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A Burger with a Side of Racism: Animal Agriculture Exacerbates Systemic Injustice  
Experienced by Marginalized Populations in the United States

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## ABSTRACT

In response to the rising demand for animal products, industrialized animal agriculture in the United States has evolved. An agrarian sector that once consisted of small-scale, family-owned farms, now is made up of large-scale conglomerates that deploy tactics targeting marginalized communities as the bearers of burdens associated with expansion. Such unprecedented growth has given rise to numerous ethical concerns as these operations impose myriad health detriments and quality of life infringements upon neighboring residents due to serious environmental degradations. These already marginalized communities are further damaged as animal agriculture becomes a vector of systemic injustice. This thesis argues that the current methods used by the animal agriculture industry in both its placement and its operation are unjust through the use of ethical approaches focused on human impacts. Bioethical theories, including social contract theory, rights theory, and principlism, reveal myriad ethical violations. This thesis has a particular focus on principlism's justice prong and the associated material theories of justice due to the systemic nature of injustice perpetrated upon low-SES, rural communities of color. Solutions are proposed at three various levels: (1) government action, (2) corporate action, and (3) individual action. Upon implementation, such actions have the potential to ameliorate the damages imposed on impacted communities and their residents.

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*“When we are doing things that hurt other people, we are wrong. But a lot of good people will sit there and eat bacon knowing that it’s causing someone else to be very unhappy.”*

*– Don Webb<sup>1</sup>*

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<sup>1</sup>Don Webb is an environmental activist and resident of Duplin County, North Carolina— otherwise known as the hog-industry capital of the world (Anderson & Kuhn, 2017, 41:19).

## **Chapter 1**

### **Introduction**

Imagine living in rural America, where you have a yard with plenty of open space. Your child is about to have a birthday, and it would be great to invite friends and relatives over for a cookout and cake in your backyard. A few years back, this would have been possible and even idyllic. In fact, you and your family have lots of memories, filled with laughter and joy, of time spent in entertaining outdoors. Those memories ended abruptly when a new neighbor moved in. Since then, it's been literally unbearable to spend any time in your yard because of the foul odors and insect infestations that moved in alongside the new neighbor. Not only has your use and enjoyment of your property been tremendously impacted, but your health and wellbeing, and that of your kids, is affected daily, as well. Your whole neighborhood has been disrupted. You've complained to the city council and to your elected officials. Your neighbors have, too. But no one is listening—or, if they are, they are as disempowered as you are in the face of this neighbor and the power it wields. So, you've decided to move. You call a relator who tells you that the value of your property, which wasn't particularly high in the first place, has decreased so significantly that you can't afford to relocate. This, too, is because of your new neighbor and the impact it has on the community.

Shocked, frustrated, and reeling because your home and the property it's located on are your most valuable financial asset—not to mention the core of your family life—you don't know what to do. You ask the relator if this has happened to others—especially in Black communities, like yours—where a new neighbor, a factory farm, moves in. The answer is: Yes. Frequently.

This scenario is neither fictive nor uncommon, especially for marginalized communities with low socio-economic status (SES) in rural America due to the evolution of modern animal agriculture practices in response to growing demand for meat products (Guyomard et al., 2013; Steinfeld et al., 2006). These modernized practices, which include the factory farming of animals (Singer, 2009), also incorporate vertical integration (i.e., the combination of stages of production into one facility) (Bennett et al., 2018), and concentration in terms of feed usage (Steinfeld et al., 2006), as well as the genetic modification of livestock (Thornton, 2010)—all to enhance both operational efficiency and profit. With enhanced productivity and profitability, the industry continues to expand to meet demands for more meat. But it does so at the significant costs of degraded air, water, and soil quality, and these concentrated burdens are borne by the rural, often impoverished, communities housing these operations (Hribar & Schultz, 2010; Steinfeld et al., 2006). In addition to being of low SES, these locations are often also communities of color. Specifically, data show that people of color are 1.52 times more likely to live near an industrial animal agriculture facility than are non-Hispanic Whites (Wing & Johnston, 2014). The environmental impacts are not just quantified in terms of loss of enjoyment of property and reduced property values, but also in imperiled physical and mental health. The related ailments include increased: respiratory and sinus issues (Bullers, 2005; Hribar & Schultz, 2010); cancer (Burkholder et al., 2007); reproductive problems (Burkholder et al., 2007); and psychological concerns (Bullers, 2005; Donham et al., 2007; Hribar & Schultz, 2010).

The location of these factory farms in marginalized communities is no accident. The animal agriculture industry has not only maximized “efficacy” in terms of adopting modernized technologies but also in terms of engaging in “sharp”—and, in fact, predatory—business practices that target low-SES communities of color when selecting operation sites. Such

practices, which reduce cost and take the path of least resistance, employ a tactic known as the “place-in-Blacks’-back-yard” (PIBBY) phenomenon, allowing corporations to locate toxic facilities in communities that lack the resources and political power to effectively resist (Bullard, 2000; Pastor et al., 2001). Such *de facto* discrimination further ingrains disparities and increases racialized precarity for individuals and communities (Kim & Goldsmith, 2008; Palmquist et al., 1997; Repeik, 2017). As a result, society’s marginalized, already grappling with myriad impacts of systemic injustice, disproportionately shoulder the burdens of neighboring concentrated animal feeding operations (CAFOs) and other industrialized animal agriculture entities (Anderson & Kuhn, 2017; Kuo, 2015; Wilson et al., 2002; Wing & Johnston, 2014).

These practices and their disproportionate burden on the marginalized become especially concerning, given the health disparities faced by low-SES, Black, and rural populations. Such disparities include: limited access to health and medical facilities; poor maternal health outcomes; higher prevalence of preventable disease, such as obesity and diabetes; late-stage diagnoses; higher rates of disability; and fewer years of active life expectancy (Kulcsár & Curtis, 2012). Thus, when rurality combined with minority status and low SES are paired with elevated levels of toxic exposure and stress, pre-existing disparities compound—making CAFOs and other large-scale animal agriculture operations a direct vector of systematized racial injustice.

This thesis examines the ethical shortfalls of industrial animal agriculture and critiques the business model employed by this sector based on human-welfare approaches to ethics, rather than by relying on animal-related ethics arguments. Specifically because large-scale animal agriculture entities choose to locate in areas occupied by low-SES communities, thereby exacerbating preexisting systemic injustices faced by such vulnerable communities, ethical obligations arise and attach to: these factory farms to take maximum precautions to avoid the



release of contaminants; governmental bodies to strengthen and diligently enforce regulatory oversight of the industry; and even for individual consumers to decrease their meat consumption.

This thesis begins by providing a brief history of environmental racism and injustice, along with establishing necessary definitions. The following section then provides a brief history of animal agriculture in the United States, including discussion of relevant laws and regulations governing the industry. This is followed by subsequent sections on water quality, air quality, and other threats related to large-scale animal agriculture. The next major section focuses on the health and wellbeing of residents neighboring CAFOs and other industrial animal agricultural outfits, with specific subsections on physical health, mental health, quality of life, and employment. A section regarding the demographic make-up of these communities, with a specific focus on the vulnerable populations that reside within them, follows. An ethical analysis is then provided with sections on social contract theory, rights theory, and principlism—all of which reveal how the animal agriculture industry exacerbates injustice by targeting vulnerable populations. Unlike many ethical analyses of animal agriculture, this analysis is limited to the treatment of marginalized human populations and does not rely on the moral consideration of nonhuman animals. Following the ethical analysis, recommendations and potential solutions are proposed, with suggested actions targeting the governmental, corporate, community, and individual levels. This thesis concludes by addressing potential objections.

## Chapter 2

### Defining and Examining a History of Environmental Racism and Justice

Specific terms of art, such as “environmental racism,” “environmental justice,” and “environmental equity,” require definition. This thesis adopts definitions based on those provided by Bunyan Bryant, who explains environmental racism as:

[A]n extension of racism ... refer[ing] to those institutional rules, regulations, and policies or government or corporate decisions that deliberately target certain communities for least desirable land uses, resulting in the disproportionate exposure [to] toxic and hazardous waste [for] communities based upon certain prescribed ... characteristics. Environmental racism is the unequal protection against toxic and hazardous waste exposure [coupled with] the systemic exclusion of people of color from environmental decisions affecting their communities. (Bryant, 1995, p. 5)

This definition describes the systemic nature of this subcategory of racism. It is not only the case that these communities experience greater exposure to harmful environmental toxins, but they are also excluded from vital decision-making processes regarding their own communities.

While environmental racism focuses on the harms done to communities, environmental equity and justice refer to the ways in which the harms stemming from such racism can be addressed. Bryant explains environmental equity—or the lack thereof—as:

[T]he [lack of] equal protection [provided by] environmental laws. For example, under the Superfund clean-up program[,] it has been shown that abandoned hazardous waste sites in minority areas take 20 percent longer to be placed on the national priority action list than those in white areas. It has also been shown that the government’s fines are six times greater for companies in violation of RCRA in white [as opposed to] black communities. This is unequal protection. ... [L]aws should be enforced equally to ensure the proper siting, clean up of hazardous wastes, and the effective regulation of industrial pollution, regardless of the racial and economic composition of the community. (Bryant, 1995, p. 5-6)

Of particular importance, this characterization not only provides a means of evaluating inequity under the law and of assessing corporations' lack of responsiveness, but it also supplies a foundation upon which to address these issues moving forward through enforcement mechanism blinded to color and SES.

Although environmental equity is a desirable first step, achieving environmental justice is the ultimate goal. This requires digging more deeply into the roots of the issue. Bryant outlines environmental justice as:

[B]roader than environmental equity[, as it] refers to those cultural norms and values, rules, regulations, behaviors, policies, and decisions to support sustainable communities, where people can interact with confidence that their environment is safe, nurturing, and productive. Environmental justice is served when people can realize their highest potential, without experiencing ... "isms." Environmental justice is supported by[:] decent paying and safe jobs; quality schools and recreation; decent housing and adequate health care; democratic decision-making and personal empowerment; and communities free of violence, drugs, and poverty. These are communities where both cultural and biological diversity are respected and highly revered and where distributed justice prevails. (Bryant, 1995, p. 6)

This explication of environmental justice serves as a means for critiquing animal agriculture in its present-day instantiation. Taken together, these definitions establish a framework through which to discuss the mechanisms employed by large-scale animal agriculture to take advantage of low-SES communities of color, while also offering a foundation upon which to begin addressing this complex issue.

Defining and understanding environmentalism and the issues that emerge from it are further complicated by stratification. At the core of environmentalism, there are two main areas of concern: "justice *within* the environment, which is essentially about the distribution of environmental quality within human populations, and justice *to* the environment, which is about

human's treatment of nonhuman nature" (Low & Gleeson, 1997, p. 22). This thesis focuses on justice *within* the environment and, more specifically, how pollutants resulting from industrial animal agriculture operations are inequitably distributed across human populations. Doing so, however, requires an analysis of justice *to* the environment, as harm *to* the environment frequently leads to harm of those living *within* it.

By way of background, some history of environmentalism is necessary for a full understanding. As the U.S. environmentalism movement took off, it lacked minority representation even though "blacks, lower-income groups, and working-class persons are subjected to a disproportionately large amount of pollution and other environmental stressors in their neighborhoods as well as in their workplaces" (Bullard, 2000, p. 1). The absence of minority voices within environmental activism is a result of both systemic forces and the elitism of environmental movements (Bullard, 2000). Moreover, this lack of involvement is not a matter of choice, but rather a product of self-efficacy (i.e., one's perceived ability to alter one's life situation) (Bullard, 2000). Due to systemic injustices that undermine employment opportunities and childcare options, minority groups often lack the free time and disposable income that White activists possess. These deficits make it appear that minorities have less interest in environmental issues, despite this not being the case (Bullard, 2000). Consequently, minority communities are underrepresented both locally and nationally on environmental issues (Bullard, 2000).

As a result of representation, environmental movements dominated by White, middle-class advocates refuse to allow toxic facilities into *their* communities, adopting the "not-in-my-backyard" or "NIMBY" approach (Bullard, 2000). As a result, toxic entities simply opt to locate elsewhere. That "elsewhere" is in low-SES, marginalized communities of color, resulting in the so-called "place-in-Blacks'-back-yard" or "PIBBY" phenomenon (Bullard, 2000). Thus, not only

does environmentalism systemically exclude minorities through participatory barriers, but it also magnifies the entrenched injustice experienced by these communities. This set of sociological phenomena are confirmed by studies that have found that the siting of environmentally toxic facilities is not a matter of minority move-in, as some have postulated, but rather that toxic facilities are actively placed in areas where minorities already reside (Pastor et al., 2001).

Researchers indicate that such operations rely on structural and systemic fragilities.

“Demographics reflecting political weakness—including a higher presence of minorities, a lower presence of homeowners, or a significant degree of ethnic churning—seem to be the real attractors” (Pastor et al., 2001, p. 19).

## Chapter 3

### Analyzing the History of Animal Agriculture

Historically, animal agriculture was largely conducted on small-scale, family-owned farms. As a result of urbanization, industrialization, population growth, and economic expansion, the livestock sector increased production to meet product demand in a wealthier society with a swelling population (Hribar & Schultz, 2010; Steinfeld et al., 2006; Thornton, 2010). As Hervé Guyomard stated: “The key drivers of changes in the livestock sector are demand driven” (Guyomard et al., 2013).

Changes in dietary preferences have also amplified the desire for animal products. Eating patterns in developed nations have evolved due to shifts in lifestyle that accompany urbanization (Steinfeld et al., 2006). Within urban settings dominated by high workforce participation, individuals consume more convenient, pre-made foods outside the home (Guyomard et al., 2013; Steinfeld et al., 2006). These food options, often found in convenience stores and fast-food restaurants, tend to be less healthy and more animal based than foods prepared at home (Guyomard et al., 2013).

Another reason for the greater demand for animal products is the increase in per capita income (Guyomard et al., 2013; Steinfeld et al., 2006; Thornton, 2010). Growth in middle-class spending ability has also contributed to higher demand for animal products. “There is a high income elasticity for meat and other livestock products—that is, as incomes grow, expenditure on livestock products grows rapidly” (Steinfeld et al., 2006, p. 9).

These trends have required the livestock sector to respond with aggressive tactics to meet rising consumer demand. As a result, small-scale farms have largely been replaced with more efficient, large-scale setups, such as CAFOs, that operate under corporate contracts (Hribar &

Schultz, 2010). The U.S. Environmental Protection Agency (EPA) defines AFOs as “agricultural operations where animals are kept and raised in confined situations” (US EPA, 2015). CAFOs, which are a class of AFOs, are separated by their dispersal of manure and wastewater, and the types and numbers of animals they house (US EPA, 2015).<sup>2</sup>

Such efficacies have been achieved due to technological advancements and genetic modification of livestock. Switching from locally available feed resources to feed concentrates is key among these developments (Steinfeld et al., 2006). Moreover, increases in grain production have been made possible due to the “use of linear programming to develop least-cost feed ratios, phased feeding and the use of enzymes and synthetic amino acid” (Steinfeld et al., 2006, p.12). Such cost-effective improvements allow more land to be dedicated to animal production and less to feed production (Steinfeld et al., 2006). Advances in breeding techniques, such as crossbreeding, breed-substitution, and within-breed selection, allow for the production of animals that grow more rapidly, are of genetically “ideal” quality, and are suited to the environments in which they are being produced (Thornton, 2010). Reproductive and genetic interventions, such as artificial insemination, enable the production of more, higher quality animals and animal products in less time (i.e., milk yield, growth rate, fat content, reproductive efficiency, and feed conversion) (Steinfeld et al., 2006; Thornton, 2010). Moreover, use of antibiotics has improved animal yield dramatically (Steinfeld et al., 2006).

A key efficiency has been the introduction of factory farming. Factory farming removes animals from natural conditions found on traditional farms and implements assembly-line production methods, which minimize costs and maximize profits (Singer, 2009). In the case of

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<sup>2</sup> These operations fall under EPA regulation, which is discussed in greater detail in the following section, titled Laws and Regulations.

poultry, for example, millions of birds are kept in windowless sheds, and these indoor environments are carefully controlled to accelerate growth (Singer, 2009). Rather than grazing, the birds are supplied food and water by automatic hoppers (Singer, 2009). Throughout their early life cycle, lighting is adjusted to encourage continual eating to speed growth, while also reducing aggression due to confinement and overcrowding (Singer, 2009). “At the end of this brief period, the birds weigh between four and five pounds; yet they still may have as little as half a square foot of space per chicken—or less than the area of a sheet of standard typing paper” (Singer, 2009, p. 99). Because of this overcrowding, the birds peck at and even kill or eat each other in response to their living conditions (Singer, 2009). Rather than giving the animals more space, which increases costs, debeaking is performed to combat the harms of aggression (Singer, 2009).<sup>3</sup> Other farmed animals are confined and modified in similar ways to ensure that outputs—and, therefore, profits—are maximized.

As a result of these technological developments and inventive practices, more animals can be clustered within limited space, yielding more products in less time and at lower cost. For example, milk production, meat production, and egg production have doubled, tripled, and quadrupled respectively since the 1960s (Hribar & Schultz, 2010). Chickens can now reach 5 pounds in 7 weeks, whereas it took them 16 weeks to reach approximately 2 pounds in the 1920s (Hribar & Schultz, 2010). Because of this, chickens can be butchered at much earlier stages (i.e., typically seven weeks), which minimize inputs (Singer, 2009). Increases in production have also resulted from animal agriculture’s vertical integration, which aggregates all processes—from breeding to processing—in a single, overarching operation (Bennett et al., 2018). Such unified

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<sup>3</sup> There is much to be said about the ethics surrounding common practices, such as debeaking, within factory farming. This, however, is beyond the scope of this thesis.



systems have profoundly impacted outputs.<sup>4</sup> Additional technologies predict future efficiencies through cloning, genetic testing, and gene editing (Thornton, 2010).

These developments, alongside growing demand for animal products in the developing world, suggest that animal agriculture's robust expansion will continue due to pecuniary incentives (Guyomard et al., 2013). Viewed as economically favorable, CAFOs are seen as stimulating the national and local economies and as sources of job creation (Hribar & Schultz, 2010). The livestock sector accounts for approximately 40% of the agricultural gross domestic product and employs around 1.3 billion people nationally (Steinfeld et al., 2006).

At the local level, CAFOs are also thought to enhance local commerce and increase tax revenues—thereby boosting school funding and supporting community infrastructure (Hribar & Schultz, 2010). However, research has demonstrated that not all communities containing industrial farming operations, such as CAFOs, experience these benefits. “There is little or no correlation between proximity of industrial plants in communities of color and employment opportunities of nearby residents” (Bullard, 2000, p. 135). Rather, factory farm employees tend to be commuters, leaving local residents with the burdens of living in proximity to a toxic facility while not experiencing economic gains through employment opportunities (Bullard, 2000). This results in disappointment, as a study assessing the attitudes of residents in communities housing a toxic facility found; on average, these residents felt as though they had not benefited from the presence of the industry (Bullard, 2000). Specifically, most residents disagreed with survey items stating: “We should think of jobs first and environment second;” “Employment opportunities for local residents have improved with the facility;” “The facility has generated needed tax dollars

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<sup>4</sup> For example, Tyson Foods, the top U.S. chicken producer, butchered on averaged 35 million chickens per week in 2012 (Bennett et al., 2018).

for the community;” and “The benefits that the community derive from the facility far outweigh the negatives” (Bullard, 2000, p. 87).

Given its economic power—at least on the national and international level—the livestock sector has become the largest anthropogenic user of land, occupying around 30% of the world’s ice-free terrain and approximately 70% of all agricultural land (Steinfeld, 2016). These percentages are subject to climb as developing countries bolster demand for animal products (Guyomard et al., 2013). For example, the annual growth rate of meat volumes in developing countries is at 8.1% compared to 1.9% in developed countries (Guyomard et al., 2013). And, despite the expansion of animal agriculture in developing nations, the United States remains a major producer of the world’s animal products (Guyomard et al., 2013).

### **Laws and Regulations**

As animal agricultural operations have expanded, laws and regulations have been put in place to constrain the industry’s environmental impacts. But, despite such attempts, animal agriculture remains largely unfettered by environmental laws due to exemptions and/or below-threshold pollution levels (Copeland, 2010). Responsible for much of this regulation at the federal level, the EPA specifically targets CAFOs through the Clean Water Act (CWA) and the Clean Air Act (CAA) (Copeland, 2010). For example, the federal CWA, enacted in 1972 and revised in the late 1990s, is enforced by the EPA, and, when updating regulations to meet the requirements of the amended CWA, the EPA experienced such strenuous pushback from the livestock interests that the redrafted regulations were less restrictive than those originally proposed (Copeland, 2010).

Despite its legislative authority over CAFOs, the EPA has proven ineffective in mitigating the environmental and resultant health impacts related to industrial animal agriculture. This is demonstrated by the EPA's lack of data collection and regulatory enforcement (Miller & Muren, 2019). Environmental organizations, such as the National Resources Defense Council (NRDC), queried the EPA's CAFO data (Miller & Muren, 2019). This investigative undertaking revealed that, as of 2012, the EPA only had data on 7,595 CAFOs—omitting 17,000 existing operations (Miller & Muren, 2019). This investigation also revealed that data were entirely absent for nine states, even though they housed CAFOs (Miller & Muren, 2019). Moreover, the available data lacked details on the size of operations, location, permit status, manure-handling practices, types of animals on site, and ownership (Miller & Muren, 2019).

Such data-maintenance failures result from loopholes in the CWA. The original 1974 act exempted many operations, such as poultry facilities with dry-manure handling systems and facilities that were only a threat during stormy conditions (Miller & Muren, 2019). The EPA also deferred regulation to the states and designated animal agriculture operations as a low enforcement priority (Miller & Muren, 2019). This led to states underenforcing and ignoring permit obligations (Miller & Muren, 2019). In 1987, an amendment to the CWA exempted “agricultural stormwater discharges,” allowing CAFOs to claim that the law did not apply to them (Miller & Muren, 2019). In 2012, another amendment excluded CAFOs that were not actively discharging from permit requirements; thus, CAFOs were not mandated to manage discharges, such as discharges of manure, litter, and feathers (Miller & Muren, 2019).

In addition to the federal laws, state-level right-to-farm laws and nuisance actions exist to regulate animal agriculture operations by disallowing property uses that are harmful to others, while still protecting farming operations from unreasonable interference (Hribar & Schultz,

2010). While designed, in theory, to balance equities, such laws greatly constrain legal actions by non-farming neighbors in actual practice (Hribar & Schultz, 2010). For example, multiple lawsuits were filed against Smithfield Foods in North Carolina, where residents alleged that the swine operations in question interfered with their ability to use and enjoy their property due to odors, insects, and excessive noise (Miller & Muren, 2019). The residents were awarded more than a half-billion dollars in punitive damages, but these awards were significantly reduced on review (Miller & Muren, 2019). Since then, such operations have won legislative protection through the enactment of a new state law that curtails such suits (Miller & Muren, 2019).

State and local health departments also hold relevant roles in CAFO regulation as these agencies protect public health (Hribar & Schultz, 2010). Health departments are responsible for monitoring the population's health status, developing policies that protect public health, and assuring the population's health-related needs are met (Hribar & Schultz, 2010). These duties give rise to obligations to file and investigate claims against CAFOs (Hribar & Schultz, 2010). Furthermore, these governmental entities can implement CAFO regulations if such operations negatively affect population health (Hribar & Schultz, 2010). Most importantly, these agencies can offer information, education, and forums for public discourse regarding the health impacts of CAFOs (Hribar & Schultz, 2010).

### **Environmental Threats**

Despite efforts to regulate CAFOs and other animal agriculture outfits, these entities continue to pose serious threats to the environment and public health. Animal agriculture: contributes to atmospheric and climate changes; increases land degradation; threatens

biodiversity; and contaminates water, soil, and air (Hribar & Schultz, 2010; Steinfeld et al., 2006). In particular, the livestock sector is responsible for 18% of global greenhouse gas emissions, which is more than all transport sectors combined (Hribar & Schultz, 2010; Steinfeld et al., 2006). Animal agriculture also accounts for 37% of anthropogenic methane emissions, which are 23 times more potent in their impact on global warming than carbon dioxide (Hribar & Schultz, 2010; Steinfeld et al., 2006). Moreover, animal agriculture is responsible for 9% of anthropogenic carbon dioxide emissions, 65% of anthropogenic nitrous oxide emissions, and 64% of anthropogenic ammonia emissions (Steinfeld et al., 2006). Such emissions contribute to global warming and other environmentally devastating phenomena, such as acid rain and the acidification of ecosystems (Steinfeld et al., 2006). These emissions are, in part, a result of: the intense deforestation required for feed-grain production and grazing, manure production and management, and animal respiratory and digestive processes (Steinfeld et al., 2006).

Many of the environmental threats caused by animal agriculture stem from massive amounts of manure. It is estimated that CAFOs can generate between 2,800 and 1.6 million tons of manure annually, which is more than the sewage produced in major U.S. cities (Hribar & Schultz, 2010). On average, animal waste outpaces human waste in the United States by 3 to 20 times per annum (Hribar & Schultz, 2010). Disposal and storage of animal waste have become of greater concern as CAFOs have switched from producing their own feed grains to outsourcing cheap feed concentrates, eliminating the use of manure as a crop fertilizer (Steinfeld et al., 2006). Common practices for animal waste disposal include: lagoon storage; offsite disposal; and, most commonly, spray field ground application (Hribar & Schultz, 2010).

## Water Quality

One of the main environmental impacts of animal agriculture is waterway pollution. Regions containing significant CAFO concentrations experience 20 to 30 water-quality issues annually (Hribar & Schultz, 2010). Faulty waste storage lagoons and major precipitation events that cause lagoon overflows or spray-field ground application runoff enable contaminants from animal agriculture to seep into ground and surface water (Burkholder et al., 2007). Additionally, if the amount of manure applied to an area exceeds what the land can absorb, excess nitrogen, phosphorus, and heavy metals, along with pathogens, veterinary pharmaceuticals, and hormones, can overwhelm the soil and leak into groundwater (Burkholder et al., 2007; Hribar & Schultz, 2010).<sup>5</sup> This is problematic as 53% of the U.S. population relies on groundwater for drinking water, and as rural areas, which house the majority of CAFOs, are particularly dependent on groundwater (Hribar & Schultz, 2010).<sup>6</sup> Ammonium, phosphorus, suspended solids, and fecal coliform bacteria resulting from CAFO waste overflows can cause other water-related crises, such as algae blooms, freshwater fish kills, and depletion of aquatic species (Burkholder et al., 2007). Beyond endangering aquatic life, such contamination also leads to beach closures and restrictions on shellfish consumption, which impact recreation and employment (Hribar & Schultz, 2010).

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<sup>5</sup> Improper disposal of decaying animal carcasses also has the potential to contaminate water sources (Burkholder et al., 2007).

<sup>6</sup> Contaminated water sources negatively impact human health, as discussed at large in the following section on physical health (Burkholder et al., 2007).

## **Air Quality**

Another environmental concern posed by animal agriculture is air pollution. Air contamination includes emission of hazardous gases, such as ammonia and hydrogen sulfide, as well as airborne release of particulate matter, volatile organic compounds, air pollutants, and microorganisms (Hribar & Schultz, 2010). The main source of CAFO-related air pollution derives from microbial breakdown of manure following land application and soil decomposition (Hribar & Schultz, 2010). CAFO-building ventilation systems can also pollute the air, as demonstrated by two Tyson chicken houses that emitted more than 10 tons of ammonia in a year (Hribar & Schultz, 2010).<sup>7</sup>

## **Other Threats**

### **Odors**

Animal agriculture poses myriad additional threats to the environment and human health. These threats include insect vectors, antibiotic resistance, and noxious odors. Odor is among the most prominent CAFO-associated complaints. Odors from manure storage result from a mixture of volatile organic compounds, carbon dioxide, hydrogen sulfide, and ammonia, and these odors can travel up to six miles in all directions (Hribar & Schultz, 2010). Odors are difficult to regulate because they are hard to quantify and control, yet they significantly harm communities by degrading quality of life and property values (Hribar & Schultz, 2010).

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<sup>7</sup> Degraded air quality resulting from such operations threatens the health of those living nearby, as discussed in detail in the following section on physical health.

## **Insects**

One of the lesser-known, but insidious, CAFO impacts is insect-vector infestations. Manure serves as a breeding ground for mosquitoes, stable flies, cockroaches, bedbugs, bees, moths, and houseflies. Not only are such pests a nuisance, but they can also pose health risks. One of these risks is the potential spread of antibiotic-resistant bacteria (Hribar & Schultz, 2010; Zurek & Ghosh, 2014). Previously, antibiotics were used in livestock production to promote growth and were subsequently released into the environment through animal feces (Zurek & Ghosh, 2014). Consequently, insects that thrive in this environment could acquire antibiotic-resistant bacteria strains and spread them to nearby humans (Zurek & Ghosh, 2014). Because human food attracts such insects, likelihood of antibiotic-resistant bacteria spread increased (Hribar & Schultz, 2010; Zurek & Ghosh, 2014). A study of U.S. poultry farms revealed that antibiotic-resistant enterococci carried by flies were genetically identical to antibiotic-resistant enterococci present in the poultry, indicating that the poultry were the source of this strain (Zurek & Ghosh, 2014). While laws now prohibit nontherapeutic use of antibiotics in food animals, animal products still have the potential to carry antibiotic-resistant bacteria that are naturally carried by animals, exacerbating the threat of antibiotic resistance (CDC, 2021). Other threats associated with insect infestations include dysentery, diarrhea, West Nile virus, St. Louis encephalitis, and equine encephalitis (Hribar & Schultz, 2010). In addition, cockroach infestations of nearby dwellings can lead to increases of asthma (Eggleston & Arruda, 2001).



## Chapter 4

### Health and Well-Being

#### Physical Health

With an understanding of industrial animal agriculture's environmental impacts, the associated threats to residential health must be considered. Physical health symptoms associated with CAFO pollution are generally respiratory-, sinus-, and nausea-related (Bullers, 2005). However, stress responses to a declining quality of life are correlated with lower immune function and, thus, also with reduced physical health (Bullers, 2005).

Such health degradations are not lost on those living in close proximity to factory farms. For example, the film *What the Health* provides the narratives of residents neighboring an industrial hog operation in Duplin County, North Carolina (Anderson & Kuhn, 2017). One resident, Rene Miller, attributes her asthma, sarcoidosis, sinus problems, and need for a pacemaker to the nearby swine operation (Anderson & Kuhn, 2017). She also believes that her neighbor's and nephew's cancers are the result of hog-farm pollution (Anderson & Kuhn, 2017). Her views are shared by other Duplin County community members as the area has absurdly high incidences of cancer and asthma (Anderson & Kuhn, 2017). A study of Duplin County residents revealed that the prevalence of cancer among adults was 8.3%, and that the prevalence of asthma was 10.4% among adults and 15.8% among adolescents (Wurth & Savitz, 2006). Such rates exceed national prevalence rates for these diseases, with asthma prevalence among adults and children sitting at 9.3% and 7.3%, respectively (Moorman et al., 2011).

## **Water-Pollution-Related Health Risks**

Contaminated water, resulting from animal agriculture pollution, can also cause adverse health outcomes. Ingesting water containing high nitrate levels and/or cyanobacteria can lead to stomach, bladder, esophageal, prostate, nasopharynx, uterine, brain, and non-Hodgkin lymphoma cancers (Burkholder et al., 2007). Drinking contaminated water is also associated with increased levels of hyperthyroidism and diabetes (Burkholder et al., 2007). Adverse reproductive outcomes, such as central nervous system malformations, neural tube defects, and spontaneous abortions, are additional effects of consuming water containing high nitrate levels (Burkholder et al., 2007). Infants given formula mixed with such toxin-contaminated water experience methemoglobinemia (i.e., blue-baby syndrome) and higher rates of diarrhea and respiratory disease (Burkholder et al., 2007). Additionally, absorbing low levels of antibiotics and pharmaceuticals contained in contaminated water over long periods may also lead to acute health effects (Burkholder et al., 2007). In addition, the hormones found in CAFO-contaminated water may mimic natural estrogens that influence breast and prostate cancers (Burkholder et al., 2007). Furthermore, those exposed to contaminated waters near CAFOs while swimming may experience diarrhea and gastrointestinal-tract distress due to waterborne pathogens if they accidentally ingest the water (Burkholder et al., 2007). And even dermal contact with contaminated water can lead to skin, eye, and ear infections (Burkholder et al., 2007).

## **Air-Pollution-Related Health Risks**

The consequences of CAFO-related air pollution include: chronic bronchitis; chronic respiratory symptoms; decline in lung function; organic dust toxic syndrome; inflammation of eye and respiratory tract membranes; olfactory neuron loss; chemical burns to the respiratory tract, skin, and eyes; severe cough; chronic lung disease; and, in some cases, death (Hribar & Schultz, 2010). One of the most researched symptoms of CAFO-related air pollution is asthma. In a study of two rural Iowa elementary schools, adolescents enrolled in a school close to a CAFO experienced 12.4% greater prevalence of asthma than those enrolled in a school that was not near a CAFO (Sigurdarson & Kline, 2006). Other studies have demonstrated similar results. In comparing the health of residents living 1.5 miles from a CAFO to the health of residents living 5 miles from a CAFO, a study found that those living within the tighter radius had 2.08 greater odds of self-reported nasal allergies, 2.72 greater odds of lung allergies, and 2.67 greater odds of asthma than those living within the more distant radius (Schultz et al., 2019).

Furthermore, rural communities where industrialized animal agriculture operations are often placed have unique barriers to healthcare, such as fewer healthcare facilities, fewer specialists, and poorer quality medical care (Weisgrau, 1995). And the providers in these communities may experience conflicts that result in them being less responsive to symptoms related to industrial activities in the region (Bullers, 2005). For example, doctors in small, rural towns may hesitate to ascribe symptoms to industrial pollutants because many patients are industry employees (Bullers, 2005). These patients may also hold political and/or economic power within the community, causing further hesitation in suggesting that the main industry is deleterious to health (Bullers, 2005).

## Mental Health

Residents of communities containing CAFOs and other large-scale animal agriculture operations also experience mental health sequela due to noxious odors emanating from these facilities, along with fears relating to declining quality of life (Bullers, 2005; Donham et al., 2007; Hribar & Schultz, 2010). Foul odors induce tension, depression, anger, and other negative emotional states (Hribar & Schultz, 2010). Neurological abnormalities may also arise from noxious odors, including impaired balance and memory (Hribar & Schultz, 2010).

In addition, stress responses that further damage physiological systems are triggered by living in proximity to a CAFO (Bullers, 2005). Utilizing the Hans Selye's Stress Adaptation Syndrome model, which explains how physiological responses to stressors may compromise the immune system and ultimately health, Bullers showed that stress limits individuals' ability to cope with additional strain, even when chronic stressors, such as pollution, do not directly impact physical health (2005). Applying Richard Lazarus' Cognitive-Transactional Theory, Bullers further explained how individuals interpret varying stressors and the degree to which they impact psychological distress (2005). In the case of CAFO-related stress, for example, the knowledge that hog feces is entering the respiratory system at the particulate level may increase the perception of its harmfulness, and, in turn, create more psychological distress (Bullers, 2005).

One study, based on interviews with North Carolina residents living near a swine CAFO and a control group of individuals who did not live near a swine CAFO, determined that living near an industrial hog operation negatively impacted psychological health. Using a quasi-experimental design, the study assessed participants' perceived control according to the Pearlin's Mastery Scale; levels of psychological distress were measured via the CESD Depression Scale (Bullers, 2005). The experimental group reported lower perceived control and higher levels of

psychological distress than did the control group, demonstrating that negative mental health outcomes correlated with declines in physical health (Bullers, 2005).<sup>8</sup>

One of the most threatening mental health consequences that arise from living in a CAFO-containing community is PTSD (Donham et al., 2007). Iowa residents living near high CAFO concentrations had significantly greater PTSD levels than residents living in low CAFO-concentration areas (Donham et al., 2007). These higher PTSD levels relate to fears of quality-of-life declines and reduced socioeconomic wellbeing (Donham et al., 2007).<sup>9</sup>

### **Quality of Life**

Large-scale animal agriculture operations pose significant negative impacts to quality of life for neighboring populations. These adverse effects include: elimination of rural idealism, inability to utilize outdoor spaces, interference with daily activities, bullying and harassment, and community conflict—among others (Anderson & Kuhn, 2017; Donham et al., 2007). The presence of such toxic facilities also decreases property values (Donham et al., 2007), which makes escaping the deleterious effects impossible for those among lower SES rungs. Several studies have confirmed the economic impact CAFOs have on surrounding property values (Donham et al., 2007). One study found 82.8% of residents living near a CAFO believed that their property values decreased and 92.2% of residents believed that odor was a significant issue (Hribar & Schultz, 2010). These concerns are valid, as the overwhelming smell of manure and decaying animal carcasses are highly undesirable; thus, homes located near CAFOs have lower

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<sup>8</sup> This study is given more weight, as other studies failed to separately model mental and physical health outcomes, causing the two to become conflated.

<sup>9</sup> This information was gathered using unpublished data (Donham et al., 2007).

property values and may not even sell (Ropeik, 2017). Research on the siting of hazardous-waste facilities shows the mean value of homes was \$17,301 less in communities containing a toxic facility compared to surrounding communities without such facilities (Bullard, 2000). Palmquist et al. conducted a study of house sales in southeastern North Carolina, finding that proximity to a large-scale hog operation decreased property values up to 9% (1997). Another model by Kim and Goldsmith estimated that nearby homes decreased in value by \$0.52 per hog at nearby swine operations (i.e., within 1 mile), or a \$5,200 reduction (-8.2%) per home (2009). Such losses are particularly damaging as property ownership has higher barriers for marginalized populations in the first instance, as demonstrated by blockbusting (i.e., vilifying minorities in an effort to persuade homeowners to sell their property below market value to then resell it at a higher value), redlining (i.e., refusing homeowner loans to people of color and low-income), and gentrification (i.e., affluent populations moving into low-income areas and revamping them in such a way that the area becomes inaccessible to current residents, thus displacing them), among other discriminatory real estate practices that enforce segregation and discourage property ownership by minorities (Castro et al., 2019).

In addition, rural identity is built upon the “values of freedom and independence associated with life oriented toward the outdoors” (Donham et al., 2007). Given noxious odors and pollutants, outdoor activities in CAFO-containing communities are curtailed, as foul odors, water contamination, and insect infestations make such endeavors unpleasant and/or unsafe. Residents in these communities may be forced to keep their windows closed due to odors, which, in turn, poses direct harm to those who do not have air conditioning during high temperatures, as well as imposes costs on those who do but would prefer to open windows (Hribar & Schultz,

2010). These quality-of life degradations tie directly to anxiety and PTSD, as discussed above (Hribar & Schultz, 2010).

The documentary *What the Health* provides insights into the personal experiences of North Carolina residents living in communities that are also home to hog farms (Anderson & Kuhn, 2017). Resident Rene Miller noted that spray-field operators intentionally spray hog waste during services in their family cemetery and when they have cookouts (Anderson & Kuhn, 2017). Another resident, Isaac Ward, stated that he cannot leave his house on Sundays to attend church without having to go back inside to change his clothing due to the intense odor of hog waste that lingers in the air and adheres to skin, hair, and clothing (Anderson & Kuhn, 2017). Thus, CAFOs disrupt the spiritual and religious activities of residents. Miller believes this to be a civil rights issue, while Ward suggests that the government does not care about their community or others like it (Anderson & Kuhn, 2017). Ward explained: “They care more about corporations than they do peoples, individuals” (Anderson & Kuhn, 2017, 40:56).

The quality of life of children residing near CAFOs requires additional consideration due to their developmental status and increased risk of physical and mental ailments. CAFOs interfere with typical childhood activities, including school attendance, social activities, and outdoor play (Hribar & Schultz, 2010). Families may be less inclined to allow their children to play outside because of intense odors, and this limitation may interfere with social development, as well as with the amount of physical exercise children get (Hribar & Schultz, 2010). Odors may also impact school attendance due to bullying resulting from odors penetrating clothing and the like (Hribar & Schultz, 2010). Physical health is also a heightened concern as children are more susceptible to poor air quality given their increased air intake, as children uptake 20% to

50% more air than adults; this intensifies the risk of pollution-related respiratory diseases, such as asthma (Hribar & Schultz, 2010; Mirabelli et al., 2006).

## Employment

Occupation within the livestock sector poses unique dangers, including: stigma, harmful workplace environments, engaging in destructive coping strategies, loss of meaning at work, and empathetic suffering—among others (Baran et al., 2016). Slaughterhouse laborers are not compensated for these social and emotional harms, with average annual salaries of merely \$28,450 as of 2018, placing them just above the federal poverty line for a family of four (*Slaughterhouse Labor*, n.d.). Because these jobs are deemed socially, physically, and financially “undesirable,” they are predominantly occupied by immigrants and people of color (*Slaughterhouse Labor*, n.d.). “The demographics for butchers and other meat, poultry, and fish cutters and trimmers nationwide suggest that approximately 35.4% of workers are Hispanic or Latino, 20.2% African American, and 8% Asian” (Cain et al., 2016). Thirty percent of these workers are born outside of the United States with many of them being undocumented, which poses challenges for communicating mistreatment and exercising legal rights (*Slaughterhouse Labor*, n.d.).

Considered “dirty work,” meaning “work that is undesirable, morally objectionable, or otherwise carries a stigma” (Baran et al., 2016, pp. 10), slaughterhouse labor is physically tainted as it requires close contact with feces, blood, death, and dangerous conditions (Baran et al., 2016). Moreover, it is socially tainted due to its association with animals and morally tainted due to the perception that killing animals is wrong (Baran et al., 2016). While some so-called “dirty”



jobs carry high levels of prestige and/or pay, such as medical practice, slaughterhouse work does not enjoy such occupational benefits (Baran et al., 2016). Occupational prestige acts as a shield from stigma associated with defiled labor (Baran et al., 2016). The interaction between occupational stigma and prestige contributes to workers' social identity. Thus, laborers in the slaughterhouse industry experience ambivalence, or worse, toward their identity because of their work-group membership in an occupation that has high stigma and low prestige (Baran et al., 2016).

Baran et al. categorized occupations based on dimensions of overall prestige and dirtiness to compare laborers' physical and mental wellbeing.<sup>10</sup> Slaughterhouse laborers were more likely to: consume alcohol on both weekdays and weekends, feel less rested in the morning after a day of work, have a lower likelihood of being able to do the same job in two years, and have a reduced ability to work due to illness and accidents (Baran et al., 2016). They also reported lower levels of meaning derived from their jobs than laborers in occupations with the same level of dirtiness and prestige (Baran et al., 2016). Such evidence suggests that there is something uniquely damaging about slaughterhouse labor beyond uncleanliness and lack of prestige (Baran et al., 2016). It has been theorized that these troubling outcomes result from the routinized, organized, and intentional killing of animals at the heart of slaughterhouse labor (Baran et al., 2016). This workplace focus on killing is also linked to violence toward humans, antisocial behavior, internal conflict, and empathetic suffering (Baran et al., 2016), which, in turn, sheds light on the increase in negative coping strategies, as well as physical and psychological strain, common among slaughterhouse laborers (Baran et al., 2016).

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<sup>10</sup> The work conducted by Baran et al. was done on Danish workers and may not be comparable to laborers within the United States. This work is still relevant to this thesis due to the theoretical analyses and similarities between slaughterhouse labor in Denmark and the United States.

Strongly linked with an increase in violent behavior, slaughterhouse labor is significantly correlated with “increases in total arrest rates, arrests for violent crimes, arrests for rape, and arrests for other sex offenses in comparison with other industries” (Fitzgerald et al., 2009, p. 158). Communities with average-sized slaughterhouses (i.e., 175 employees) experience a 2.24 increase in arrest rates, and the police reports are 4.69 times higher than in communities without slaughterhouses (Fitzgerald et al., 2009). These effects more than double in counties housing 7,500 slaughterhouse employees (Fitzgerald et al., 2009).<sup>11</sup> Labeled the “Sinclair Effect,” violent workplaces influence violence outside of such workplaces (Fitzgerald et al., 2009).

More obvious harms posed to slaughterhouse employees are workplace injuries. “The Food Chain Workers Alliance reports that 65% of meatpacking and food processing workers have been injured on the job” (*Slaughterhouse Labor*, n.d.). Blood-soaked floors, repetitive motions performed over long durations, and use of knives and industrial machinery lead to injuries that range from pulled muscles to amputations (*Slaughterhouse Labor*, n.d.). In 2015, the Occupational Safety and Health Administration exposed Tyson Foods as responsible for excessive workplace injuries resulting in amputation and hospitalization (*Slaughterhouse Labor*, n.d.).

Beyond workplace accidents and exposure to violence, slaughterhouse workers are also at increased risk of disease due to close contact between workers, the potential of broken skin barriers, and the presence of zoonotic pathogens (Tariq et al., 2019; Ursachi et al., 2021). For example, the hepatitis B virus (HBV) and the Rift Valley fever virus (RVF) have common animal reservoirs, including cattle, and can be transmitted horizontally to humans through blood

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<sup>11</sup> These effects are absent in comparison industries and were controlled for confounders, such as unemployment, demographics, and social disorganization, which supports the claim that slaughterhouse labor uniquely impacts violent crime (Fitzgerald et al., 2009).

and saliva (Tariq et al., 2019). This puts slaughterhouse workers at a heightened risk for these viruses if exposed to the blood of infected animals while simultaneously having broken skin barriers from workplace injuries (Tariq et al., 2019). Other common zoonotic viruses transmissible in the slaughterhouse are ecthyma, influenza, rotavirus, Newcastle disease, cowpox, coronaviruses, and Louping ill (Ursachi et al., 2021).

Characterized by crowded conditions, high humidity, low temperatures, contaminated surfaces and equipment, and organic materials, slaughterhouse environments accelerate transmission of disease (Ursachi et al., 2021). In the case of COVID-19, the low temperatures in slaughterhouses (i.e., between 4° and 10° C) caused condensation of exhaled air inside protective equipment, leading to improper filtration (Ursachi et al., 2021). These environmental conditions, along with the inability to social distance in this congregate workplace, enabled COVID-19 to spread rapidly (Dyal, 2020). In the short period between April 9, 2020, and April 27, 2020, alone, data reported to the Centers of Disease Control and Prevention by 115 meat and poultry processing facilities showed that approximately 3% of workers had COVID-19 and 20 died from the disease (Dyal, 2020).

## Chapter 5

### Who Bears the Burden?

The burden of animal agriculture is neither equally nor equitably allocated. Larry Baldwin of the Waterkeeper Alliance stated: “When you . . . look at where these hog facilities are located, there’s a disproportionate number of them that are located near communities of color—low-income communities—it is definitely a human rights issue” (Anderson & Kuhn, 2017, 38:17). This phenomenon is especially visible in Duplin County, North Carolina, where hogs outnumber humans by 32 to 1; with one of the world’s highest CAFO concentrations, the county has more than 500 hog operations (Kuo, 2015). Duplin County, among the poorest in North Carolina, is also home to a disproportionate number of Black and Hispanic residents (Kuo, 2015), which is not unusual for CAFO-containing communities. A study by The University of North Carolina at Chapel Hill found that minorities had a significantly greater likelihood of living within 3 miles of a CAFO than non-Hispanic Whites (Wing & Johnston, 2014). “The proportions of Blacks, Hispanics and American Indians living within 3 miles of an industrial hog operation are 1.54, 1.39 and 2.18 times higher, respectively, than the proportion of non-Hispanic Whites ( $p < 0.0001$ )” (Wing & Johnston, 2014, p.1). A study of Mississippi’s swine industry reached similar conclusions, determining that hog operations were located in areas with high percentages of African Americans and people living in poverty (Wilson et al., 2002). Specifically, census block groups with the highest percentage of African Americans included 64 of the 67 hog operations, while block group with the lowest percentage of African Americans contained no hog operations (Wilson et al., 2002). Furthermore, block groups with the highest

percentages of people living in poverty (i.e., 21.64-67.83% persons in poverty) contained 50 of the 67 operations, while the block group containing the lowest percentage of people living in poverty contained only 4 such entities (Wilson et al., 2002). And, when a hog operation was proposed in a wealthy region, lawmakers banned introduction of new hog farming entities (Kuo, 2015).<sup>12</sup>

Rural counties with lower SES, weak local governments, and a paucity of environmental and public health protections are targeted by industrialized animal farming operations as they lack the resources and the power to fight off massive corporations (Advocates, 2013; Wilson et al., 2002). The results are not only environmental degradation, reduced property values, and declining population health, but also deterioration of shared identity, trust, and democratic participation (Advocates, 2013). Plagued by lower property values and reduced tax bases, local governments are also further strained by exacerbated poverty, as regions with CAFO concentrations also have greater food-stamp reliance and more demand for governmental safety-net services (Advocates, 2013).

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<sup>12</sup> This occurred in North Carolina.

## Chapter 6

### Ethical Analysis

Given the disproportionate impact of large-scale animal agriculture on marginalized populations coupled with the aggressive tactics used by the industry in targeting the geographic areas in which these populations reside, the most pressing concern should be the industry's contribution to reifying systematized racial injustice. Systemic injustice is the structures, systems, and procedures that consistently disadvantage marginalized groups (Yancey-Bragg, 2021), resulting from ingrained biases in the United States that presently place and historically placed people of color and people of low SES at a disadvantage. The ethical theories that can be most readily applied to the current state of animal agriculture are social contract theory, rights theory, and principlism.

Social contract theory establishes how societies of self-interested individuals should arrive at just rules. Rights theory provides a means for ensuring such interests, especially when held by those in the minority who are particularly vulnerable, are protected. Considering *prima facie* factors, including respect for autonomy, nonmaleficence, beneficence, and especially justice, principlism is useful in properly allocating benefits and burdens. In tandem, these theories provide a framework for analyzing the current state of agriculture and its contribution to systematic racialized injustice, while also identifying potential solutions for amelioration.

## Social Contract Theory

The aim of social contract theory is to justify fundamental rules, laws, institutions, and principles of a just society through endorsement by free and self-interested members of that society (D'Agostino et al., 2021). Under such contracts, members of society relinquish some freedoms to gain certain rights and protections (D'Agostino et al., 2021). Giving rise to both rights and obligations, contractualism should improve the circumstances for each person under the social contract (D'Agostino et al., 2021). Contractualism's "veil of ignorance," under which society's rules are framed, serves to maximize both liberty and justice—with an eye toward protecting society's most vulnerable members (D'Agostino et al., 2021). It does so as individuals are unaware of their social standing when making contractual decisions, which ensures impartial judgment (Freeman, 2019).

With that framework in mind, the social contract related to the operation of the animal agriculture industry suggests that U.S. citizens would agree to the industry's concentrated harms in exchange for meat and meat products—even if they, themselves, might be subject to those targeted harms. This, however, is hard to imagine. Thus, in ethically examining the social contract governing industrialized animal agriculture, the main parties that should be considered are: residents living in proximity to these operations; consumers living away from the operations; corporations; industry employees; and the government.

As to citizens living near large-scale animal agriculture operations, the contract should be rejected on ethical grounds due to the disproportionate harms it imposes, without offsetting benefits. This is especially the case where it further marginalizes and reduces the wellbeing of those living in neighboring communities. If, however, these individuals believed *a priori* that the introduction of a large-scale animal agriculture facility would bring employment and other

economic benefits, they may accept the contract. However, both the studies and narratives set forth earlier in this thesis demonstrate that this is not the resulting reality.

Industry employees, subject to dangerous working conditions and stigma, may be unwilling to engage in the contract if they have other options. However, those lacking other employment opportunities and those limited by legal status would be willing to accept the contract, despite personal risk, reduced overall wellbeing, and low wages.

Regarding the willingness of consumers living away from animal agriculture operations to accept the contract, the ethical calculus would differ because they are not directly exposed to the industry's harms; thus, they would be much more likely to accept the contract as it provides access to desired food items at affordable pricing. Yet, this group may contain environmentalists, who would reject the contract based on the harms it does to the environment, contributing to climate change. This group may also include individuals who refrain from eating animal products for health, religious, or ethical reasons, causing them to either reject the contract or demonstrate indifference to it. Those interested in social justice may also decline the contract due to its harms to the marginalized communities of color.

Animal agriculture corporations, companies that utilize the industry's products, and their shareholders all have significant interests in the current contract, as it allows them to earn significant profits, minimize costs, and limit interference. The U.S. Department of Agriculture's Economic Research Service revealed that livestock and poultry alone bring in more than \$120 billion annually (United States Department of Agriculture Economic Research Service, 2021).

Because the government benefits from such economic stimulation, the government interests align, in part, with those of corporate entities. However, the government also has an



interest in mitigating the harmful impacts of animal agriculture, such as poor health, poverty, environmental degradation, and lowered property values and tax bases.<sup>13</sup>

Given these divergent interests, it is important to determine which should be weighted most heavily. To create a fair and just social contract, the veil of ignorance must be applied. In the case of animal agriculture, the veil of ignorance would, for example, cause individuals to consider the possibility that they would bear the burden of neighboring a CAFO without the privilege of relocating or the power to change their situation. If the contract were to be decided using this method, the current state of animal agriculture would be deemed unethical and, therefore, the contract would be rejected because it imposes the greatest burdens on vulnerable populations. Systemic mechanisms that leave people of color and low SES out of decision-making processes regarding the environment, their communities, and their own health corrupt the formation of social contracts related to industrialized animal agriculture, making such “agreements” a ruse at best—protecting profits of private industry and shielding affluent communities, while pandering to consumer demand for cheap products. Already vulnerable communities are targeted, as explained by the “PIBBY” phenomenon, which demonstrates society’s refusal to make an inclusive contract surrounding environmental matters and reinforces racialized social injustice. Thus, under contractualism, industrialized animal agriculture, in its current iteration is morally corrupt and ethically impermissible.

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<sup>13</sup> Poverty and poor health increase demand for government assistance in the form of Medicaid and food stamps, among other programs.

## Rights Theory

Rights theory is useful for achieving both environmental equity and justice in the case of animal agriculture. All individuals possess certain rights that require protection, and the protection of these rights is especially imperative for marginalized groups that fall prey to infringement and outright violation. Such is the case for those residing near CAFOs, as their rights are contravened in the interest of corporations, affluent and predominately White communities, and consumers demanding cheap animal products. Assessing the rights of those neighboring CAFOs not only reveals violations, but also provides a means to evaluate the legal remedies that can be established to uphold such rights.

Residents neighboring CAFOs possess legitimate interests protected by rights, including: the right to freely use and enjoy their property, the right to health and wellbeing, the right to information regarding the safety of their communities, and the right to have their voices heard in matters impacting their communities as members of society, among others. These rights—both positive (i.e., the entitlement to a provision of something) and negative (i.e., the entitlement of noninterference) in nature—trigger obligations of others. Thus, the protection of these individual rights requires action by animal agriculture corporations and multiple levels of government—whether that action be doing something or refraining from doing something.

The right to freely use and enjoy one's property is violated by CAFOs and other animal agriculture operations within communities, where these entities emit noxious pollutants into the air, water, and soil. The right of use and enjoyment is legally protected by nuisance laws, which entitle property owners to the undisrupted, quiet use of their property by prohibiting the owners of neighboring properties from engaging in actions that impede this right. Thus, this is a negative right, which obliges others to refrain from disrupting the free use and enjoyment of neighboring

parcels. In the case of industrialized animal agriculture operations, such as CAFOs, this means refraining from: omitting toxic and foul waste; generating noise pollution; creating conditions that attract and proliferate insect vectors; and the like. In the alternative, it means that corporate actors must ensure that their activities do not infringe on their neighbors' rights by instituting effective protective measures against such emissions—or moving to an isolated location.

In an effort to enforce the right of use and enjoyment, nuisance suits have been brought against large-scale animal agriculture operations, such as the previously discussed case against Smithfield Foods (Miller & Muren, 2019). While the suit resolved favorably for Smithfield Foods' neighbors, punitive damages were reduced (Miller & Muren, 2019). This result is due, in part, to other rights—specifically the right of defendants, such as Smithfield Foods, to be free of excessive punishment (Moncivais, 2020). In addition, other laws, such as right-to-farm legislation, exist to protect the interests of farmers. While the “basis of right-to-farm laws was to protect agricultural production activities at farms and to preserve farmland” (Centner, 2006, p. 6), this original intent has since been stretched to include factory farms. Nevertheless, large-scale farming operations are expected to abide by regulations and other measures in recognition of neighboring property owners' interests (Centner, 2006). Yet, as noted earlier in this thesis, such regulations rarely prove effective, defying rights theory. Such failures are particularly damaging to low-SES people of color in segregated, marginalized communities.

Another right, the right to health, has been recognized by the Universal Declaration of Human Rights (Bayefsky, 2000) and the World Health Organization; it entitles individuals to safe living and working environments, among other things (Bayefsky, 2000). Large-scale animal agriculture operations, however, deleteriously impact mental and physical health of already marginalized populations in their employ and in their vicinity. These harms are particularly

egregious because these individuals lack the resources necessary to either leave the situation or combat these harms (Weisgrau, 1995). Moreover, these hazardous exposures exact a greater toll on the marginalized due to pre-existing health disparities stemming from racialized systemic injustices, which are exacerbated by overlapping demographic intersectionality's of low-SES, minority race, and rural positionality.

Part and parcel of the right to health is the right to information regarding community health and safety (Bayefsky, 2000). To meet the obligations imposed by this right, the government must monitor health indicators and data, and make such data regularly available in a transparent and accessible manner (Bayefsky, 2000). This governmental responsibility necessitates inspection and monitoring of, as well as regulatory enforcement against, entities, such as CAFOs, that are known to impinge the health of employees, neighboring communities, and the environment (Bayefsky, 2000). This right, in tandem with the right to health, is violated by governmental inaction, where action is required, in the case of CAFOs (Miller & Muren, 2019). This failure impacts low-SES communities of color in rural areas as they do not possess resources to seek out such data and are also more likely to have lower levels of education and literacy, heightening the governmental obligation to disseminate accessible safety data (Cromartie & Bucholtz, 2008).

These detailed rights are especially important when held by marginalized communities that are oftentimes economically and politically disenfranchised by systemic injustices. Disenfranchisement occurs when barriers to participation leave minoritized communities vulnerable to bearing disproportionate burdens because of their limited power (*OHCHR / Equal Participation in Political and Public Affairs*, n.d.). These discriminatory barriers can be based on race, ethnicity, gender, and/or other social statuses (*OHCHR / Equal Participation in Political*

*and Public Affairs*, n.d.). In the case of those residing near CAFOs and other large-scale animal agriculture outfits, such discrimination prevents residents from bringing their grievances to the political sphere, having these grievances legitimized, and enforcing corrective action—or possessing the power to block such hazards from entering their communities in the first instance.

Because of conflicting rights among key stakeholders, legal loopholes, unmet governmental obligations, and the imposition of ongoing harm, and economic and political precarity, legal recourse, alone, has proven insufficient. Thus, additional ethical theories, such as principlism, must be utilized to advance justice.

### **Principlism**

Given the limited effectiveness of social contract and rights theory in dismantling the injustices foisted by industrialized animal agriculture upon adjacent marginalized populations, utilization of principlism is ethically necessary. Principlism, widely used in Western bioethics, allows for analysis through a lens of four *prima facie* principles that allows weighing and balancing of individual interests. It is specifically useful in assessing systemic environmental injustice, as it includes justice among its principles and, therefore, enables employment of various material principles of justice. The four facets of principlism are autonomy, justice, beneficence, and nonmaleficence (Beauchamp & Childress, 2001). When considering the disproportionate burden of industrialized animal agriculture on low-SES communities of color, these four principles guide ethical analysis.

## Autonomy

Autonomy exists when individuals possessing both agency and liberty act in a self-directed manner (Beauchamp & Childress, 2001). Autonomy requires recognition and respect through both action of and noninterference by others (Beauchamp & Childress, 2001). To be meaningfully exercised, autonomy requires both information and consent. “Consent . . . refer[s] to an individual’s actual choices, not to presumptions about the choices the individual would or should make” (Beauchamp & Childress, 2001, p. 66). For such choices to be exercised knowingly, options must be clarified, and other material information must be made available to the decisionmaker prior to the decision. In the case of industrialized animal agriculture, low-SES communities of color are offered neither the required information nor the ability to consent to the implementation of CAFOs.<sup>14</sup>

Paternalism, on the other hand, is the practice of people in power positions making decisions for others—arguably in the assumed best interests of those for who choices are being made. Such paternalism, in so-called weak form, is permissible where the persons for whom decisions are being made are unable to act independently or are controlled by outside influences (Beauchamp & Childress, 2001). Strong-form paternalism, on the other hand, is unjustified and usurps the autonomy of those who possess capacity to exercise autonomous choices (Beauchamp & Childress, 2001). When considering those negatively impacted by industrialized animal agriculture, a violation of autonomy becomes clear because exogenous actors impose decisions in a *de facto* manner on the marginalized despite capacity for informed and autonomous decision

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<sup>14</sup> Such informed consent—and refusal—has been exercised by predominantly White, more affluent communities, as made visible by North Carolina’s legal ban on CAFO implementation in response to concerns from a predominantly White, affluent community, despite similar concerns previously raised by predominantly Black, low-SES communities that resulted in no significant changes (Kuo, 2015).

making. Rather than presenting low-SES, communities of color with information and options regarding the potential move-in of toxic industries, corporate entities simply buy the land and place these operations in such communities due to low property values and lack of resistance. Moreover, such industries, including factory farming, dangle offers of community benefits in the form of employment opportunities, tax dollars, and economic trickle down. While not an overt exercise of strong-form paternalism, this approach acts in the same manner by taking advantage of ingrained systemic injustices that strip rural, low-SES communities of color and their residents of actively asserting self-determination. Neighboring residents' autonomy is further impaired, as they often cannot leave the targeted community following CAFO move-in because their ability to relocate is severely impacted by property value declines (Kim & Goldsmith, 2008; Pastor et al., 2001; Ropeik, 2017).

This violation of autonomy is furthermore a failure of weak-form paternalism, which should be exercised by government, given its duty to act in the best interests of the citizenry. An arguably justified exercise of weak paternalism in the case of marginalized communities targeted by industrialized animal agriculture would be enactment of laws prohibiting such operations due to their harmful impacts.

### **Nonmaleficence**

Nonmaleficence is the obligation to avoid inflicting harm or the risk of harm on others, which requires “*intentionally refraining* from [such] actions” (Beauchamp & Childress, 2001, p. 115). When considering industrialized animal agriculture and its impact on communities, nonmaleficence is violated, especially when vulnerable communities are intentionally targeted as

hosts for toxic facilities due to their lack of bargaining power. Communities containing CAFOs are not only physically and economically harmed by the consequences of pollution but are also harmed in that their autonomy is nullified. These harms extend to residents who must shoulder physical, mental, and economic impacts, and live with the aftermath that reinforces the systemic injustices and racism that already pervade their lives. Such violations of nonmaleficence are aggravated when industrialized animal agriculture facilities are made aware of their harmful impacts on the surrounding community and its members through complaints and/or lawsuits but refuse to institute effective ameliorative measures—other paying out settlements and/or judgments after appeals and dilatory practices. Governmental oversight bodies, including governmental agencies, courts, and legislatures, are complicit through their failures to enforce, enjoin, and regulate against such harms.

### **Beneficence**

Beneficence extends beyond the duty to refrain from causing harm or risk of harm; it represents the moral obligation to aid others (Beauchamp & Childress, 2001). Beneficence can be represented by positive beneficence and utility, where the former is the duty to do good and the latter is the obligation to balance expected benefits and potential drawbacks (Beauchamp & Childress, 2001). In the case of industrialized animal agriculture's burdening of marginalized communities, beneficence is utterly lacking, especially given the industry's intentional targeting strategies, lack of effective prophylactic protections, and resistance to remediation. Aware of this predatory approach, the government (including agencies, politicians, and other community leadership) has an unequivocal obligation to protect the communities through active



protections—such as barring entities entry in the first instance and closely regulating entities in the second. Even where leaders do not have the community resources to produce the highest levels of beneficence through creating enriched, healthful environments and economics due to cyclical patterns of poverty and low democratic participation (Advocates, 2013), they still have the obligation to shield residents and environments from further degradation.

Under beneficence, one could, of course, argue that industrialized animal agriculture operations do produce good by employing low-skilled workers who, otherwise, may not find employment and providing the world with a desired food source. However, the most apparent harms of these operations are localized to neighboring communities,<sup>15</sup> whereas benefits are much more widespread. In addition, employees experience significant risk of physical and emotional injury from unsafe and distressing work environments. Even the health benefits of animal-product consumption are debatable, as it is linked to cardiovascular disease and diabetes (Anderson & Kuhn, 2017). Thus, the industry perpetrates some level of harm on consumers, as well.<sup>16</sup> Resident of Duplin County, North Carolina, Don Webb states:

And they can say, “Well, we feed the world.” They’re not interested in feeding the world, they’re interested in making money. You take the money away from them, they’ll let the folks starve. Cause if you want to feed the world, you can feed the world with more corn, using corn and wheat and stuff like that than you can meat. Meat is a luxury item. When we are doing things that hurt other people, we are wrong. But a lot of good people will sit there and eat bacon knowing that it’s causing someone else to be very unhappy. (Anderson & Kuhn, 2017, 41:19)

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<sup>15</sup> The harms done to animals within animal agriculture is beyond the scope of this thesis.

<sup>16</sup> The nutritional value of animal products is beyond the scope of this thesis.

## Justice

While principlism's four *prima facie* principles are given the same weight, in certain instances, one principle may rise above the rest and be deemed overriding. This occurs when the ethical obligations related to that principle are more pertinent (Beauchamp & Childress, 2001).

In analyzing industrialized animal agriculture and its externalities on vulnerable populations, justice ascends to the fore as overriding because the fairness in distribution of benefits and burdens impacts already marginalized populations (Beauchamp & Childress, 2001). Such violations also constitute systemic injustice defined above as the structures, systems, and procedures that disadvantage marginalized groups consistently as a result of longstanding biases (Yancey-Bragg, 2021). Being disproportionately homed in marginalized communities where harms are concentrated but benefits are not represents a major injustice perpetrated by factory farming. The targeted placement of CAFOs suggests that low-SES communities of color and their residents are unequal to affluent, predominantly White communities and their residents. Rooted in the very beginnings of the country and the institution of slavery, racial discrimination still pervades society and its structural systems. Large-scale animal agriculture's pollution in undervalued Black communities is simply another example of the discriminatory "PIBBY" phenomenon. This pollution, then, is not only a case of injustice, but, rather, it is a case of both racism and classism that manifests as systemic injustice.

The principle of justice is not only helpful in identifying the problem at hand, but it is also useful in offering a framework for correction. Two justice-based solutions exist: (1) the deployment of reificatory justice, and (2) the application of material theories of justice. Reificatory justice (i.e., attempts to rectify wrongs) represents a duty to those who have been treated unjustly (Beauchamp & Childress, 2001). In the case of harms resulting from animal

agriculture, reificatory justice is served when factory farms pay neighboring residents for the burdens imposed upon them. While rare, rectification has occurred via lawsuits against the animal agriculture industry, as in the case against Smithfield Foods, which resulted in large payouts to CAFO neighbors experiencing quality-of-life declines due to nuisances created by the nearby facilities (Miller & Muren, 2019). However, this reificatory justice was undermined, as many awards were substantially decreased due to legal limits on punitive damages (Miller & Muren, 2019). For rectification to produce true justice, these awards would have to be much more common and irrevocable. Moreover, continued harm would have to be enjoined.

Likewise, material theories of justice offer potential means to achieve justice for marginalized populations affected by animal agriculture through societal reconfiguration. The current state of animal agriculture falls into a libertarian system of justice, which fails to produce justice for vulnerable populations as this model of justice focused on individual rights and supports a free-market (van der Vossen, 2019). To advance justice for marginalized groups, *egalitarian theories of justice* and *capability theories of justice* require consideration. The former tackles the systemic issues surrounding devaluation of certain communities based on their demographic composition. The latter tackles the specific limitations these operations pose to individuals and their realization of essential capabilities.

The current state of animal agriculture operates with a libertarian theory of justice, as individual freedoms in a free-market economy are valued (van der Vossen, 2019). This form of justice allows for goods and services to be freely exchanged, including animal products, with minimal marketplace limits (van der Vossen, 2019). Within this theory, self-ownership gives individuals the right to claim and own possessions, and to do with them as they please (van der Vossen, 2019). Animal agriculture in its current instantiation is supported by this theory, as it

relates heavily to right-to-farm laws and the freedom of choice over how to use owned resources. Libertarianism rejects obligations to help others, including vulnerable populations, such as those neighboring CAFOs (van der Vossen, 2019). Rather, libertarianism holds individual sovereignty to be of utmost importance (van der Vossen, 2019). As a result, this form of justice embodies autonomy and equality via individual rights rather than equity.

Egalitarian theories of justice, however, demand that individuals be given equal opportunities (Beauchamp & Childress, 2001). As such, it allocates resources to eliminate societal barriers and works toward rectification of unjustly assigned burdens and disadvantages (Beauchamp & Childress, 2001). It operates on the premise that people possess equal worth and are entitled to equal moral status (Arneson, 2013). In the case of animal agriculture, CAFOs placed in marginalized communities represent societal barriers that further undercut equal opportunity, as the targeting employed in locating these toxic operations fundamentally disregards the equality of residents who are often of minority status and low-SES. Animal agriculture prevents equal health outcomes, equal quality of life, equal socioeconomic outcomes, and equal political power. This is unjust when considering the disadvantages these communities already face prior to CAFO implementation. Thus, an egalitarian theory of justice would require that large-scale animal agriculture operations be removed from marginalized communities and that the harm they create be ameliorated.

Going further, capability theories of justice state that justice exists when people are free to attain wellbeing through achievement of their highest possible level of functionality (Robeyns & Byskov, 2021). While capability theorists suggest multiple definitions for the term capability, they generally agree that they are “freedoms that people have to achieve certain doings and beings” (Robeyns & Byskov, 2021). Philosopher Martha Nussbaum argues that 10 central

capabilities exist: (1) life; (2) bodily health; (3) bodily integrity; (4) senses, imagination, and thought; (5) emotions; (6) practical reasoning; (7) affiliation; (8) other species; (9) play; and (10) control over one's environment (Robeyns & Byskov, 2021). While systemic forces already limit the capabilities of marginalized populations, those neighboring CAFOs and other animal agriculture outfits are further limited in the realization of these capabilities. Namely, the capabilities of life, bodily health, bodily integrity, and emotions, play, and environmental control are all hindered by the presence of a toxic industry and the negative sequela that follow.

Because the realization of nearly each essential capability is thwarted in the case of those neighboring CAFOs and other animal agriculture outfits, this industry and the practices that allow them to exist in marginalized communities would be deemed unethical. Capability theories, however, also allow us to imagine what a just society would look like. Just societies would consist of communities in which all residents can reach their own maximum capability and functioning, and when paired with an egalitarian theory, would have the equal access to such capabilities. This is not possible with the presence of animal agriculture, as is seen with the numerous existing violations these operations cause.

## Chapter 7

### Recommendations and Potential Solutions

Viable solutions to correct the ethically faulty operation of the animal agriculture industry can be achieved through action at three different levels: (1) government action, (2) corporate action, and (3) individual action. The best course is tandem action by all three levels. While government and corporate action are vital to eliminating institutionalized oppression, these two entities have failed marginalized communities as protective measures already in place have been continually undermined and have proven insufficient. Therefore, pressure must be placed on these two entities to meet their duties of creating a just environment for marginalized populations. This pressure requires environmental activists to demand greater inclusivity. Moreover, given the limits on willingness and effectiveness of industry and governmental action, individuals also must act by assuming responsibility for the products they consume, as well as how they exercise their political action and will through voting and activism.

Despite previous failures, government entities can retrench and actively pursue strategies to mitigate industrial animal agriculture's impact on marginalized communities. Particularly, government actors must amend the CWA and CAA, as well as the administrative rules enforcing these laws, to target CAFOs and other large-scale animal agriculture operations as major threats to water and air quality, which in turn, imperil public health. Once amended, there must be the political will to enforce. In doing so, the government would hold corporations accountable for their environmentally toxic emissions.

The government also has a responsibility to subsidize ethically. Animal agriculture conglomerates are indirectly subsidized through feed-grain subsidies that encourage farmers to produce large quantities of corn and soybeans, which are the main feed sources used in factory

farming (Smith, 2019). These subsidies lower the price of feed inputs needed to produce massive quantities of meat and other animal products, saving industrial animal agriculture producers billions of dollars each year (Smith, 2019). “Between 1996 and 2005, industrial livestock facilities saved an estimated \$3.9 billion annually by buying discounted feed” (Smith, 2019, p. 48). These subsidies not only encourage the expansion of animal agriculture, but further lower the price of animal products (Smith, 2019). If these subsidies were removed, corporations would have to reassess operations, and consumer demand would decrease due to spikes in price. As a result, industrial animal agriculture operations would not expand further and may even contract.

Direct subsidies also exist to underwrite the production costs and market prices of animal products. In the United States, \$38 billion is awarded to the meat and dairy industry in the form of annual subsidies (Joshi & Param, 2016). This subsidy is especially hefty when compared to the subsidies for fruit and vegetables production (i.e., \$17 million annually) (Joshi & Param, 2016). Such governmental funding allows animal products to be sold at prices far below actual production costs (Joshi & Param, 2016). Removing these subsidies would drive the prices of meat, dairy, and other animal products up considerably, causing fewer people to purchase them at all or at current quantities. Lowered demand would reign in expansion, likely cause contraction, and, in turn, alleviate some of the hazards faced by marginalized communities neighboring these operations.

Taxation, at the consumer level, is an additional strategy. This tax would operate in much the same way as “sin taxes”, which attach to tobacco and alcohol. Sin taxes raise the price of “addictive, self-destructive, and socially undesirable [goods]” (Lorenzi, 2004, p. 60), to discourage their consumption. Taxing animal products in this way would discourage people from purchasing them. Taxation in this manner is justifiable, as animal products create socially

undesirable circumstances for those who are forced to bear their consequences. Applying sin taxes to these products would ameliorate some of the demand-driven ramifications of the industry faced by mainly marginalized communities.

In addition to compliance with regulation and unmasking the true costs of production, corporations can further alleviate their impact on marginalized communities by remedying the harms they have previously caused and are currently causing. This could occur through monetary rectification, which has achieved via lawsuits and settlements. In addition, they can opt to locate in unpopulated areas, where they would not directly impact human communities. Moreover, they can ensure that their emissions are greatly reduced through the installation of filtration systems or reliable waste-storage systems, among others. While these actions may not completely deter harms to marginalized populations, they would alleviate health burdens and quality of life infringements foisted upon neighboring communities.

While government and corporate action have potential to mitigate some of the disproportionate harm done to marginalized communities living nearby animal agriculture operations, individuals truly have the most power in fostering change. Those with the privilege of excess time could and should join inclusive environmental activism movements that pressure the government and corporations to act in responsible ways. This involves taking inclusive, anti-racist, and anti-classist approaches to environmentalism. The most powerful weapon possessed by individuals in the so-called “power of the purse.” Individuals, as consumers, drive demand, which has had the most profound impact on altering animal agriculture—making it the caustic behemoth it is today. Falling demand can help correct these wrongs. This requires lowering individual demand for animal products as a moral obligation to fellow humans. While the ultimate goal may be to dismantle industrialized animal agriculture, such a moral obligation can



be met by slowly reducing individual animal-product consumption over time. Health awareness, environmental awareness, and social justice awareness can drive modern trends, such as meatless Mondays, as can more radical shifts, such as adopting a vegetarian or vegan diet. Additionally, purchasing animal products from small, local animal agriculture operations diverts dollars from industrialized entities.

## Chapter 8

### Objections

The idea that the production and consumption of animal products needs to be regulated and reduced is contentious due to its pervasiveness within society. Objections focus on libertarian notions that individuals should be free to consume what they wish within their means within the operation of the free (or, at least, minimally regulated) market. Similarly, claims that property owners should be able to use their parcels as they choose and that the market should govern the best use of land exist. There also exist concerns that those employed by industrialized animal agriculture operations will be left without employment options if the level or model of production changes (Cain et al., 2016). Lastly, arguments cast doubt on the power of individual consumer decisions to reduce industry impact.

Freedom of choice in consumption is supported by libertarian theories that suggest justice occurs when individuals have utmost sovereignty (van der Vossen, 2019). In the case of industrialized animal agriculture, all individuals are believed to have equal access to animal products in the free market to the extent they have the resources and desire to purchase such products. Under this approach, people are also free to live where they wish as long as their resources allow. Both of these ideas apply to those neighboring CAFOs. The problem with this notion of justice is that it focuses on *equality* rather than *equity*, which fails to address the systemic disadvantages faced by rural, low-SES, racialized populations. It further fails to account for the unequal distribution of harms imposed by industrialized animal agriculture, which are largely localized to rural, low-SES people of color. Even the idea of equal access to animal agriculture products is contestable, as rural, impoverished, and predominately minority communities often lack access to goods and services due to food deserts, as well as the income

with which to purchase such items. They further are refuted the ability to relocate, undermining individual sovereignty yet again.

Echoing libertarian, free-market ideologies, the right to do as one wishes with one's property and the free-market notion that the "most valuable" use of land should prevail are often raised. Here, right-to-farm laws are often used to in support, overcoming nuisance suits brought against factory farms, despite the fact that these laws were enacted with small farming operations in mind. Here, also, one finds a fatal conflict within the argument between doing as one wishes with one's property and "most valuable" use.

Next, the argument that employees of the animal agriculture industry would be harmed if demand for animal products falls is perniciously built on sustaining systemic injustice, as these employees tend to be of minority status and live at or near the poverty line (Cain et al., 2016). Given the unique workplace risks that these employees face, more justice would be produced by dismantling this industry to allow for different industries associated with less risk to fill the gap. Because slaughterhouse employment is also associated with higher crime rates within communities, eliminating such jobs would produce the greatest good for communities, as well.

Finally, the discounting of individual action as insufficient to create change is often deployed. While individual contributions to lower demand are difficult to quantify, reducing meat consumption can be likened to other instances where individual action is necessary to produce greater good. Ben Jones offers an excellent response to those who believe individual action is inefficient comparing the choice of meat consumption to the choice of vaccination, as vaccines are most effective when enough people in society make the individual choice to obtain them in order to reach the herd-immunity threshold (Jones, 2021). In this instance, individual obligations to receive vaccinations exist to prevent the spread of infectious disease despite

producing minimal change at the individual level beyond personal risk mitigation (Jones, 2021). Jones argues that, although lack of vaccination and meat consumption both create instances of unintentional harm as they are indirect, members of society have a duty to avoid intentional harms to others, as well as to avoid unreasonable unintentional harms to others (Jones, 2021). An example Jones provides is the common and ethically supported practice of avoiding drunk driving. “Drunk driving rarely involves the intent to harm, yet we recognize a moral duty to avoid it” (Jones, 2021, p. 141). Nevertheless, it is only when a large number of individuals act that changes are noticeable and greater good is achieved. This does not mean that individual action is meaningless or insufficient, but rather, it is of utmost importance as it contributes toward an ethically desirable goal that relies on individuals making small sacrifices for the benefit of others. And each ethical decision by an individual is actually aggregate, rather than stand alone. This fact actually strengthens the argument for individual moral obligations to reduce animal-product consumption.

## Chapter 9

### Conclusion

The rising demand for animal products has caused the industry to respond with both tremendous expansion and concentration. With this rapid growth came attempts to regulate environmental impacts, but these efforts have proven hollow. As a result, degradation of water, air, and soil quality have accompanied expansion, which has largely been achieved through predatory incursions into rural, low-SES communities of color. This targeting has simply further marginalized the already marginalized via entrenchment of racialized systemic discrimination, as well as economic and political disenfranchisement, and environmental injustice.

When analyzed under social contract theory, rights theory, and principlism, clear ethical violations are present. The principle of justice within principlism, in particular, reveals the unjust nature of the animal agriculture industry while also providing solutions for achieving a fairer distribution of burdens. Specifically, current libertarian notions of justice, which focus on individuals and their right to participate in free-market transactions, are insufficient and should be replaced with egalitarian and, ultimately, capability theories of justice to hopefully achieve equity. Such approaches to justice should be advanced through a combination of government, corporate, and individual action. Governmental enactment and stringent enforcement of regulations, elimination of subsidies, and imposition of tax levies will drive the price of animal products upward, reducing demand to reflect true costs. Moreover, such governmental action will eternally force the industry to act in a more ethical manner. Decreasing individual animal-product consumption should also lower both demand and reduce harm to marginalized communities. Changes at all three levels are necessary to compel correction of unethical practices that exploit both the environment and marginalized populations.

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## ACADEMIC VITA

**Jessica Barth**

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### EDUCATION

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**The Pennsylvania State University**

*The College of Liberal Arts | Philosophy (Dual Major)*

*The College of Health and Human Development | Bio-Behavioral Health (Dual Major)*

Minor: Bioethics and Medical Humanities

**University Park, PA**

Expected Graduation: May 2022

Cumulative GPA: ██████████

**Schreyer's Honors College**

*Scholar*

Thesis in Bioethics: A Burger with a Side of Racism: Animal Agriculture Exacerbates the Systemic Injustice Experienced by Marginalized Populations Within the United States

**University Park, PA**

*September 2020—Present*

**Shenendehowa High School**

*Advanced Regents Diploma*

**Clifton Park, NY**

*Graduated June 2018*

### LEADERSHIP & ACTIVITIES

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**Alpha Lambda Delta Honors Society**

*Member*

- First-year academic achievements: 3.5 GPA or higher

**University Park, PA**

*April 2019—Present*

**The Roar Zone**

*Organizational Officer*

- Organized and maintained large crowds of students

**University Park, PA**

*October 2019—March 2020*

**Philosophy in Conversation Club**

*Member*

- Discuss relevant philosophical topics with my peers and attend lectures by guest speakers

**University Park, PA**

*September 2020—Present*

### VOLUNTEER EXPERIENCE

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**Penn State Dance Marathon (THON) 2019 & 2020**

*R&R Committee Member; Security Leader/Second Captain*

- Student-run philanthropy that raises money and awareness for childhood cancer through a 46-hour no sit, no sleep dance marathon
- Attended weekly meetings to prepare to serve as security and committee leader for the event

**University Park, PA**

*October 2019—January 2021*

**Undergraduate Teaching Intern | Principles of Epidemiology**

*Student Volunteer*

- Completed mandatory trainings in reporting child abuse, FERPA, and Clery Act
- Assisted professor in grading work done by students and hosted review sessions and office hours

**University Park, PA**

*August 2021- December 2021*

### HONORS & AWARDS

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- Dean's List: 7/7 Semesters