2004      | 2007      | 2009      | 2011      | 2013      | 2015      | 2017      | 2019      |
| Corn                   | 8%      | 23%       | 18%       | 21%       | 19%       | 25%       | 23%       | 23%       | 21%       | 28%       | 20%       | 23%       |
| Soybeans               | 8%      | 38%       | 51%       | 60%       | 61%       | 69%       | 64%       | 59%       | 55%       | 54%       | 49%       | 51%       |
| Combined               | 8%      | 29%       | 32%       | 40%       | 39%       | 44%       | 43%       | 41%       | 37%       | 40%       | 34%       | 38%       |

For more information please see: <http://www.in.gov/isda/2383.htm>

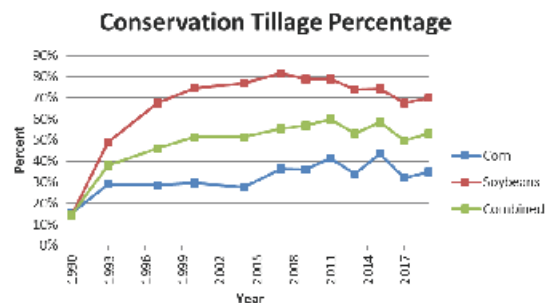
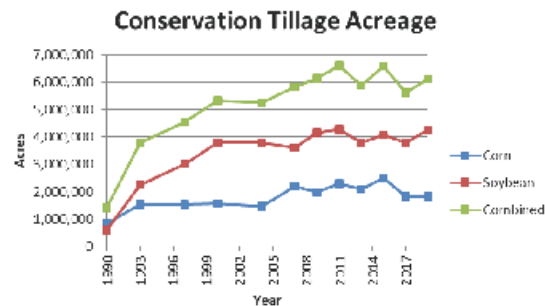
October 10, 2019  
Leah Harmon, ISDA Director of Information Systems

# APPENDIX C: CONSERVATION TILLAGE IN INDIANA 1990-2019 (HARMON, CONSERVATION TILLAGE TRENDS, 1990-2019 2019)

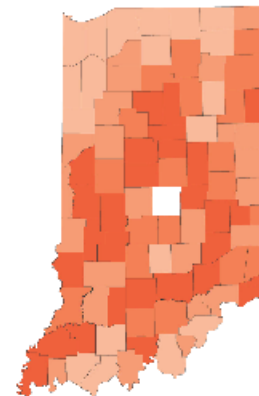
## Indiana Statewide Tillage: 1990-2019



Conservation Tillage: any system that leaves at least 30% residue cover after planting



\* Please note that not all counties have data for all years. No tillage data is collected for Marion county.



\*Note: Darker colors had a greater percent increase in total conservation tillage acres (corn and soybeans) from 1990-2019

| Conservation Tillage Percentage Change 1990-2019 |                         |                |
|--|-------------------------|----------------|
|  | Percentage Point Change | Percent Change |
| Corn   | 20                      | 133%           |
| Soybeans   | 56                      | 400%           |
| Combined   | 38                      | 271%           |

| Conservation Tillage Acreage Change 1990-2019 |           |                |
|---|-----------|----------------|
|   | Acres     | Percent Change |
| Corn  | 1,011,693 | 122%           |
| Soybeans                                      | 3,677,082 | 625%           |
| Combined                                      | 4,688,775 | 332%           |

| Conservation Tillage Implementation |           |           |           |           |           |           |           |           |           |           |           |           |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Acreage                             | 1990      | 1993      | 1997      | 2000      | 2004      | 2007      | 2009      | 2011      | 2013      | 2015      | 2017      | 2019      |
| Corn                                | 824,200   | 1,536,438 | 1,528,779 | 1,558,708 | 1,455,828 | 2,202,153 | 1,988,000 | 2,304,200 | 2,086,900 | 2,507,600 | 1,816,156 | 1,835,893 |
| Soybeans                            | 588,159   | 2,244,690 | 3,009,387 | 3,781,933 | 3,797,671 | 3,613,545 | 4,156,160 | 4,296,000 | 3,796,600 | 4,065,500 | 3,797,793 | 4,265,241 |
| Combined                            | 1,412,359 | 3,781,128 | 4,538,166 | 5,340,641 | 5,253,499 | 5,815,697 | 6,144,160 | 6,600,200 | 5,883,500 | 6,573,100 | 5,613,949 | 6,101,134 |
| Percentage                          | 1990      | 1993      | 1997      | 2000      | 2004      | 2007      | 2009      | 2011      | 2013      | 2015      | 2017      | 2019      |
| Corn                                | 15%       | 29%       | 29%       | 29%       | 28%       | 36%       | 36%       | 41%       | 34%       | 40%       | 32%       | 35%       |
| Soybeans                            | 14%       | 49%       | 67%       | 75%       | 77%       | 82%       | 79%       | 79%       | 74%       | 79%       | 68%       | 70%       |
| Combined                            | 15%       | N/A       | N/A       | 52%       | 52%       | 55%       | 57%       | 60%       | 52%       | 58%       | 50%       | 53%       |

For more information please see: <http://www.in.gov/isda/2383.htm>

October 10, 2019  
Leah Harmon, ISDA Director of Information Systems

## REFERENCES

- Abbott, Chuck. 2020. "Farms, Anti-Hunger Groups Try to Squeeze into \$1 Trillion Pandemic Bill." *Fern's Ag Insider*. July 19. Accessed October 1, 2020.  
[HTTPS://THEFERN.ORG/AG\\_INSIDER/FARM-ANTI-HUNGER-GROUPS-TRY-TO-SQUEEZE-INTO-1-TRILLION-PANDEMIC-BILL/](https://thefern.org/ag_insider/farm-anti-hunger-groups-try-to-squeeze-into-1-trillion-pandemic-bill/); ABBOTT, CHUCK.
- . 2020. "USDA Pays \$1.5 Billion a Week in Coronavirus Relief." *Successful Farming*. October 14. Accessed October 15, 2020.  
[HTTPS://WWW.AGRICULTURE.COM/NEWS/BUSINESS/USDA-PAYS-15-BILLION-A-WEEK-IN-CORONAVIRUS-RELIEF](https://www.agriculture.com/news/business/usda-pays-15-billion-a-week-in-coronavirus-relief).
- Ackerman-Leist, Philip. 2013. *Rebuilding the Foodshed: How to Create Local, Sustainable, and Secure Food Systems*. White River Junction: Chelsea Green Publishing.
- Ackoff, Sophie, Andrew Barenburg, and Lindsey Lusher Shute Lusher Shute. 2017. *Building a Future with Farmers II: Results and Recommendations from the National Young Farmers Survey*. . Washington, DC: National Young Farmers Coalition.
- Adams, Jane H. 1988. "The Decoupling of Farm and Household: Differential Consequences of Capitalist Development on Southern Illinois and Third World Family Farms." *Comparative Studies in Society and History* 453-482.
- Ahtone, Tristan. 2020. "Lost and Found: The Story of Land-Grant Universities ." *High COuntry News*. March 30. Accessed July 1, 2020. <https://www.hcn.org/issues/52.4/editors-note-lost-and-found-the-story-of-land-grant-universities>.
- Alkon, Alison Hope, and Julian Agyeman. 2011. *Cultivating Food Justice: Food, Health, and the Environment*. Cambridge: MIT Press.
- Allcott, Hunt, Rebecca Diamond, Jean-Pierre Dube, Jesse Handbury, Ilya Rahkovsky, and Molly Schnell. 2019. "Food Deserts and the Causes of Nutritional Inequality." *Quarterly Journal of Economics* 1793-1844.
- Ayres, Janet, Brigitte Woldorf, and Melissa McKendree. 2013. "Defining Rural Indiana: The First Step." *extension.purdue.edu*. January. Accessed December 1, 2020.  
<https://www.extension.purdue.edu/extmedia/ec/ec-766-w.pdf>.
- Baker Creek Heirloom Seeds. 2020. "23rd Annual Seed Catalog." Mansfield: Baker Creek Heirloom Seeds. Accessed May 20, 2020. <https://www.rareseeds.com/>.

- Benjamin, Craig. 2001. "Fool's Gold: How Genetic Engineering is Being Packaged as a Solution to World Hunger." *Native Americas* 32-37. .
- Berkes, Fikret. 1999. *Sacred Ecology: Traditional Ecological Knowledge and Resource Management*. Philadelphia: Taylor & Francis.
- Berkes, Fikret, and Carl Folke. 2000. *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. Cambridge: Cambridge University Press.
- Bernard, H. Russell. 2011. *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Lanham: Rowman and Littlefield Publishers, Inc. .
- Berry, Wendell. 2009. *Bringing it to the Table: On Farming and Food*. Berkeley: Counterpoint Press.
- Berry, Wendell. 2014. *Keynote address, Slow Money Conference*. Performed by Wendell Berry. The Kentucky Center, Louisville. November 10.
- . 2015. *The Unsettling of America: Culture and Agriculture*. Berkeley: Counterpoint Press.
- Bradbury, Zoe Ida, Severine von Tscharner Fleming, and Paula Manalo. 2012. *Greenhorns: 50 Dispatches from the New Farmers' Movement*. North Adams: Storey Publishing. .
- Brillat-Savarin, Jean-Anthelme. 1994. *The Physiology of Taste*. New York: Penguin Books.
- Brones, Anna. 2018. "Karen Washington: It's Not a Food Desert, It's Food Apartheid." *Guernica Magazine*. May 7. Accessed September 15, 2020. <https://www.guernicamag.com/karen-washington-its-not-a-food-desert-its-food-apartheid/>.
- Brown, Alex. 2019. "Kettler: Census Show's Indiana's Farming Strength." *Inside Indiana Business*. April 16. Accessed June 3, 2020. <https://www.insideindianabusiness.com/story/40311290/kettler-ag-census-shows-indianas-farming-strength>.
- Bunge, Jacob, and Jesse Newman. 2020. "Tyson Turns to Robot Butchers, Spurred by Coronavirus Outbreaks." *The Wall Street Journal*. July 9. Accessed October 1, 2020. <https://www.wsj.com/articles/meatpackers-covid-safety-automation-robots-coronavirus-11594303535>.
- Burnett, Emma. 2019. "The The Emergence of Values-Based Food Chains." *Urban Food Futures*. May. Accessed December 1, 2020. <https://urbanfoodfutures.com/2019/05/30/value-based-chains/>.

- Cadieaux, Kirsten, and Rachel Slocum. 2015. "What Does it Mean to do Food Justice?" *Journal of Political Ecology* 1-26.
- Certified Naturally Grown. 2015. *cngfarming.org*. Accessed December 1, 2020.  
<https://www.cngfarming.org/faqs>.
- Charles, Dan. 2013. "Turning off the Spigot in Western Kansas Farmland." *NPR The Salt*. August 27. Accessed February 24, 2021.  
<http://www.npr.org/blogs/thesalt/2013/08/27/215831484/turning-off-the-spigot-in-western-kansas-farmland>.
- Clendenning, Jessica, Wolfram Dressler, and Carol Richards. 2015. "Food Justice or Food Sovereignty? Understanding the Rise of Urban Food Movements in the USA." *Agriculture and Human Values* 165-177.
- Colasanti, K, P Cantrell, S Cocciarelli, A Collier, T Edison, J Doss, V George, et al. 2010. "Michigan Good Food Charter." *MSU Center for Regional Food Systems*. June 1. Accessed November 30, 2020. <https://www.canr.msu.edu/resources/michigan-good-food-charter>.
- Collins, Patricia Hill. 2000. *Black Feminist Thought*. New York: Routledge.
- Conklin, B. A., and L. R. Graham. 1995. "The shifting middle ground: Amazonian Indians and eco-politics." *American Anthropologist* 695-710.
- Cooper, Frederic G. 1917. "Food- Don't Waste It." *Library of Congress Prints and Photographs Division*. Washington, D.C.: U.S. Food Administration.
- Corkery, Michael, and David Yaffe-Bellany. 2020. "The Food Chain's Weakest Link: Slaughterhouses." *The New York Times*. April 18. Accessed October 1, 2020.  
<https://www.nytimes.com/2020/04/18/business/coronavirus-meat-slaughterhouses.html>.
- Counihan, Carole. 1992. "Food Rules in the United States: Individualism, Control, and Hierarchy." *Anthropological Quarterly* 55-66.
- Counihan, Carole, and Penny Van Esterik. 1997. *Food and Culture: A Reader*. New York: Routledge.
- Davis, Anthony, and John R Wagner. 2003. "Who Knows? On the Importance of Identifying Experts When Researching Local Ecological Knowledge." *Human Ecology* 463-489.



- De La Garza, E, Ed Jones, Spark M Matsunaga, Frank E Denholm, Jerry Litton, Robert D Price, Robert B Mathias, Keith G Sebelius, and Wiley Mayne. 1974. *Malthus and America : A Report about Food and People*. Congressional Report, Washington, D.C.: United States. Congress. House. Committee on Agriculture. Subcommittee on Departmental Operations.
- DeBono, Nathaniel, Nancy A Ross, and Lea Berrang-Ford. 2012. "Does the Food Stamp Program cause obesity? A realist review and a call for place-based research." *Health and Place* 747-56.
- Deloria, Philip. 1998. *Playing Indian*. New Haven: Yale University Press.
- Dongoski, Rob. 2020. "3 Key Areas of Agricultural Focus in Disruptive Times." *Food Logistics*. September 8. Accessed October 1, 2020.  
<https://www.foodlogistics.com/sustainability/article/21174496/3-key-areas-of-agricultural-focus-in-disruptive-times>.
- Douglas, Mary. 1984. *Food In the Social Order: Studies of Food and Festivities in Three American Communities*. . New York: Russell Sage Foundation. .
- Dove, Michael R. 2011. *The Banana Tree at the Gate: A History of Marginal Peoples and Global Markets in Borneo*. New Haven: Yale University Press.
- Eckles, R.B. 1970. "Oral History Interview with Earl Butz." *MSO 1, Oral History collection* . West Lafayette: Purdue University Archives and Special Collections, Purdue University Libraries .
- Ember, Carol. 1983. "The Relative Decline in Women's Contribution to Agriculture with Intensification." *American Anthropologist* 285-304.
- FAO. 2015. *Healthy Soils are the Basis for Healthy Food Production*. Rome: Food and Agriculture Organization of the United Nations.
- FAO. 2017. *The State of Food and Agriculture 2017: Leveraging Food Systems for Inclusive Rural Transformation*. Rome: Food and Agriculture Organization of the United Nations.
- Farm to Consumer Legal Defense Fund. 2020. *Farm to Consumer Legal Defense Fund*. Accessed July 15, 2020. <https://www.farmtoconsumer.org/resources/>.
- Farm to Consumer. 2016. "Who's Afraid of Hawkins Family Farm?" *Farm to Consumer Legal Defense Fund*. January 26. Accessed September 15, 2020.  
<https://www.farmtoconsumer.org/blog/2016/01/26/whos-afraid-of-hawkins-family-farm/>.

- Finn, Margo. 2012. "Food and American Studies." In *Routledge International Handbook of Food Studies*, by Ken Albala, 209-219. London: Taylor and Francis Group.
- Flower Hill Institute. 2020. *Agriculture: Resiliency Gardens*. Accessed June 1, 2020.  
<https://flowerhill.institute/agriculture>.
- Flynn, Dan. 2009. "Ten of the Most Meaningful Outbreaks ." *Food Safety News*. September 14. Accessed December 1, 2020. <http://www.foodsafetynews.com/2009/09/ten-of-the-most-meaningful-food-borne-illness-outbreaks-picked-out-of-so-many/#.UPxAJ-Q0WS0>.
- Folke, Carl, Stephen Carpenter, Brian Walker, and Marten Scheffer. 2010. "Resilience Thinking: Integrating Resilience, Adaptability, and Transformability." *Ecology and Society* 20.
- Food and Agriculture Organization of the United Nations. 2019. "The 10 Elements of Agroecology: Guiding the Transition to Sustainable Food and Agriculture Systems." *fao.org*. June 22. Accessed December 1, 2020.  
<http://www.fao.org/3/i9037en/I9037EN.pdf>.
- Food and Drug Administration. 2018. "The History of FDA's Fight for Consumer Protection and Public Health." *U.S. Food and Drug Administration*. June 29. Accessed February 24, 2021. <https://www.fda.gov/about-fda/history-fdas-fight-consumer-protection-and-public-health>.
- Freedgood, J, M Hunter, J Dempsey, and A Sorensen. 2020. *Farms Under Threat: The State of the States*. Washington, D.C.: American Farmland Trust.
- Gibson-Graham, JK, and E Miller. 2015. "Economy as ecological livelihood." *Manifesto for Living in the Anthropocene* 7-16.
- Gilchrist, Mary J, C Greko, DB Wallinga, GW Beran, Riley DG, and PS Thorne. 2007. "The Potential Role of Concentrated Animal Feeding Operations in Infectious Disease Epidemics and Antibiotic Resistance." *Environmental Health Perspectives* 313-316.
- Gilliam, A Scott. 2009. "Guidance for Uniform Use of House Enrolled Act 1309." *Indiana State Department of Health*. June 11. Accessed September 5, 2020.  
[https://www.in.gov/isdh/files/HEA\\_1309\\_guidance\\_final\\_6\\_11\\_09.pdf](https://www.in.gov/isdh/files/HEA_1309_guidance_final_6_11_09.pdf).
- Glennie, Charlotte, and Alison Hope Alkon. 2018. "Food Justice: Cultivating the Field." *Environmental Research Letters* 1-13.

- Goertzen, Sherri. 2020. "Agile Yet Fragile: 11 Themes From Our Food Systems Survey." *New Venture Advisors LLC, blog*. August 31. Accessed February 19, 2021.  
<https://www.newventureadvisors.net/covid-food-system-survey/>.
- Gorman, Alyx. 2020. "'I've Never Seen It Like This': Why Vegetables Are So Expensive in Australia at the Moment." *The Guardian*. March 26. Accessed October 1, 2020.  
<https://www.theguardian.com/food/2020/mar/27/ive-never-seen-it-like-this-why-vegetables-are-so-expensive-in-australia-at-the-moment>.
2008. *BBC World Debate. Food- Who Pays the Price?* Directed by International Fund for Agricultural Development and British Broadcasting Corporation. Performed by Nik Gowing.
- Green Cover Seed. 2020. *Milpa Garden Warm Season Cover Mix*. Accessed June 1, 2020.  
<https://greencoverseed.com/product/milpa-garden-warm-season/>.
- Gremillion, Kristen J. 2011. *Ancestral Appetites: Food in Prehistory*. New York: Cambridge University Press.
- Groundwork Center for Resilient Communities. 2020. *10 Cents A Meal For Michigan's Kids & Farms: About*. Accessed November 30, 2020. <https://www.tencentsmichigan.org/about>.
- Guthman, Julie. 2004. *Agrarian Dreams: The Paradox of Organic Farming in California*. Berkeley: University of California Press.
- Hackett, Kara. 2020. "'A Food Crisis': COVID-19 Reveals Gaps and Opporutunities in Indiana's Food System ." *Input Fort Wayne*. July 11. Accessed October 1, 2020.  
<HTTPS://WWW.INPUTFORTWAYNE.COM/FEATURES/FOOD-CRISIS.ASPX>.
- Hake, Monica, Adam Dewey, Emily Engelhard, Angela Gallagher, Tom Summerfelt, Corey Malone-Smolla, Tremain Maebry, and Craig Gundersen. 2020. *The Impact of the Coronarvirus on Local Food Insecurity*. Chicago: Feeding America.
- Hall, Tanya J. 2015. "Ninety Years of Agriculture: Going Beyond the Rockwell Image of Farming." *IN Context*. August. Accessed May 15, 2020.  
<http://www.incontext.indiana.edu/2015/july-aug/article2.asp>.
- Hanh, Nguyen. 2018. "Sustainable Food Systems: Concept and Framework." *fao.org*. January 10. Accessed December 1, 2020. <http://www.fao.org/3/ca2079en/CA2079EN.pdf>.
- Haraway, Donna. 1988. "Situated Knowldegess: The Science Question in Feminism and the Privilege of Partial Perspective." *Feminist Studies* 575-599.

- Haraway, Donna. 1992. "The Promises of Monsters: A Regenerative Politics for Inappropriated Others." In *Cultural Studies*, edited by Grossberg, Nelson, and Treichler. . In *Cultural Studies*, by Lawrence Grossberg, Cary Nelson and Paula Treichler, 295-337. New York: Routledge.
- Harmon, Leah. 2019. "Conservation Tillage Trends, 1990-2019." *Indiana State Department of Agriculture*. October 10. Accessed May 29, 2020. <https://www.in.gov/isda/files/Conservation-Tillage-Trends-1990-2019-Statewide-2.pdf>.
- . 2019. "Cover Crop Trends, 2011-2018." *Indiana State Department of Agriculture*. June 3. Accessed May 29, 2020. <https://www.in.gov/isda/files/Cover-Crop-Trends-2011-2018-Statewide.pdf>.
- . 2019. "Indiana Statewide Tillage: No Till, 1990-2019." *Indiana State Department of Agriculture*. October 10. Accessed May 29, 2020. <https://www.in.gov/isda/files/No-Till-Trends-1990-2019-Statewide.pdf>.
- Harrison, Lloyd. 1918. "Wholesome Nutritious Foods From Corn." *Library of Congress Prints and Photographs Division*. Baltimore: Harrison-Landauer, Inc.
- Healthline Editorial Team. 2018. "Worst Foodborne Illness Outbreaks in Recent U.S. History." *Healthline*. October 5. Accessed February 24, 2020. <https://www.healthline.com/health/worst-foodborne-illness-outbreaks#emsalmonellaem>.
- Held, Lisa Elaine. 2020. "A savagely broken food system: Corey Booker wants radical reform...now." *The Guardian*. September 15. Accessed November 20, 2020. <https://www.theguardian.com/environment/2020/sep/15/a-savagely-broken-food-system-corey-booker-wants-radical-reform-now>.
- Herren, Hans R, Benedikt Haerlin, and IAASTD. 2020. "Transformation of Our Food Systems: The Making of a Paradigm Shift." *Global Agriculture*. Accessed November 1, 2020. <https://www.globalagriculture.org/fileadmin/files/weltagrarbericht/IAASTD-Buch/PDFBuch/BuchWebTransformationFoodSystems.pdf>.
- Hodgkins, Martha. 2017. *Letters to a Young Farmer: On Food, Farming, and Our Future*. New York: Princeton Architectural Press.
- Holben, David. 2010. "Farmers' Markets: Fertile Ground for Optimizing Health." *Journal of the American Dietetic Association* 364-365.

- Holcomb, Eric. 2020. "Directive for Hoosiers to Stay at Home." *in.gov*. March 23. Accessed March 4, 2021. [https://www.in.gov/gov/files/Executive\\_Order\\_20-08\\_Stay\\_at\\_Home.pdf](https://www.in.gov/gov/files/Executive_Order_20-08_Stay_at_Home.pdf).
- Holtzman, J.D. 2006. "Food and Memory." *Annual Review of Anthropology* 361-78.
- Hoppe, Robert A, and Penni Korb. 2013. *Characteristics of Women Farm Operators and Their Farms*. EIB-111, Washington, D.C.: USDA Economic Research Service.
- HYFC. 2020. *Hoosier Young Farmers Coalition: About*. Accessed February 24, 2021. <https://www.hoosieryc.org/about.html>.
- Ikerd, John. 2020. "A Farm Policy to Return Farming to Families." *John Ikerd*. June 5. Accessed September 1, 2020. <https://www.johnikerd.com/post/a-farm-policy-to-return-farming-to-families>.
- Ikerd, John. 2019. "Place-based Food and Farming Systems: Reconnecting People with Purpose and Place." *Journal of Agriculture, Food Systems, and Community Development* 67-76.
- . 2008. *Small Farms Are Real Farms: Sustaining People Through Agriculture*. Austin: Acres USA.
- Imhoff, Daniel, and Christina Badaracco. 2019. *The Farm Bill: A Citizen's Guide*. Washington DC: Island Press.
- Indiana Beach, Inc. 1997. *Indiana Beach Archived Web Page*. Accessed 24 2021, February. <https://web.archive.org/web/19970529023508/http://indianabeach.com/>.
- INFU. 2018. *Indiana Farmers Union: What We Do*. Accessed 24 2021, February. <https://indianafarmersunion.org/about/>.
- Ingold, T. 1996. "Growing Plants and Raising Animals: An Anthropological Perspective on Domestication." In *The Origins and Spread of Agriculture and Pastoralism in Eurasia*, by DR Harris, 12-24. Wasington, D.C.: Smithsonian Institution Press.
- ISDA. 2020. "About Indiana Agriculture." *Indiana State Department of Agriculture*. Accessed September 1, 2020. <https://www.in.gov/isda/3555.htm#:~:text=There%20are%20just%20over%2094%2C000,to%20farms%2C%20forests%20and%20woodland>.

- ISDH . 2006. "Final Guidance on Whole Uncut Fresh Produce Storage and Distribution."  
*Indiana State Department of Health Division of Consumer Protection Food Protection Program*. December 12. Accessed February 24, 2021.  
[http://www.in.gov/isdh/files/Guidance\\_on\\_fresh\\_produce\\_final.pdf](http://www.in.gov/isdh/files/Guidance_on_fresh_produce_final.pdf).
- Iseman, T, and F Miralles-Wilhelm. 2021. "Nature-based solutions in agriculture – The case and pathway for adoption." *fao.org*. February. Accessed March 9, 2021.  
<https://doi.org/10.4060/cb3141en>.
- Jackson, Janine. 2020. "'Our Food System is Very Much Modeled on Plantation Economics,'" CounterSpin interview with Ricardo Salvador on the coronavirus food crisis." *Fairness and Accuracy in Reporting*. May 13. Accessed June 1, 2020. <https://fair.org/home/our-food-system-is-very-much-modeled-on-plantation-economics/>.
- Jackson, Wes, Wendell Berry, and Bruce Colman. 1984. *Meeting the Expectations of the Land: Essays in Sustainable Agriculture and Stewardship*. San Francisco: North Point Press.
- Jaffe, JoAnn, and Michael Gertler. 2006. "Virtual Vicissitudes: Consumer Deskillling and the (gendered) Transformation of Food Systems." *Agriculture and Human Values* 143-162.
- Kallis, Giorgos. 2019. *Limits: Why Malthus was Wrong and Why Environmentalists Should Care*. Stanford: Stanford Briefs: Stanford University Press.
- Klepek, James. 2012. "Against the grain: knowledge alliances and resistance to agricultural biotechnology in Guatemala." *Canadian Journal of Development Studies* 310-325.
- LaDuke, Winona. 2005. *Recovering the Sacred: The Power of Naming and Claiming*. Cambridge: South End Press.
- Larsen, Kristian, and Jason Gilliland. 2009. "Larsen, Kristian and Jason Gilliland. "A Farmers' Market in a Food Desert: Evaluating Impacts on the Price and Availability of Healthy Food." *Health and Place* 1158-62.
- Lee, Robert, and Tristan Ahtone. 2020. "Land-Grab Universities: Expropriated Indigenous Land is the Foundation of the Land-Grant University System ." *High Country News*. March 30. Accessed July 1, 2020. <https://www.hcn.org/issues/52.4/indigenous-affairs-education-land-grab-universities>.

- Lee, Robert, Tristan Ahtone, Margaret Pearce, Kalen Goodluck, Geoff McGhee, Cody Leff, Katherine Lanpher, and Taryn Salinas. 2020. "Land-Grab Universities: A High Country News News Investigation." *High Country News*. March 30. Accessed July 1, 2020. <https://www.landgrabu.org/>.
- Leib, Emily Broad. 2013. "The Forgotten Half of Food System Reform: Using Food and Agricultural Law to Foster Healthy Food Production." *Journal of Food Law and Policy* 45-48.
- Leopold, Aldo. 1949. *A Sand County Almanac: And Sketches Here and There*. London: Oxford University Press.
- LeZaks, David, Susan Paykin, and Jaime Silverstein. 2020. "White Paper: Regenerative Agriculture and COVID-19 Capital Needs." *Croatian Institute*. August. Accessed October 1, 2020. [http://croatianinstitute.org/documents/COVID\\_CapitalNeeds\\_WhitePaper\\_FINAL.pdf](http://croatianinstitute.org/documents/COVID_CapitalNeeds_WhitePaper_FINAL.pdf).
- Lipsitz, George. 2001. *American Studies in a Moment of Danger*. Minneapolis: University of Minnesota Press.
- Lopez-Ridaura, Sanitago, Luis Barba-Escoto, Cristian Reyna-Ramirez, Carlos Sum, Natlia Palacios-Rojas, and Bruno Gerard. 2021. "Maize intercropping in the milpa system. Diversity, extent and importance for nutritional security in the Western Highlands of Guatemala." *Scientific Reports* <https://doi.org/10.1038/s41598-021-82784-2>.
- Markee, Katherine. 2007. "Oral history interview with Earl Butz." *MSO 1*. West Lafayette: Purdue University Archives and Special Collections, February 2.
- Matli, Greg, and Susan Reynolds. 2018. *Indiana Agricultural Statistics 2017-2018*. Government Report, Lafayette: USDA, NASS, Great Lakes Region.
- Matli, Greg, and Susan Reynolds. 2019. *Indiana Agricultural Statistics, 2018-2019*. Lafayette: USDA NASS Great Lakes Region.
- McCormack, Lacey Arneson. 2010. "Review of the Nutritional Implications of Farmers' Markets and Community Gardens: A Call for Evaluation and Research Efforts." *Journal of the American Dietetic Association* 399-408.
- McMillan, Tracie. 2012. *The American Way of Eating: Undercover at Walmart, Applebee's, Farm Fields, and the Dinner Table*. New York: Scribner.

- Meter, Ken. 2014. "Designing Food to Suit our Infrastructure." *Journal of Agriculture, Food Systems, and Community Development* 17-20.
- . 2004. "Historical Review of Research Covering Economies of Size." *Crossroads Resource Center*. September 30. Accessed June 15, 2020. <http://www.crcworks.org/sizehistory.pdf>.
- . 2012. "Hoosier Farmer? Emergent Food Systems in Indiana." *Crossroads Resource Center*. January 18. Accessed December 1, 2020. <https://www.crcworks.org/infood.pdf>.
- Mies, Maria. 2014. *Patriarchy and Accumulation on a World Scale: Women in the International Division of Labor*. London: Zed Books.
- Mies, Maria, and Vandana Shiva. 2014. *Ecofeminism*. New York: Zed Books.
- Miller, Daphne. 2020. "Most Farmers in the Great Plains Do Not Grow Fruits and Vegetables. The Coronavirus is Changing That." *Civil Eats*. May 12. Accessed May 20, 2020. <https://civileats.com/2020/05/12/most-farmers-in-the-great-plains-dont-grow-fruits-and-vegetables-the-pandemic-is-changing-that/>.
- Miller, Perry. 1956. *Errand into the Wilderness*. Cambridge: Harvard University Press.
- Mills, Gregory, Nancy Weinfield, Christine Borger, Maeve Gearing, Theodore Macaluso, Sybil Mendonca, Jill Montaquila, Tracy Vericker, and Sheila Zedlewski. 2014. *Hunger in America 2014: Special Report for Indiana*. Chicago: Feeding America.
- Mintz, Sidney. 1985. *Sweetness and Power: The Place of Sugar in Modern History*. New York: Penguin Books.
- . 1996. *Tasting Food, Tasting Freedom: Excursions into Eating, Culture, and the Past*. Boston: Beacon Press.
- Nadasdy, Paul. 2003. *Hunters and Bureaucrats: Power, Knowledge, and the Restructuring of Aboriginal-state Relations in the Southwest Yukon, Canada*. Vancouver: UBC Press.
- Nash, Roderick Frazier. 2001. *Wilderness and the American Mind*. New Haven: Yale University Press.
- Nestle, Marion. 2002. *Food Politics: How the Food Industry Influences Nutrition and Health*. Berkeley: University of California Press.
- Neth, Mary. 1995. *Preserving the Family Farm: Women, Community, and the Foundations of Agribusiness in the Midwest, 1900-1940*. Baltimore: John Hopkins University Press.
- Netting, Robert. 1993. *Smallholders, Householders: Farm Families and the Ecology of Intensive, Sustainable Agriculture*. Stanford: Stanford University Press.



- Newkirk, Vann R, II. 2019. "The Great Land Robbery ." *The Atlantic*. September 29. Accessed September 1, 2020. <https://www.theatlantic.com/magazine/archive/2019/09/this-land-was-our-land/594742/>.
- Nigh, Ronald, and Stewart Diemont. 2013. "The Maya Milpa: Fire and the Legacy of Living Soil." *Frontiers in Ecology and the Environment* 45-54.
- NSAC. 2018. "2018 Farm Bill by the Numbers." *National Sustainable Agriculture Coalition Blog*. December 21. Accessed September 15, 2020. <https://sustainableagriculture.net/blog/2018-farm-bill-by-the-numbers/>. .
- O'Donoghue, Erik J., Robert A. Hoppe,, David E. Banker, and Penni Korb. 2009. "Exploring Alternative Farm Definitions: Implications for Agricultural Statistics and Program Eligibility." *ers.usda.gov*. March. Accessed December 1, 2020. [https://www.ers.usda.gov/webdocs/publications/44357/9671\\_eib49.pdf?v=0](https://www.ers.usda.gov/webdocs/publications/44357/9671_eib49.pdf?v=0).
- Orr, D. W. 2002. "Four challenges of sustainability." *Conservation Biology* 1457-1460.
- Ostrom, M, K. D. Master, E. B. Noe, and M. Schermer. 2017. "Values-based Food Chains from a Transatlantic Perspective: Exploring a Middle Tier of Agri-food System Development." *International Journal of Sociology of Agriculture and Food* 1-14.
- Paarlberg, Don. 1975. "Agriculture 200 Years From Now." in *Selected Writings, 1964-1993, MSF 455 Don Paarlberg papers, Box 1 Folder 1*. West Lafayette, Indiana: Purdue Archives and Special Collections. Purdue University Libraries.
- . 1971. "Future of the Family Farm." in *Selected Writings, 1964-1993. MSF 455 Don Paarlberg papers, Box 1 Folder 1*. West Lafayette: Purdue Archives and Special Collections, Purdue University Libraries.
- . 1987. "Tarnished Gold: The Soiled Farm Program." *MSF 455, Don Paarlberg papers, Box 1 Folder 1*. West Lafayette: Purdue University Archives and Special Collections, Purdue University Libraries.
- Paarlberg, Don, and Philip Paarlberg. 2000. *The Agricultural Revolution of the 20th Century*. Ames: Iowa State University Press.
- Patel, Raj. 2007. *Stuffed and Starved: The Hidden Battle for the World Food System*. Brooklyn: Melville House.
- Patel, Raj, and Daniel J Philpdon. 2018. "Still 'Stuffed and Starved', Ten Years Later: A Conversation." *Global Environment* 173-191.

- Penniman, Leah. 2018. *Farming While Black: Soul Fire Farm's Practical Guide to Liberation on the Land*. White River Junction: Chelsea Green Publishing.
- Perkins, Richard. 2020. *Regenerative Agriculture: A Practical Whole Systems Guide to Making Small Farms Work*. Vastra Amtervik, Sweden: Ridgedale Permaculture.
- Pingree.house.gov. 2020. "Press Release: Pingree, Blumenauer, DeLauro, Schrier Lead 26 Members in Urging House Leadership to Allow Food Banks, SNAP Beneficiaries to Access Locally Farmed Food." *Pingree.house.gov*. May 5. Accessed November 27, 2020. <https://pingree.house.gov/news/documentsingle.aspx?DocumentID=3358>.
- Posey, Darrell A. 1982. "The Importance of Bees to Kayapo Indians of the Brazilian Amazon." *The Florida Entomologist* 452-458.
- Purdue University Board of Trustees. 1866. "May 1, 1866 Minutes." *UA 58, Board of Trustees Minutes, Box 1 Volume 1*. West Lafayette, May 1.
- Purdue University Department of Horticulture. 1926. "Indiana Horticulture." *UA 155 Department of Horticulture and Landscape Architecture Records, Box 3*. West Lafayette: Purdue University Archives and Special Collections, Purdue University Libraries.
- Querolo, Nic. 2020. "Is Cooking at Home Healthier? More Americans Are Saying Yes." *Bloomberg, Inc.* July 7. Accessed October 1, 2020. <https://www.bloomberg.com/news/articles/2020-07-07/newly-minted-home-chefs-mark-another-blow-to-u-s-restaurants>.
- Ramos, Gabriella, and William Hynes. 2020. "OECD Policy Responses to Coronavirus: A Systemic Resilience Approach to Dealing with Covid-19 and Future Shocks ." *Organisation of Economic and Co-operative Development*. April 28. Accessed October 1, 2020. <https://www.oecd.org/co>.
- Razavi, S. 2009. "Engendering the political economy of agrarian change." *The Journal of Peasant Studies* 197-226.
- Reiley, Laura. 2020. "Migrant Farmworkers, Many Coronavirus Positive, Move North from Florida to Other States." *The Washington Post*. June 11. Accessed August 1, 2020. <https://www.washingtonpost.com/business/2020/06/11/migrant-farmworkers-many-who-have-tested-positive-covid-19-move-north-florida-other-farm-states/>.

- . 2020. "Young farmers and farmers of color have been shut out of federal assistance during the pandemic." *The Washington Post*. July 16. Accessed October 1, 2020.  
<https://www.washingtonpost.com/business/2020/07/16/cfap-ppp-farmers-coronavirus/>.
- Rosin, Christopher, Paul Stock, and Hugh Campbell. 2012. *Food Systems Failure: The Global Food Crisis and the Future of Agriculture*. London: Earthscan.
- Rousseau, K., D. Gautier, and D.A. Wardell. 2019. "Socio-economic differentiation and shea globalization in western Burkina Faso: integrating gender politics and agrarian change." *The Journal of Peasant Studies* 747-766.
- Sachs, Carolyn. 1996. *Gendered Fields: Rural Women, Agriculture, and Environment*. Boulder: Westview Press.
- Salatin, Joel. 2014. "Keynote: Ten Benchmarks of Truth." *Slow Money Conference*. Louisville: Slow Money, November 10.
- Saldivar, Jose David. 1997. *Border Matters: Remapping American Cultural Studies*. Berkeley: University of California Press.
- Salmon, Enrique. 2012. *Eating the Landscape: American Indian Stories of Food, Identity, and Resilience*. Tucson : University of Arizona Press.
- Salvador, Ricardo. 2019. "Keynote: Equity in the Food System." *Power of Procurement Summit*. Chicago: Center for Good Food Purchasing, May 16.
- SARE. 2018. "Our Farms Our Future." St Louis: Sustainable Agriculture Research and Education, April 3.
- . 2020. *Sustainable Agriculture Research and Education*. Accessed December 1, 2020.  
<https://www.sare.org/>.
- Savage, Eugene Francis. 1961. "Spirit of the Land Grant College." *Purdue University Libraries*. Accessed February 24, 2021.  
<https://www.lib.purdue.edu/sites/default/files/libraries/hsse/LandGrantMural.jpg>.
- Schlosser, Eric. 2002. *Fast Food Nation: the Dark Side of the All-American Meal*. New York: Harper Perennial.
- Schnirring, Lisa. 2012. "Cantaloupe farm named in Salmonella outbreak probe." *Center for Infectious Disease Research and Policy*. August 23. Accessed February 24, 2020.  
<https://www.cidrap.umn.edu/news-perspective/2012/08/cantaloupe-farm-named-salmonella-outbreak-probe>.

- Schroder, Patrick, Magnus Bengtsson, Maurie Cohen, Paul Dewick, Joerg Hoftstetter, and Joseph Sarkis. 2019. "Degrowth Within- Aligning circular economy and strong sustainability narratives." *Resources, Conservation, and Recycling* 190-191.
- Seibert, Nikki, and Carrie Draper. 2020. "COVID-19 Exposes Inequities in Our Food System." *New Venture Advisors*. September 21. Accessed October 1, 2020.  
<https://www.newventureadvisors.net/covid-19-exposes-inequities-in-our-food-system/>.
- Shiva, Vandana. 2007. *Manifestos on the Future of Food and Seed*. Cambridge: South End Press.
- . 2012. *Monocultures of the Mind: Perspectives on Biodiversity and Biotechnology*. New Delhi: Natraj Publishers. .
- . 2008. *Soil Not Oil: Environmenatl Justice in an Age of Climate Crisis*. Boston: South End Press.
- . 2016. *Who Really Feeds the World? The Failures of Agribusiness and the Promise of Agroecology*. Berkeley: North Atlantic Books.
- Simchi-Levi, David, and Edith Simchi-Levi. 2020. "Building Resilient Supply Chains Won't Be Easy." *Harvard Business Review*. August 17. Accessed October 1, 2020.  
<https://hbr.org/2020/06/building-resilient-supply-chains-wont-be-easy>.
- Sitko, Nicholas. 2013. "My Hunger has Brought Business: Efficiency and the De-moralizing Logic of Maize Distribution in an Era of Market Liberalization." *The Journal of Peasant Studies* 379-396.
- Slow Food USA. 2020. *Slow Food USA*. Accessed September 15, 2020.  
<https://slowfoodusa.org/about/>.
- Smith, Chery, and Lois Morton. 2009. "Rural Food Deserts: Perspectives on Food Access in Minnesota and Iowa." *Journal of Nutrition Education and Behavior* 176-87.
- Smith, Henry. 1978. *Virgin Land: The American West as Symbol and Myth*. Cambridge: Harvard University Press.
- Spiegel, Bill. 2020. "Use Soil Health to Feed Your Neighbors." *Successful Farming*. April 14. Accessed May 20, 2020. <https://www.agriculture.com/use-soil-health-to-feed-your-neighbors>.

- Splitter, Jenny. 2020. "Farms That Sell Directly to Consumers Are Thriving Amid Coronavirus Downturn." *Forbes.com*. May 11. Accessed November 1, 2020.  
[HTTPS://WWW.FORBES.COM/SITES/JENNYSPITTER/2020/05/11/FARMS-THAT-SELL-TO-CONSUMERS-ARE-THRIVING-AMID-CORONAVIRUS-DOWNTURN/#7CB2BE11689A](https://www.forbes.com/sites/jennysplitter/2020/05/11/farms-that-sell-to-consumers-are-thriving-amid-coronavirus-downturn/#7CB2BE11689A).
- Steward, David R, et al., Paul J. Paul J. Bruss, Xiaoying Yang, Scott A. Staggenborg, Stephen M. Welch, and Michael D Apley. 2013. "Tapping Unsustainable Groundwater Stores for Agricultural Production in the High Plains Aquifer of Kansas, Projections to 2010." *Proceedings of the National Academy of Sciences of the United States of America*. Potsdam, Germany: Potsdam Institute for Climate Impact Research. 1-10  
 [\(https://www.pnas.org/content/110/37/E3477\)](https://www.pnas.org/content/110/37/E3477).
- Stone Barns Center. 2020. "National Farmer Survey Report ." *resourcedny.com*. May 14. Accessed October 1, 2020. [https://resourcedny.com/sites/default/files/2020-05/resourCED\\_national-farmer-survey-report.pdf](https://resourcedny.com/sites/default/files/2020-05/resourCED_national-farmer-survey-report.pdf).
- Stott, Philip, and Sian Sullivan. 2000. "Introduction." In *Political Ecology: Science, Myth, and Power*, by Philip Stott and Sian Sullivan, 1-14. New York: Oxford University Press.
- Strictly Medicinal LLC. 2020. *Strictly Medicinal Seeds*. Accessed May 20, 2020.  
<https://strictlymedicalseeds.com/>.
- Tengö, Maria, Rosemary Hill, Pernilla Malmer, Christopher M Raymond, Marja Spiereburg, Finn Danielsen, Thomas Elmqvist, and Carl Folke. 2017. "Weaving knowledge systems in IPBES, CBD and beyond—lessons learned for sustainability." *Current Opinion in Environmental Sustainability*, 17-25.
- Theophano, Janet. 2002. *Eat My Words: Reading Women's Lives through the Cookbooks They Wrote*. New York: Palgrave.
- Todd, John. 1984. "The Practice of Stewardship." In *Meeting the Expectations of the Land*, by Wes Jackson, Wendell Berry and Bruce Colman, 152-159. San Francisco: North Point Press.
- U.S. Bureau of the Census. 1950. *U.S. Census of Agriculture: 1950, Counties and State Economic Areas, Part 4*. Government Report, Washington, D.C. : U.S. Government Printing Office.

- U.S. FDA. 2011. "Background on the FDA Food Safety Modernization Act (FSMA)." *Food and Drug Administration*. July 7. Accessed September 1, 2020.  
<https://www.fda.gov/media/81051/download>.
- U.S. Food and Drug Administration. 2017. "Full Text of the Food Safety Modernization Act." *fda.gov*. December 13. Accessed September 15, 2020. <https://www.fda.gov/food/food-safety-modernization-act-fsma/full-text-food-safety-modernization-act-fsma>.
- United States Congress. 1914. "Smith-Lever Act (7 U.S.C. 341 Chapter 79, Section 1." *National Institute of Food and Agriculture*. May 8. Accessed December 1, 2020.  
<https://nifa.usda.gov/sites/default/files/program/20190917-Smith-Lever-Act.pdf>.
- USDA AMS. 2020. "Grants and Opportunities." *USDA Agriculture Marketing Service*. Accessed September 1, 2020. <https://www.ams.usda.gov/services/grants>.
- USDA. ca 1958. "Cooperative Extension Work in Agriculture and Home Economics." *MSF 3, Eva Goble papers, Box 1 Folder 4*. West Lafayette: Purdue University Archvies and Special Collections, Purdue University Libraries.
- USDA ERS. 2020. "Food Access Research Atlas." *USDA Economic Research Service*. December 18. Accessed January 24, 2021. USDA. Food Access Research Atlas.  
<https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/>.
- USDA NASS. 2019. *2017 Census of Agriculture*. Government Report, Washington, D.C.: USDA.
- USDA Rural Information Center. 2020. "Small Farm Funding Resources." *USDA National Agriculture Library*. Accessed September 1, 2020. <https://www.nal.usda.gov/ric/small-farm-funding-resources>.
- USDA. 2020. *What is My Plate?* Accessed February 24, 2021. <https://www.myplate.gov/eat-healthy/what-is-myplate>.
- Usner, Daniel H, Jr. 1996. *Indians, Settlers, and Slaves in a Frontier Exchange Economy: The Lower Mississippi Valley Before 1783*. . Chapel Hill: University of North Carolina Press.
- Ver Ploeg, Michele, Vince Breneman, Tracey Farrigan, Karen Hamrick, David Hopkins, Phillip Kaufman, Bing-Hwan Lin, et al. 2009. "Access to Affordable and Nutritious Food-Measuring and Understanding Food Deserts and Their Consequences: Report to Congress." *USDA ERS*. June. Accessed September 15, 2020.  
<https://www.ers.usda.gov/publications/pub-details/?pubid=42729>.

- Walker, Renee, Christopher Keane, and Jessica Burke. 2010. "Renee Walker et al, "Disparities and Access to Health Food in the United States: A Review of Food Deserts Literature." *Health and Place* 876-84.
- Wallerstein, Immanuel. 1997. "Eurocentrism and Its Avatars: The Dilemmas of Social Science." *Sociological Bulletin* 21-39.
- Weatherford, Jack. 1988. *Indian Givers: How the Indians of the Americas Transformed the World*. New York: Fawcett Columbine.
- West, Paige. 2012. *From Modern Production to Imagined Primitive*. Durham: Duke University Press.
- Whalen, Pat. 2020. "Spirit of the Land Grant College." *Purdue University Libraries*. Accessed February 24, 2021. <https://www.lib.purdue.edu/libraries/hsse/spiritlandgrant>.
- Whatmore, S. 1993. "Agricultural geography. Progress in Human Geography." *Progress in Human Geography* 84-91.
- White, Monica M. 2019. *Freedom Farmers: Agricultural Resistance and the Black Freedom Movement*. Chapel Hill: University of North Carolina Press.
- Wilk, Richard. 2006. *Fast Food/ Slow Food: The Cultural Economy of the Global Food System*. Lanham: AltaMira Press.
- Wittman, Hannah, Annette Desmarais, and Netie Wiebe. 2010. *Food Sovereignty: Reconnecting Food, Nature, and Community*. Oakland: Food First.
- World Health Organization. 2018. "Noncommunicable Diseases." *World Health Organization Newsroom*. June 1. Accessed September 15, 2020. <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>.
- Yaffe-Bellany, David, and Michael Corkery. 2020. "Dumped Milk, Smashed Eggs, Plowed Vegetables: Food Waste of the Pandemic." *The New York Times*. April 11. Accessed September 15, 2020. <https://www.nytimes.com/2020/04/11/business/coronavirus-destroying-food.html>.
- Yousefian Hansen, A, A Leighton, K Fox, and D Hartley. 2011. "Understanding the Rural Food Environment- Perspectives of Low-Income Parents." *Rural and Remote Health* 1631.
- Zanotti, Laura. 2016. *Radical Territories in the Brazilian Amazon: The Kayapo's Fight for Just Livelihoods*. Tuscon: University of Arizona Press.

## VITA

**VIRGINIA PLEASANT, PhD**

virginia@nwifoodcouncil.org

### EDUCATION

Purdue University

**PhD, American Studies, Anthropology Focus**

**2021**

Dissertation: “There’s More than Corn in Indiana: Small Scale and Alternative Farmers as a Locus of Resilience”

Advisor: Dr. Laura Zanotti, Department of Anthropology

Relevant Coursework: International Health; Rural Public Health Law; Socio-ecological Resilience; World Food Problems

Purdue University

**MA, American Studies, Anthropology Focus**

**2013**

Master’s Project: “You are What You Eat: Rhetoric of the Slow Food Movement”

Advisor: Dr. Laura Zanotti, Department of Anthropology

Relevant Coursework: Culture Food and Health; Food and Nutrition; Political Ecology

Ball State University

**BA, Cultural Anthropology**

**2007**

Senior Project: Obsession with the Oppressed: A Reexamination of the Folklore of Slavery and the Underground Railroad

Senior Project: Muncie Pottery Exhibit

### ADDITIONAL CERTIFICATIONS

Produce Safety Alliance and Purdue Extension

**Good Agricultural Practices Training**

**July 2019**

Collaborative Institutional Training Initiative

**CITI Training Certification**

**2014, 2019**

Social Behavioral Research Investigators and Key Personnel

Purdue University

**Graduate Certificate, Women Gender and Sexuality Studies**

**May 2013**

Kayapo Reserve | Purdue University

**Ethnographic Field School**

**Summer 2013**



## RESEARCH AND WORK EXPERIENCE

|  |                     |
|--|---------------------|
| Purdue University Northwest<br><b>Continuing Lecturer, Behavioral Sciences</b>             | <b>2020-present</b> |
| Sub-Contractor, NWIFC<br><b>Value Chain Coordinator</b>                                    | <b>2019-present</b> |
| NWI Food Council<br><b>Program Manager, Regenerative Food and Farm Library</b>             | <b>2018-present</b> |
| Indiana- Multiple Sites<br><b>Researcher, Small Scale and Alternative Farms</b>            | <b>2014-present</b> |
| Purdue University<br><b>Graduate Assistant, Susan Bulkeley Butler Women's Archives</b>     | <b>2013-2020</b>    |
| Purdue University<br><b>Research Assistant, Dr. Zhao Ma and the "Good Seed Project"</b>    | <b>2016</b>         |
| Purdue University<br><b>Teaching Assistant, "Sustainability and the Built Environment"</b> | <b>Spring 2016</b>  |
| Purdue University<br><b>Teaching Assistant, "Introduction to Jewish Studies"</b>           | <b>Spring 2012</b>  |

## SERVICE AND OTHER RELATED EXPERIENCE

|  |                     |
|--|---------------------|
| Lake County Resilience Coalition<br><b>Member</b>  | <b>2021</b>         |
| Northwest Indiana Food Council<br><b>Vice President</b>  | <b>2017-present</b> |
| <ul style="list-style-type: none"><li>• Region Roots Food Hub Working Group</li><li>• Food Justice Working Group</li><li>• Chair, 2020 FED: Food Expo and Discussion</li><li>• Chair, 2020 FEDtalks</li><li>• Grants Committee</li><li>• Curator, World Food Week Digital Content</li><li>• Chair, 2019 FED: Food Expo and Discussion</li><li>• Chair, 2018 Farm Business Accelerator</li><li>• Chair, 2018 FarmHop</li><li>• Committee member, 2018 FED: Food Expo and Discussion</li><li>• Chair, Local Foods and Agriculture "Meetups" (2017-2018)</li><li>• Manager, Regenerative Food and Farm Library (2018- )</li></ul> |                     |

|  |                                    |
|--|------------------------------------|
| Indiana Food Council Network<br><b>Member</b><br>• Indiana Good Food Charter Working Group                       | <b>2018-present</b>                |
| Indiana Farm to School Network<br><b>Member</b><br>• Steering Committee<br>• Procurement Working Group           | <b>2019-present</b>                |
| Midwest Sustainable Agriculture Working Group<br><b>Member</b><br>• Chair, InFocus: COVID-19 and the Food System | <b>2018-present</b><br><b>2021</b> |
| Farm AID<br><b>COVID-19 Relief Fund Indiana Review Committee</b>   | <b>June 2020</b>                   |
| The Farm at Prophetstown State Park<br><b>Co-Founder, Heirloom Seed Library</b>                                  | <b>2016-2017</b>                   |
| Feeding America<br><b>Intern, Hunger Study</b>   | <b>Summer 2013</b>                 |
| Second Helpings<br><b>Volunteer Fundraising Consultant, Corks and Forks</b>                                      | <b>Spring 2013</b>                 |
| Wabash Area Lifetime Learning Association<br><b>Volunteer Instructor, “Radical Homemakers”</b>                   | <b>Spring 2013</b>                 |
| West Lafayette Public Library<br><b>Volunteer Archivist</b>  | <b>Spring 2012</b>                 |
| Ball State Anthropology Museum<br><b>Intern</b>  | <b>Spring 2007</b>                 |
| <b>GRANTS AND AWARDS</b>   |                                    |
| Indiana Grown<br><b>Indiana Food Council Development Grant</b>   | <b>2021</b>                        |
| Food and Farm Communication Fund<br><b>Capacity Mini Grant- Storytelling for Food Systems Leaders</b>            | <b>2019</b>                        |
| Indiana Humanities Council (with Hoosier Young Farmers Coalition)<br><b>Storytelling Grant</b>                   | <b>2019</b>                        |
| Lake County Master Gardeners Association   |                                    |

|   |             |
|---|-------------|
| <b>Heirloom Seed Library</b>  | <b>2019</b> |
| Crown Point Community Foundation<br><b>Beginning Farmer Tool Library</b>  | <b>2019</b> |
| S.I.A. Foundation<br><b>Beginning Farmer Tool Library</b>   | <b>2018</b> |
| Purdue CLA<br><b>P.R.O.M.I.S.E. Award for dissertation research</b>   | <b>2016</b> |
| Purdue Service Learning Grant<br><b>Heirloom Seed Library at Prophetstown State Park</b>  | <b>2016</b> |
| Purdue American Studies<br><b>Research Travel Grant</b>   | <b>2014</b> |
| Purdue Anthropology Department<br><b>Brazil Ethnographic Field School Paper Competition</b>                                       | <b>2013</b> |
| Purdue Service Learning<br><b>West Lafayette Public Library Archives</b>  | <b>2012</b> |
| Honorable Mention<br><b>Muncie Pottery Exhibit</b>  | <b>2007</b> |
| Honorable Mention<br><b>Outstanding Undergraduate Thesis</b>  | <b>2007</b> |
| <b>PRESENTATIONS AND EXHIBITS</b>   |             |
| <i>Panelist, Indiana Farm Connect</i><br>Indiana Small Farms Conference   | <b>2020</b> |
| <i>Panelist, Indiana Farm Connect</i><br>Indiana Horticulture Conference  | <b>2020</b> |
| <i>Invited Plenary Panelist</i><br>Indiana Uplands Winter Food Conference   | <b>2020</b> |
| <i>Invited Panelist, Agricultural Economics</i><br>Regional Economic Development Summit   NIRPC & NWI Forum                       | <b>2019</b> |
| <i>Curator, Brazil and Student Groups</i><br>“Around the World in 150 Years”<br>Virginia Karnes Kelly Archives, Purdue University | <b>2019</b> |

***Introduction to Archival Research*** 2015-2018  
Virginia Karnes Kelly Archives | Susan Bulkeley Butler Women's Archives

***Heirloom Seed Library Introduction*** 2017  
Ribbon Cutting for the Prophetstown Seed Library

***Moderator, Sustainable Nutrition*** 2017  
FED: Food Expo and Discussion

***There's More than Corn in Indiana:  
Towards and Understanding of Small and Alternative Farms*** 2016  
Poster, OIGP Reception

***Trained Girls Needed:  
Hoosier Women's Contributions to Farm, Education, and Economies*** 2016  
Paper, Hoosier Women at Work Conference

***A Troubled Union: Legislation, Smallholders, and Food Sovereignty*** 2016  
Paper, Dimensions of Political Ecology Conference

***There's More than Corn in Indiana:  
Towards and Understanding of Small and Alternative Farms*** 2016  
Poster, Indiana Small Farms Conference

***West Lafayette Local Foodways and Heirloom Seeds*** 2012  
Interactive Exhibit, West Lafayette History Block Party

***Muncie Pottery*** 2007  
Curated Exhibit, Ball State Anthropology Museum

***Capstone Project Exhibition*** 2007  
Lead Curator, Ball State Anthropology Museum

## **PUBLICATIONS**

Purdue University Press  
***Purdue at 150: A Visual History of Student Life*** 2019  
Hovde, David et al, editors. **Pleasant, V.**, Contributing author on women's history at Purdue.

Web  
***Onegarden.us*** 2013-2015  
Virginia Pleasant, Creator and Content Developer.

Edible Indy  
***Hoosier Shrimp Farms Make a Splash: A Local Alternative to Imported Shrimp*** 2014

Web/ Purdue Archives and Special Collections

**Selected Research Guides:**

- *Finding Aid to the Linda Levy Peck papers* 2018
- *Finding Aid to the Kassandra Agee Chandler papers* 2018
- *Finding Aid to the Gertrude Sunderlin papers* 2015
- *Finding Aid to the Council on the Status of Women records* 2015
- *Finding Aid to the Mortar Board records* 2014
- Comprehensive list of research guides available on request

**MEMBERSHIPS**

Society for Applied Anthropology  
Lambda Alpha National Anthropology Honors Society  
American Anthropological Association  
Culture and Agriculture Section of AAA  
Women Food and Agriculture Network  
Resilient Indiana  
Hoosier Young Farmers Coalition  
Indiana Farmers Union  
Academic Mamas Chicagoland