

## *Chapter 9*

# **Balancing Food Security and Ecological Resilience in the Age of the Anthropocene**

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Climate change increasingly impacts the resilience of ecosystems and agricultural production. On the one hand, changing weather patterns negatively affect crop yields and thus global food security. Indeed, we live in an age where more than one billion people are going hungry, and this number is expected to rise as climate-induced change continues to displace communities and thus separate them from their means of food production (Internal Displacement Monitoring Centre 2015). In this context, if one accepts a humancentric ethic, then the focus would be on addressing impacts to agricultural production, and thus food security (Borlaug 1997; Navin 2012). On the other hand, ecological resilience is also being impacted by climate change, as species go extinct or migrate due to fluctuating temperatures and shifting weather patterns. This reduction of resilience negatively impacts ecosystem services and the ability of the natural world to support life (Palmer and Larson 2014; Urban 2015). From an environmental holist perspective, then, one could argue that the ethical path would be to focus on reducing negative impacts to species and/or local ecosystems rather than increasing crop yields. Thus, there appears to be a tension between the prioritization of crop yields and the mitigation of ecosystem impacts. While this tension is well established in the agricultural literature (Kirschenmann 2010; Noll 2018), climate change exacerbates the situation, as agricultural lands are stressed and climate-induced migrations increase already high demands for foodstuffs, thus bringing the conflict to the forefront (Macdonald et al. 2015; Food and Agriculture Organization of the United Nations 2017a).

The aim of this chapter is to explore the tension between increasing crop yields and cultivating ecological resilience, in light of climate change, and to provide tools that may be helpful when making management decisions on the ground. Specifically, in the first section of the chapter I introduce readers

to the growing problem of human and nonhuman, climate-induced migration and how migration impacts food security. After that, I go on to apply ethical theories prominent in food security (both utilitarian and rights-based) and environmental ethics to the conflict, illustrating how dominant theories fail to resolve the dispute. I end by arguing that insights coming from food sovereignty movements could help resolve the tension, as they challenge agricultural paradigms and provide a blueprint for cultivating ecological resilience, as well as food-crops, in the age of the Anthropocene.<sup>1</sup>

## I. HUMAN MIGRATION AND FOOD SECURITY

While humans (and other species) have a long history of migration, climate change increasingly plays a role in population shifts (Gemenne 2012; Gregory 1991). In particular, “climate change impacts continue to be linked to environmental ‘push’ factors, such as extreme weather events and other slow-onset events,” including but not limited to desertification, rising sea levels, and drought (Noll 2017a, 25; Gemenne 2012). For the last thirty years, these environmental push factors have been recognized as among the most troubling ramifications of shifting weather patterns. In fact, Mark Angelo went so far as to argue that “as overwhelming as these migrations (due to civil war and oppressive governments) have become to many destination states and countries, it is forecast that these will be minute to what might take place in the next fifty years due to climate change events” (2017a, 1). In addition, the International Displacement Monitoring Centre claimed that from 1990 to 2000, climate change-related events displaced approximately 22.5 million people (2015). Today the international community largely accepts the position that environmental-induced migration is one of the most problematic ethical issues of the twenty-first century.

Specifically, climate-induced migration is pressing because of its connection to human conflict and global hunger (United Nations High Commissioner for Refugees 2017). Since at least the 1980s, prolonged conflicts were linked to global hunger, as these can be understood as “extreme push factors,” or events that forcibly displace people. Furthermore, slow-onset events (such as rising sea levels and desertification) and other climate shocks have been linked to human conflict (Food and Agriculture Organization of the United Nations 2017a). One could argue that climate change is linked to environmental push factors that are, in turn, related to an increase in conflict events and migrations, all of which connect to global hunger. More directly, the World Food Programme (2018a) argued that extreme weather events and “long-term and gradual climate risks” exacerbate the risk of malnutrition and hunger. With 702 million people living in extreme poverty (World Bank 2017) and

793 million people undernourished (Food and Agriculture Organization of the United Nations 2017b), even minor climate changes would cause an increase in hunger worldwide, especially in rural areas that bear the brunt of conflict, migration, and slow-onset events (Food and Agriculture Organization of the United Nations 2017a).

### **Environmental Effects and Migration**

The above analysis primarily focuses on humans. However, the effects of climate-induced push factors are not limited to the human species. Indeed, there is a growing literature on nonhuman environmental migration (Urban 2015; Thomas et al. 2004; Tingley et al. 2009). Like us, other species respond to environmental “push” factors, including extreme weather events and other slow-onset events, by migrating to new areas (Angetter et al. 2011, Palmer and Larson 2014). Additionally, they respond to “pull” factors or features that entice individuals to migrate, such as an abundance of water, food, and/or habitat (Gemenne 2012). In ecology, “this is frequently described as species following their ‘ecological niches’ or ‘climate niches,’ which can approximately be defined as the identifiable limits of a species’ range or the range in which a species can flourish” (Palmer and Larson 2014, 641). In contrast to annual migrations, climate-induced species migrations are caused by environmental shifts that are not part of (or disrupt) “seasonal” behavioral patterns. As can be seen today, a plethora of species are shifting their ranges in response to environmental push and pull factors (Botkin et al. 2007; Bellard et al. 2012).

Like climate-induced human migration, these movements are troubling as they are correlated with species loss. Environmental stress factors such as habitat destruction, the reduction of wildlife corridors, and food and water scarcities are pushing a wide range of species to the brink of extinction (Bellard et al. 2012; Noll 2017b; Food and Agriculture Organization of the United Nations 2016). In fact, “one influential review predicts that, depending on the rate and magnitude of planetary warming, up to 35% of the world’s species could be on the path to climate-driven extinction” (Minteer and Collins 2010, 1801; cf. Thomas et al. 2004). More recently, Urban argued that “if we follow our current, business-as-usual . . . , climate change threatens one in six species (16%)” (2015, 571). While the numbers of extinctions could vary depending on contextual factors, even a relatively small reduction (especially of keystone species) could impact biodiversity levels (Botkin et al. 2007; Bellard et al. 2012; Palmer and Larson 2014) and thus ecosystem resilience. When stressed, ecological processes and structures are maintained by diverse species that perform overlapping and redundant functions (Peterson,

Allen, and Holling 1998). As such, they reinforce ecological regeneration and renewal over a wide range of scales.

As biodiversity levels are reduced, ecological processes are thereby threatened, thus negatively impacting ecosystem services (Nelson et al. 2013). This reduction is problematic, as ecosystem benefits include “provisioning services (production of foods, fuels, fibers, water, genetic resources), cultural services (recreation, spiritual and aesthetic satisfaction, scientific information), and regulating services (controlling variability in production, pests and pathogens, environmental hazards, and many key environmental processes)” (Perrings 2010, 2). While this list includes a wide range of activities and services, it is important to note here that several could threaten the processes that agricultural practices are reliant upon (Nelson et al. 2013). A 2015 EPA report stated that climate changes are already negatively impacting our ability to raise food animals, grow crops, and catch fish using the same methods as those used historically (United States Environmental Protection Agency 2015, 1). In short, the loss of biodiversity impacts (1) ecological resilience and the (2) systems that food production is built upon. Beyond food production, as species go extinct or migrate due to fluctuating temperatures and shifting weather patterns, this reduction impacts the ability of the natural world to support life.

The above analysis illustrates how climate-induced migration could harm both human and animal communities.<sup>2</sup> Push and pull factors displace humans, increase instances of conflict, and exacerbate already high levels of global hunger (United Nations High Commissioner for Refugees 2017). Species migration, on the other hand, reduces the resilience of the ecosystems that we rely on for a wide range of services, from cultural to provisioning benefits (Perrings et al. 2010). In this context, it may be difficult to determine priorities, as one weighs the importance of increasing crop yields in order to help ensure food security, against the mitigation of harms to migrating nonhuman species, biodiversity levels, and ecosystems.

With approximately 702 million people living in extreme poverty and 793 million people undernourished, it is relatively easy to accept the position that we need to increase crop yields in order to “feed the world.” In fact, according to Marion Guillou, the chief executive of France’s National Institute for Agricultural Research, agricultural researchers are mobilized and working to address global hunger by strengthening the productivity of farms, reducing waste, and genetically engineering crops to thrive in changing conditions (Butler 2010). Additionally, Norman Borlaug (1997), the father of the Green Revolution, argued that “in the not too distant future ... I predict that many environmentalists will embrace GMOs (and other industrial technologies) as a powerful ‘natural’ tool to achieve greater environmental protection” and sustainably produce enough food to feed a growing population

(3). These strategies primarily focus on increasing the productivity of land already in production (through the modification of crops or methods of production), while simultaneously better utilizing the food we produce. In the context of agri-food systems, “resilience” is often defined as “maintaining production of sufficient and nutritious food in the face of chronic and acute environmental perturbations” (Bullock et al. 2017, 880).

In contrast, other scholars focus on protecting and/or improving contributions from ecosystem processes and supporting systems, as they are crucial for ensuring the sustainability of food supplies and ecosystem resilience (Bizikova et al. 2016; Chapin 2009). Both providing support to local small-scale farmers (de Bres 2017) and organic production methods (Barnhill et al. 2017) are seen as potential ways to achieve these goals and, thus, to limit negative impacts of agricultural production.<sup>3</sup> The argument is usually constructed as follows: Local food is better for the environment. Therefore, we must “buy local” (de Bres 2017). However, by design, local food systems are often less productive than conventional agriculture, as farmers tend to utilize smaller parcels, especially in urban and suburban areas. This leads supporters of industrial agriculture to draw the conclusion that increasing production to “feed the world” should not be prioritized. Indeed, Fred Kirschenmann (2010) goes so far as to question whether or not feeding the world is the right question, as what we feed the world, how long we can feed the world, and in what context we can feed the world are important factors that also need to be weighed.

Thus there appears to be a tension between increasing yields and supporting ecological resilience. With climate change exacerbating the situation, as agricultural lands are stressed and climate-induced migrations expand demands for foodstuffs, addressing this conflict becomes ever more imperative. The next section of this chapter identifies and explores ethical frameworks guiding the above discussions. Specifically, it provides a detailed analysis of ethical theories’ guiding arguments for (1) increasing food security, (2) prioritizing the reduction of environmental impacts, and (3) mitigating animal and/or species loss. While this third position was not explicitly discussed above, impacts to nonhuman others often factor into larger environmental arguments. Yet, as we will see, they are built on markedly distinct ethical foundations. This analysis will also illustrate how (1) proponents of each approach would potentially address the above conflict and (2) the application of dominant theories fails to resolve the dispute. The analysis could prove useful, as producers, policymakers, and other stakeholders determine if they should prioritize food production or ecological resilience. However, before providing a detailed analysis of the values motivating food security arguments, it is imperative to define our terms, or what is meant by food security.

## II. FOOD SECURITY AND AN ANALYSIS OF KEY ETHICAL FRAMEWORKS

The term “food security” was originally coined during international policy and development discussions that occurred during the 1970s (Maxwell 1996). The initial definition primarily focused on food supply, or the ability for people to access resource bundles at stable prices in both national and international contexts. For example, the 1975 World Food Conference report states that food security is the “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” (Maxwell 1996, 14). During the 1980s, the definition expanded to include access at the household and individual level (World Bank 1986), as well as temporal and contextual dynamics of food insecurity (Food and Agriculture Organization of the United Nations 2006a). By the 1996 World Food Summit, food security encompassed a wide range of issues concerning food access, availability, utilization, stability, and risk management, among others. As this brief sketch illustrates, international communities gradually moved away from the position that food insecurity is an issue of crop failure and, instead, began to adopt a more nuanced understanding where obtaining food is dependent on a wide range of social and political forces (Food and Agriculture Organization of the United Nations 2006a; Devereux 2006).

This developmental trend continued, as policymakers and development ethicists turned their attention to the human rights dimension of food security. While the “right to food” is not new, as it was first discussed in 1948 (in the UN Declaration of Human Rights), a rights-based approach came to prominence in the 1990s. Specifically, “in 1996, the formal adoption of the Right to Adequate Food marked a milestone achievement by World Food Summit delegates” (Food and Agriculture Organization of the United Nations 2006a). Today over forty countries recognize their citizens’ right to food and, in 2004, the Food and Agriculture Organization of the United Nations (FAO) put together an international working group with the goal of providing a set of guidelines to realize the right to food in the wider context of national food security policy. Thus it appears that there are at least two distinct positions taken up during food security discussions: one that focuses on issues of distribution (access, availability, price stability, etc.) and another that highlights individuals’ right to food.

When placed in this context, it is not surprising that scholars adopted the position that solving problems associated with food security is “not only a technical challenge but also a problem of fundamental ethical values and political will” (Lopez-Gunn et al. 2012). In fact, Lopez-Gunn et al. (2012)

have gone so far as to argue that wider utilitarian concerns, or those aimed at utilizing scarce resources so as to bring about the greatest good for the greatest number, need to be balanced with “intangible values.” Two prominent ethical frameworks they identified and highlighted are utilitarianism and the rights tradition. Interestingly, they intentionally collapse rights-based concerns with issues of just distribution, and label both utilitarian. While moral considerability certainly plays a role in larger utilitarian-based ethics, both utilitarian and rights-based ethics are unique ethical positions that sometimes provide conflicting recommendations (Rachels and Rachels 2014). Thus, our analysis of the ethical frameworks guiding food security initiatives should include an overview of both.

### **Utilitarianism and the Rights Tradition**

In his analysis of agricultural policy, Thompson argues that utilitarian-based arguments in this context include “the doctrine of allocative efficiency as the norm for effective resolution of conflicts” (1996, 194). This doctrine combines “the a) utilitarian maxim (‘right’ action is the one that produces the greatest good for the greatest number) and b) the allocative efficiency mandate (that resources should be distributed so that their utility is maximized) in order to bring about the just distribution of goods” (Noll 2017a, 25; cf. Anderson and Leal 1991). For those espousing a utilitarian position, the good of the many outweighs impacts to the few. Thus, for a utilitarian, rights play a limited role in decisions. Instead, the most effective use of resources takes priority.

For example, from this position, one could argue that (1) minimizing food waste (to improve current utility) and (2) increasing yields (to improve future utility) would benefit the greatest number and thus is the ethical thing to do. Arguments defending industrial methods of production (to increase the productivity of farmland) often includes a utilitarian component (Thompson and Noll 2017). For example, Norman Borlaug takes it for granted that it is ethically imperative to develop agricultural technologies that could feed “a world of ten billion people” and growing (1997, 4). In this way, utilitarianism at least partially guides those working to achieve food security.

However, food security initiatives can and are also guided by a rights-based ethic. As discussed above, food security is achieved “when all people at all times have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996). While this at least implicitly includes the utilitarian goal of maximizing the distribution of resources so as to ensure that all humans have access to food, it is also often framed as a “right to food” or “freedom from want” in global development literature (Lopez-Gunn et al.

2012). According to Lopez-Gunn et al. (2012), “a rights-based approach to development starts from the premise or ‘signal’ for all global actors of the need to secure the human right to water and sanitation, and the human right to food” (89). This shift moves the ethical conversation beyond the mere distribution of goods. Instead, it is built on a different ethical foundation grounded in the intrinsic value of humans, which entails both direct and indirect duties (Korsgaard 2014). As Beauchamp (2014) argues, while utilitarianism places ethical importance on mental states (such as desires, pleasures, and pains), rights-based approaches value the human themselves. As such, human rights are not tradable and cannot be violated in the name of distribution to benefit the greatest number.

### **Environmental Ethics**

Thus, while food security policies utilize both utilitarian and rights frameworks (Lopez-Gunn 2012), they could provide fundamentally incompatible recommendations. With this being said, however, as food security largely concerns the availability of resources and who has access to these resources, it is understandable that the guiding ethical frameworks in food security are those that can be used to determine what constitutes the just distribution of resources (utilitarianism) and what positive and/or negative duties should guide this distribution (rights approaches). This discussion predominately limits its scope to impacts on humans, as it focuses on food-access or human entitlements to commodity bundles (Devereux 2001). However, philosophers continue to make strong arguments for placing ecosystems, individual animals, and/or entire species into the moral sphere (Norton 1991). For example, deep ecologists, such as Arne Naess (1973), and ecofeminists, such as Karen Warren (2000), support the position that the natural world does not exist solely for the use of humans but has intrinsic value (Norton 1991).

This difference illuminates a larger tension between human-centric concerns and what Lopez-Gunn et al. (2012) call “intangible values,” or larger environmental impacts that arise when trying to ensure food security. As Aiken argues, “since agriculture causes environmental damage as a result of growing food to feed people, there seems to be a still to be resolved conflict between human needs and environmental integrity” (1984, 258). Similarly, Vaux (2012) illuminates disparate trade-offs concerning agricultural and environmental uses of land that occur across multiple scales. These trade-offs or conflicts include impacts beyond the human sphere, or those that impinge upon larger ecologies and the nonhuman communities that make up these ecologies. Trade-offs (such as a reduction in biodiversity levels, the disruption of annual migrations, etc.) often prompt arguments to prioritize



ecosystem resilience and wider environmental sustainability (Bizikova et al. 2016; Macdonald et al. 2015).

If the ethical sphere is expanded to include ecosystems and/or biotic communities, then wider environmental impacts also gain ethical importance. Such “biocentric” arguments make use of two distinct yet intertwined philosophical frameworks: (1) ethical individualistic approaches and (2) ethical holist approaches. Reed discusses this tension when she argues that “unfortunately, the environmental ethics underlying public policies and public debate are often cast in terms of a dichotomy between ethical holism, preserving nature as self-sustaining ecosystems, versus ethical individualism, protecting the welfare of individual animals” (2016, 278). More generally, since the 1980s, environmental philosophers, such as Callicott (1980) and Jamieson (1998) have been discussing the ways these two approaches are distinct and how they recommend markedly distinct solutions to problems.

The most prominent ethical individualist approaches (concerning non-human animals) often share the following basic structure: They begin with the argument that nonhuman others have a specific capability (be that consciousness, the ability to suffer, to lie, etc.) that places them in the ethical sphere (Palmer 2010). After that, the theorists apply specific ethical theories (such as utilitarianism, rights theory, virtue ethics, feminist care ethics, etc.) to ethical questions, modifying them so that they can be used to guide action in human-animal contact zones. While my intention here is not to re-create every ethic in this large and growing literature, if one accepts the basic claim that animals have intrinsic value, then one could argue that we have a duty to help mitigate the animal-focused impacts of climate change. Depending on which individualistic framework one applies, ethical concerns associated with climate change could include issues related to animal suffering (Singer 2009), negative welfare impacts, the inability of nonhuman others to meet their needs or to achieve their *telos* (Rollin 1995), and the like.

In contrast, holist or ecological ethics begin by embracing the following basic starting point: that we should expand the definition of “ethical patient” to include the surrounding biotic communities and the ecosystems they comprise. For example, Aldo Leopold, one of the founders of environmental philosophy, argues that his land ethic “simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land” (1968, 62). More recently, environmental philosophers, such as Arne Naess (1973) and Baird Callicott (1989), expanded Leopold’s view into what is now called biocentric egalitarianism or biocentric holism, or the view that inherent value should be extended to all living things, including the biosphere. This position stands in marked contrast to the anthropocentric frameworks guiding food security, which primarily value human lives.

Biocentric individualist approaches and biocentric holist approaches also come into conflict, as placing emphasis on preserving nature as self-sustaining ecosystems can sometimes require that the lives of individuals be forfeited. For example, the overpopulation of a specific species, such as white-tailed deer in New England, may degrade the larger ecosystem to the point where basic functions are compromised. In this situation, the biocentric holist may argue that we need to bring the system back into balance and thus cull, provide contraception, or move some of the deer. Depending on which individual ethic one ascribes to, one could argue that each of the above solutions would be problematic. In the context of utilizing agricultural land to support the larger environment, similar conflicts could arise when deciding to shift production methods to support biodiversity levels, provide wildlife corridors, or provide habitat for a specific species.

The above analysis illustrates three distinct ethical approaches that can be drawn on to potentially address the tension between increasing yields and supporting ecological resilience: (1) Human centric ethics used to ground food security arguments, (2) ethical individualist approaches that have been expanded to include nonhuman animals, and (3) holist or ecological ethics that place ecological communities in the ethical sphere. However, each of these ethical frameworks will give us markedly different recommendations concerning which goals should be prioritized. For example, humancentric ethics have been used to support the position that we should prioritize food security, while both environmental ethics support shifting our focus to ensure wider ecological resilience and thus to reduce impacts to ecosystems or nonhuman animals. Within this second category, there is a tension between prioritizing individuals or larger ecological communities, which could also produce different recommendations, depending on which perspectives one adopts.

As climate change continues to reduce the productivity of our already strained agricultural lands and expand demands for foodstuffs, it is imperative that we find a way to balance the need to achieve food security and to maintain ecological sustainability for the long term. With this aim in mind, which ethical framework should be prioritized? It appears that each illuminates important ethical aspects of food production and distribution in light of a changing climate. When we focus on the numbers of people going hungry around the world and recognize that people (including ourselves) have certain rights and responsibilities, it appears that the ethical intuition to help those in need is justified (Singer 2009). Additionally, when we couple the information that ecosystem services and/or communities are being threatened with a larger holistic ethic, the position that we should prioritize reducing impacts to the larger environment also appears to be justified. However, this places us back at the starting point, where the dispute is not readily resolved. In fact,

the tension between human-focused ethics, animal ethics, and holistic or ecological ethics is well known in the environmental ethics literature (Callicott 1980; Jamieson 1998). Despite over twenty years of scholarly work, the incompatibility of these frameworks has not been resolved. Thus, the ethical positions illuminated in the above analysis appear to bring us no closer to addressing the tension between the prioritization of food security and the mitigation of ecological impacts.

### III. A NOVEL SOLUTION: FOOD SOVEREIGNTY FRAMEWORKS

In light of this dilemma, decision-makers have two options: (1) they can adopt the position that the impasse is unresolvable, or “agree to disagree,” or (2) they can turn to another ethical framework equipped to help them weigh important, yet distinct, ethical components that arise when making difficult decisions. Unlike the food security and ecological positions detailed above, food sovereignty movements are built on claims that food access should be balanced with a wide range of other ethically important issues, from the empowerment of communities, to the mitigation of environmental impacts. For such movements, “food” is more than a commodity that needs to be better distributed; it is intertwined with culture, place, and identity (Murdock and Noll 2015). Desmarais captures this point eloquently when she discusses the significance of La Via Campesina:

This place-bound identity, that of “people of the land,” reflects the belief that they have the right to be on the land. They have the right and obligation to produce food. They have the right to be seen as fulfilling an important function in society at large. They have the right to live in viable communities and the obligation to build community. All of the above form essential parts of their distinct identity. (2008, 138–49)

As this quotation illustrates, food sovereignty movements incorporate several of the ethical frameworks discussed above. For example, they marshal rights-based arguments when they include the “*right* of people and countries to define their agricultural policy” as part of the definition of food sovereignty. While not utilitarian, they also incorporate conceptions of “just distribution” when they advocate that food products and production should be organized “according to the needs of local communities, giving priority of production to local consumption” (Schanbacher 2010, 98). Finally, they recognize that a wide range of other issues (beyond individual needs) should be included as part of achieving food sovereignty. According the Declaration of Nyéléni

(2007), these clearly include but are not limited to ensuring long-term sustainability, environmental health, high levels of biodiversity, and local participation when making decisions.

Even this cursory analysis illustrates how food sovereignty movements utilize an ethical foundation that is flexible enough to weigh a plethora of concerns that arise in the context of food production, rather than myopically focusing on human or ecological-centered impacts. In fact, Murdock and Noll argue that “food sovereignty movements largely accept a more holistic justice paradigm that includes a wide range of social concerns and rights claims [beyond human interests]” (2015, 57). They continue their analysis, arguing that food sovereignty movements “hold broadened conceptions of who or what is an ‘ethical patient’ to include future generations, ecosystems, and biotic communities. They are community focused, place-based, and seek to address racial and gender injustices” (58). This justice paradigm expands rights-based arguments, and paradigms concerning what constitutes “just distribution,” to incorporate wider social and environmental concerns. As such, food sovereignty advocates appear to simultaneously recognize the importance of human rights while extending the moral sphere to encompass the wider environment.

For these reasons, I argue that the justice paradigm at the heart of food sovereignty movements could help resolve the tension between food security and ecological resilience, as it provides an ethical framework useful for cultivating both ecological resilience and food-crops in the age of the Anthropocene. Specifically, the above analysis of food sovereignty movements illuminates a pluralistic ethic at their heart, or a framework that recognizes a wide range of ethical positions and normative values (see, also, the chapter in this volume by Robaey and Timmermann). In contrast to absolute ethics that prioritize a single ethical theory (such as utilitarianism), the strength of pluralistic frameworks (such as the one guiding food sovereignty movements) includes the following: they (1) recognize and value different positions, (2) provide the tools necessary to weigh these against one another, and (3) place the responsibility of coming to a decision on those in the context where the problem exists. Due to these strengths, this approach could potentially help to bring disparate stakeholder groups together, rather than freezing debates, and so nudge community and policy groups towards consensus.

In reply, one could argue that adopting an ethical framework that recognizes competing claims does not address the conflict, as recognizing that there are conflicts does not mean that we have the tools to resolve these adequately. However, this objection presupposes that an ethic should provide the tools necessary to choose between competing claims, regardless of the context where conflict is situated. This is not necessarily the case, however, as pluralistic frameworks are built on the premise that contextual factors

often influence which ethical concerns gain prominence. For example, when addressing medical issues, contextual ethics, such as principlism, are regularly used precisely because they capture the nuanced value dimensions of complicated situations (such as during end-of-life care) where stakeholders often hold disparate positions. Principlism, in this context, provides the vocabulary necessary to adequately communicate the values (autonomy, beneficence, etc.) at the heart of the conflicts and frames discussions concerning which values should be prioritized. Rather than providing a single answer to debates, then, the goal of pluralistic ethics is to develop a public language to frame discussion and to help resolve contextual/time sensitive disputes when action is necessary.

When applied to the conflict between prioritizing food security or ecological resilience, I argue that food sovereignty movements provide the vocabulary and flexibility needed to weigh adequately both humancentric and environmental factors. This is due to the fact that they utilize a holistic justice paradigm that provides space for weighing distribution claims and rights-based arguments and broadens the concept of “ethical patient” to include the environment, thus placing ecological concerns on the ethical table, so to speak. During the decision-making process, then, this holistic paradigm ensures that each of these concerns is recognized as having ethical significance. Even if one position is ultimately prioritized over the other, what this does is create the space to have further discussions concerning how negative impacts in that sphere could be mitigated. It also provides the insight necessary for understanding the ethical price that we may pay when one framework is prioritized over another. For example, when utilizing a food sovereignty framework, the choice to sacrifice long-term ecological sustainability for short-term production gains would only occur after a deliberate weighing of the consequences of this action. As such, stakeholders will be pushed to weigh the costs and benefits of the prioritization of food security over ecological resilience or vice-versa, thus helping them make a more informed decision.

## CONCLUSION

In an age where climate change is increasingly impacting a wide range of human activities and environmental systems, it is necessary to have an ethical framework that can help us weigh the costs of our decisions when there is no “good” answer or perfect fix. From a food sovereignty position, human-centered impacts, such as impeding agricultural production and food security, and ecological impacts, such as reducing biodiversity, undermining ecosystem resilience, and exterminating species, are ethical issues that the

community needs to address. In certain circumstances, communities may have to prioritize one over the other to survive, but this does not negate the fact that we should also be working to mitigate harms in the other areas. The seemingly simple act of recognizing the ethical importance of the myriad issues that are encompassed by food sovereignty concepts of justice helps to undermine myopic human-centered food security and agricultural paradigms. It forces decision-makers to weigh the heavy costs of their choices, in particular, and of decision-making, in general, in the age of the Anthropocene.

## NOTES

1. The “Anthropocene” is often defined as the current geological epoch, where human beings are conceptualized as a “blind” planetary force, irrespective of reason, that impacts Earth’s biodiversity, geology, and weather patterns on a massive scale (Grusin 2017). In contrast to earlier epochs, human activities (such as urbanization, colonization, and resource extraction) are permanently scarring the planet. This led Eugene F. Stoermer to coin the term “Anthropocene” in the early 1980s. However, other scholars, such as chemist Paul J. Crutzen, were responsible for popularizing the term and bringing it to public attention. For more information, see Richard Grusin’s (2017) historical sketch of the term in *Anthropocene Feminism*.

2. In fact, as such migrations are the result of climate changes, one could also argue that the migrations themselves are harms, as they force species out of their typical ranges and/or traditional migratory patterns.

3. Negative impacts of industrial production include, but are not limited to, environmental impacts, such as the reduction of biodiversity, and social/political impacts, such as farmer suicide, pesticide exposure, and the “death” of the family farm. To learn more, see Thompson and Noll (2015).