frontiers | Frontiers in Sustainable Food Systems

TYPE Original Research
PUBLISHED 03 August 2023
DOI 10.3389/fsufs.2023.1096230



OPEN ACCESS

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RECEIVED 11 November 2022
ACCEPTED 14 June 2023
PUBLISHED 03 August 2023

CITATION
Lowe EB, Fochesatto A and Rissman AR (2023) Managed grazing and agroecological transformation in the Midwestern United States.
*Front. Sustain. Food Syst.* 7:1096230.
10.3389/fsufs.2023.1096230



# Managed grazing and agroecological transformation in the Midwestern United States

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A growing number of intergovernmental agencies, policymakers, scholars, and farmers are calling to transform the dominant food system so that it better supports farmers, communities, and the environment. The goal of this paper is to identify which actions that support managed livestock grazing and graziers can also promote agroecological transformation in the Midwestern U.S. We conducted 128 semi-structured interviews and 3 participatory workshops with farmers, civil society, and agricultural industry professionals focused on visions for the future and actions that could support managed grazing. We then applied a political agroecology framework to assess the transformative potential of specific actions. Action categories with high transformative potential include addressing industry consolidation and inequities in the distribution of land and capital; providing social supports for farm owners and workers; and shifting the social norms that support the dominant food system. Specific actions within these categories include supporting cooperative models of farming, marketing, and resource-sharing; providing healthcare, living wages, and retirement to farmers; supporting farmer-to-farmer networks; modifying crop insurance and anti-trust legislation; addressing farmland access and consolidation; expanding public education on agroecology; and enacting policies that dismantle and repair colonial and racial violence. The workshops revealed that a disproportionate share of attention within the Midwest sustainable agriculture movement is currently focused on strategies that support sustainable farming practices such as education and conservation assistance but do little to address governance structures that maintain the power of the current agricultural system. While these efforts are important, workshop participants and interviewees concluded that more systemic change is needed to build a food system that works better for people, communities, and the environment.

KEYWORDS

**power, just transitions, transformation, agroecology, food systems, agriculture, managed grazing, grassroots movements**

## 1. Introduction

A growing number of intergovernmental agencies, policymakers, scholars, and farmers have recognized that the dominant food system is not working for most people and have called for urgent transformation (HLPE, 2019; IPES-Food & ETC Group, 2021). Currently, the food system is built to incentivize intensive crop monocultures and confinement animal production with little regard for farmers, communities, or the environment. Around the world, this has driven the loss of important natural habitats and degraded soils, waterways, and biodiversity (Turner and Rabalais, 2003; Altieri, 2009; Rasmussen et al., 2018). Monocultures and

confinement animal agriculture rely on expensive inputs, which in turn require farmers to take on debt. The combination of debt, coupled with environmental degradation has exacerbated rural depopulation and community decline (Holt-Giménez, 2017). The justification for this system is that it can address hunger by producing more food at a lower cost. Yet, despite substantial increases in food production, many people globally are going hungry, not because they lack food, but because they cannot afford it (Lappe et al., 1998; International Assessment of Agricultural Knowledge, Science and Technology for Development (IAAKSTD), 2009; Stone, 2019; Bassermann and Urhahn, 2020; Cleaver, 2021). Moreover, this system has made unhealthy processed foods the most affordable per calorie, increasing rates of obesity, particularly in poor and marginalized communities (Ayazi and Elsheikh, 2015).

These problems with the dominant food system are a result of the socio-political and economic structures that support and maintain it. While this presents a complex web of challenges, it also means that it is possible to redesign those structures to create a food system that produces better outcomes. Through interviews with people engaged with managed livestock grazing, we illuminate how to restructure food systems in the Midwestern United States so that they provide better outcomes for farmers, communities, and the environment. Specifically, we focus on actions that support managed grazing (and graziers) as an alternative to commodity monocultures and confinement animal production. We then assess the potential of these actions to promote broad-scale food systems transformation.

## 1.1. Political agroecology and power in the U.S. food system

We applied a framework developed by Anderson et al. (2021) which draws on political agroecology to understand how to achieve an agroecological transformation. Agroecology, as a set of values and farming principles grounded in ecological knowledge, has been practiced by Indigenous and traditional farmers for millennia. In more recent history, however, agroecology has been articulated not only as a set of practices and principles, but also as a scientific field and a social movement calling for transformation of the industrial food system (Wezel et al., 2009; Rivera-Ferre, 2018). Anderson et al. (2021) define agroecology as:

> "… an ongoing process of food-system transformation, supported by a set of underlying values based on ecological principles and social justice, and honoring the agency of food producers and the important role of social movements in transformational change."

*Political* agroecology merges principles of agroecology with political ecology, to understand how an agroecological transformation could occur. Political ecology illuminates how socio-political and economic structures (e.g., global markets, land policy, and conservation policy) dictate who has access to land, how land is used, and who benefits from its use (Robbins, 2012). It recognizes that the costs and benefits of land use are often unevenly distributed, and in doing so, it highlights the linked causes of social and environmental inequities (Robbins, 2012). Political ecology also acknowledges that socio-political and economic structures are maintained by those who benefit. Therefore, if power dynamics are ignored, environmental decisions tend to uphold the advantage of groups with the most social and economic power (Anderson et al., 2021). Drawing from these ideas, political agroecology elucidates the socio-political and economic structures that create and maintain the dominant food system.

Agricultural policies and governance structures[1] dictate who has access to farmland and how it is used. Prior to colonization, Native peoples throughout the Midwest and the Great Plains stewarded agroecological farming systems, including grazing systems, which they managed through controlled burns and bison hunting. These management practices built the fertile soils that support the regions' agriculture today (Mueller et al., 2021; Shamon et al., 2022). During the 1800s, the U.S government slaughtered bison as part of its violent colonial campaign against Native communities (Smits, 1994; Barnard, 2020; Taschereau Mamers, 2020), and European norms around land ownership, private property, and the family farm were used to sanction the destruction of Native food systems. Native communities were forced off the land they had stewarded for centuries and told to abandon systems of communal and ecologically-based food systems in favor of European-style farms (Hipp and Duren, 2017). The U.S. government then redistributed 1.5 billion acres of Native American land at little or no cost primarily to Euro-American farmers (Harjo, 2014; Saunt, 2020). Laws and policies including alien land laws, immigration and labor policies like the Bracero and H2-A visa programs, heirs' property laws, and discrimination from U.S. Department of Agriculture (USDA) (2019) were subsequently used to exclude farmers of color from farmland ownership (Horst and Marion, 2019). Today, 97% of farmland is owned by white farm owners while the vast majority of farm labor is low-paid, exploitative work done by farmers of color (Horst and Marion, 2019).

Originally, Euro-American settlers in the Midwest region managed diversified farms with both crops and pastured livestock. However, overgrazing and excessive plowing degraded the grasslands (Holleman, 2017), and over time, U.S. policies incentivizing the expansion of commodities compelled farmers to intensify and simplify production into large-scale commodity monocultures. Between 2019 and 2023, the U.S. government is expected to spend $13.5 billion/year on crop insurance and commodity programs, half of which is dedicated to corn and soybean production (Schnepf, 2017; U.S. Department of Agriculture Economic Research Service (USDA ERS), 2022). Because there are no comparable programs for the majority of crops, this has incentivized farmers to convert land from pasture and other crops to corn and soy. Since 1950, the average number of crops grown per county in the Midwest region has declined by 50% (Hemberger et al., 2021) and corn and soy now dominate 75% of the region's land area [U.S. Department of Agriculture (USDA) Midwest Climate Hub, 2022].

Much of the corn and soy grown in the U.S. is used to produce feed for animals raised in confinement (Schnepf, 2017), benefiting

1 The broader socio-political and economic systems that influence how the food system operates and the mechanisms by which actors are held accountable.

the largest confinement operations and the meat industry. Since 1996, it is estimated that commodity subsidies in the form of inexpensive animal feed have constituted payouts ranging on average from $72,000 - $766,000/year to individual concentrated animal feeding operations (CAFOs), and up to $5.01 million/year to each of the largest hog CAFOs (Gurian-Sherman, 2008). This has artificially increased the profitability of large confinement farms, fueling farm consolidation and making it difficult for small-to-medium sized farmers grazing animals to compete (Gurian-Sherman, 2008). Along with lax antitrust policy, these subsidies have also enabled massive consolidation in the meat industry – today just four companies control 54% of global production and processing for chicken, 82% for beef, and 66% for pork (Howard, 2019; Deese et al., 2021).

Commodity monocultures and CAFOs produce a wide range of consequences for human and environmental health (Turner and Rabalais, 2003; Altieri, 2009; Haribar, 2010; Rasmussen et al., 2018). Yet current agricultural policies maintain the dominant commodity-confinement system by consolidating power in the hands of those who profit from it (Anderson et al., 2021). Moreover, these policies limit the ability of farmers and rural communities to make decisions that benefit human and environmental health. For example, many of the consequences of the commodity-confinement system could be averted if crop insurance and debt did not limit farmers' ability to adopt agroecological farming practices like grazing.

Through the lens of political agroecology, actions that promote transformative change address the socio-political and economic structures that maintain the current food system and empower those who work within it to regain control over agricultural land, markets, and institutions (Anderson et al., 2021). While harder to achieve, such solutions are needed to attain equitable outcomes for farmers, communities, and the environment (Lawhon and Murphy, 2012). Political agroecology differs from many approaches to sustainability transitions because of its explicit attention to power. For example, socio-technical transition theories (e.g., Transition Management or Innovation Systems), have been critiqued for their lack of attention to power dynamics. While recent efforts attempt to address these critiques (Geels, 2019), transition theories have tended to focus on the technical elements of transitions (e.g., developing niche markets or providing technical support for alternative practices) without attending to power dynamics that inhibit structural change and determine who benefits from the transition process (Voß et al., 2009; Lawhon and Murphy, 2012; Markard et al., 2012; Kenis et al., 2016; Ollivier et al., 2018). As a result, some have pointed out that change processes are often co-opted by those with a vested interest in maintaining the status-quo, leading to "disappointing" outcomes (Voß et al., 2009).

While agroecology engages directly with power, agroecological scholarship has largely failed to attend to the role of policy and governance in promoting or inhibiting change, and many have highlighted the need to understand how to dismantle the governance structures that maintain the current system (Geels, 2014; Miery Terán Giménez Cacho et al., 2018; Ollivier et al., 2018; Klerkx and Begemann, 2020; Anderson et al., 2021). This raises questions about the role of government in changemaking. Government policy is critical to maintaining, and thus transforming, the current food system (Avelino and Rotmans, 2009; Geels, 2014; Miery Terán Giménez Cacho et al., 2018; Klerkx and Begemann, 2020; Anderson et al., 2021). However, many agroecologists caution against overreliance on government policy because it can be co-opted or create dependence on support that may not be maintained across administrations (Gonzalez et al., 2018; Miery Terán Giménez Cacho et al., 2018; Anderson et al., 2021).

## 1.2. Managed grazing in the Midwestern United States

This project came out of the Grassland 2.0 initiative, a research collaboration which seeks to identify actions that support the practice of managed grazing in the U.S. Midwest and enable graziers to achieve profitability, stability, and positive environmental outcomes. Building off these goals, we were interested in exploring which actions that support managed grazing and graziers have the greatest potential to facilitate agroecological transformation: both supporting managed grazing and equitable opportunities for graziers, and creating broader positive outcomes for farmers, communities, and the environment.

Transitioning a significant portion of the land used for commodities and confinement animal production to managed grazing would restore land to the ecological and cultural roots of the region. Managed grazing is an agroecological farming practice that mimics the regions' native grassland ecosystems originally grazed by bison and stewarded by Indigenous peoples. While poorly managed grazing can decrease soil and water quality and is often unprofitable (Bilotta et al., 2007), well-managed grazing systems support numerous positive outcomes (Spratt et al., 2021). In a well-managed grazing system, animals are actively moved across pastures, allowing soil and biomass to regenerate between grazing periods. The deep roots of perennial plants sequester carbon, improve soil and water quality, and provide year-round wildlife habitat (Garnett et al., 2017; Franzluebbers et al., 2021; Spratt et al., 2021). Because animals harvest and fertilize their own food, managed grazing reduces the need for labor, equipment, and purchased inputs relative to confinement production. This provides better economic outcomes for farmers and an easier entry-point for those with limited capital (Kreigl and McNair, 2005). It also decreases the need for government subsidies, increases farm viability, and makes it so that farmers do not need to expand to stay in business (Spratt et al., 2021). These financial outcomes, along with the active management required to sustainably manage a grazing system, can support a greater number of small farms, creating opportunities to repopulate and revitalize rural communities (Spratt et al., 2021). Finally, many farmers talk about the ways in which managed grazing improves their quality of life: creating a less dangerous work environment and connecting them more directly with the environment and the animals they are raising (Taylor and Foltz, 2006).

## 1.3. Managed grazing and agroecological transformation

Seen through the lens of political agroecology, managed grazing and graziers are marginalized within the current agricultural system. Therefore, while many actions could be helpful in supporting grazing

and graziers, without changing the way the food system is structured, grazing will likely remain a marginalized practice. Likewise, while expanding managed grazing could produce numerous positive outcomes, not all actions that support grazing and graziers will restructure the food system or redistribute power in ways that foster agroecological transformation.

To understand which actions that support managed grazing can facilitate an agroecological transformation, we conducted 128 semi-structured interviews and three participatory workshops with people who work in animal agriculture in the Midwest region. We defined what agroecological transformation could look like in a Midwest context by asking interviewees about their ideal vision for the future of farming in the region and for a just food system. We also asked them about actions that could support managed grazing and equitable opportunities for all graziers. To determine which of these actions were most likely to promote agroecological transformation, we applied a political agroecology framework designed by Anderson et al. (2021). Anderson et al.'s (2021) framework outlines six effects that governance changes can have on agroecological transformation, either supporting the current system (in which agroecology remains marginal) or promoting transformation (creating the conditions under which agroecology can flourish). These effects are divided based on their transformative potential: those that *suppress* or *co-opt* agroecology strengthen the current system; those that either *contain* or *shield* agroecology maintain the current system; and those that *nurture* or *anchor/release* it, transform the current system to support agroecology. Moreover, the first three effects undermine agroecology and support the current system, while the last three (*shield, nurture, anchor/release*) can, under the right circumstances, facilitate transformative change (see Figure 1 for conceptual diagram of the paper).

## 2. Methods

### 2.1. Methodological approach

Who has a say in defining a transformation process is critical, particularly when considering how to shift power within the food system (Voß et al., 2009; Kenis et al., 2016). To address power dynamics within this project, we applied principles from both agroecology and participatory action research (PAR). PAR is a community-engaged research approach in which researchers and community members participate in an iterative process of collaborative research, reflection, and action (Méndez et al., 2017). One of the goals of PAR is to unsettle traditional power dynamics between researchers and community members, challenging the role of researchers as "experts" and emphasizing a more democratic process of knowledge generation that values lived experience. Agroecology adopts a similar stance, emphasizing in particular, the knowledge of people marginalized within the current agricultural system including Indigenous peoples and other people of color.

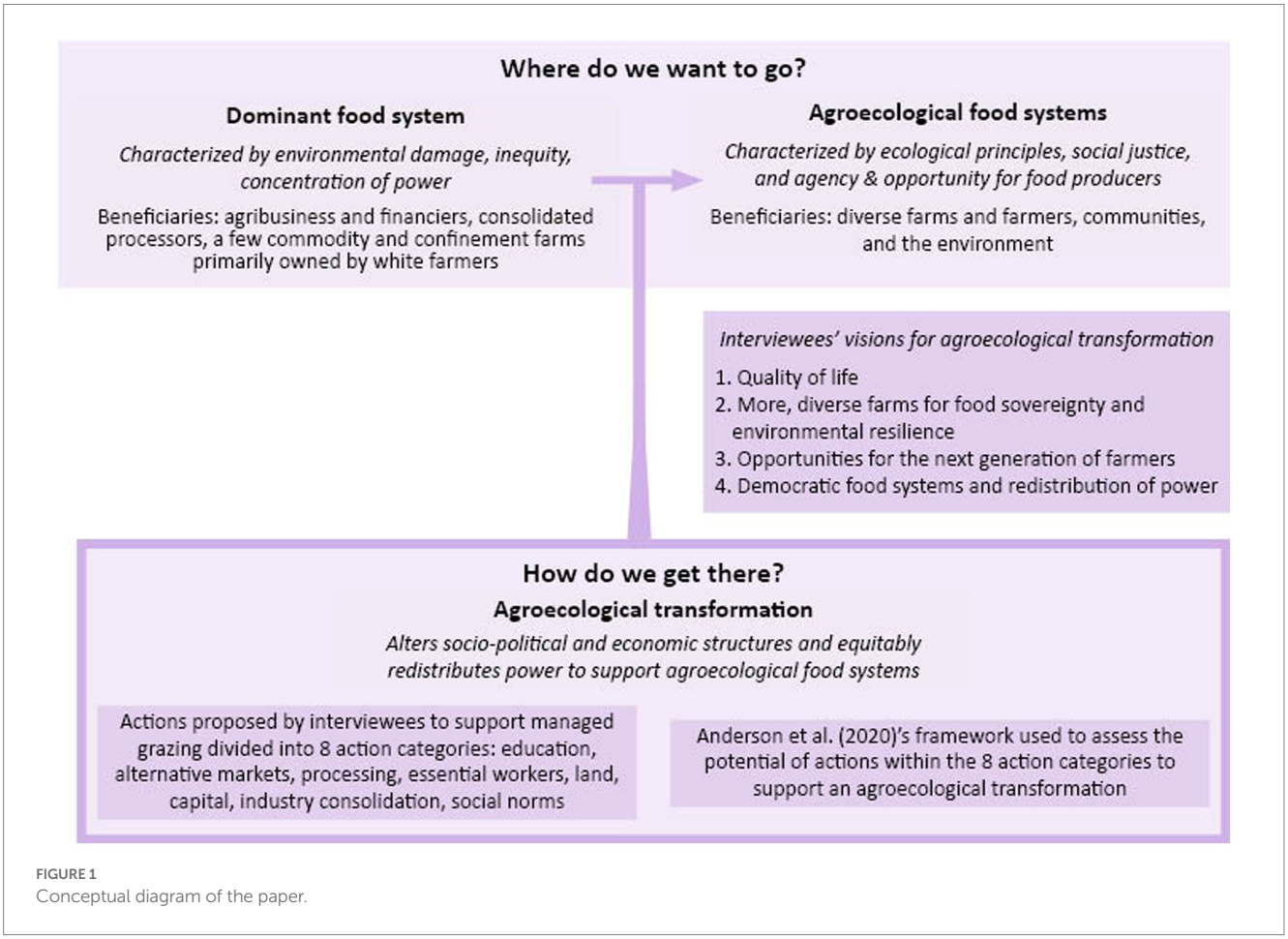


FIGURE 1
Conceptual diagram of the paper.

Because these groups have long been excluded from positions of power, being intentional about including and foregrounding their perspectives in decision-making is critical to achieving an equitable and just transformation. Moreover, many of these communities hold cultural values and knowledge of agroecological practices that make them some of the best positioned actors to identify pathways toward transformative change. Non-Euro-American ways of valuing and relating to nature often support agroecological food systems in ways that Euro-American values do not, and because they have been marginalized within the dominant food system, many communities have a long history of developing innovative alternative practices (Morales and Perfecto, 2000; Carney, 2002; Altieri, 2004; Kremen et al., 2012; Penniman and Washington, 2018; White and Redmond, 2018; Minkoff-Zern, 2019).

## 2.2. Interviewees selection and interview process

We conducted semi-structured interviews with 120 community members across the Midwest, as well as 8 people from non-Midwest states to fill gaps in expertise around anti-trust, land access, and labor organizing. All of these peoples' work was related to farming in some capacity and most worked specifically with animal agriculture (Table 1). We followed a snowball sampling approach starting with our networks in the grazing community and expanding based on interviewee suggestions.

In accordance with principles of both PAR and agroecology, we were intentional about inviting a diverse set of people to the interviews and workshops. We specifically sought to learn from Native farmers and farmers of color, aspiring farmers, farmworkers, and organizations serving these groups; people who are often left out of conversations but hold valuable knowledge to guide the change process. Twenty-two (17%) interviewees were people of color, and an additional 17 (13%) worked in organizations led by people of color or worked in roles primarily serving people of color. While we interviewed several people who worked with confined animals or conventional crops, most of the people we talked with did work related to alternatives.

To define what agroecological transformation could look like in a Midwest context, we asked interviewees two questions about their ideal vision for the future of agriculture: "What is your ideal vision of the future of farming in the Midwest, and what role (if any) does grazing play in that vision?" and "What is your vision for a just food and farm system?" We also asked numerous questions about policy

TABLE 1 Interviewees by state and profession.

| Profession | State | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | WI | IL | MN | MI | IA | MO | Other | TOTAL |
| **Farmer** | Dairy (8)<br>Confinement dairy (5)<br>Beef (7)<br>Diversified (4)<br>Diversified (aspiring) (1)<br>Goats (1)<br>Pigs (1)<br>Sheep (1)<br>**Total: 28** | Beef (5)<br>Diversified (3)<br>**Total: 8** | Dairy (1)<br>Poultry (5)<br>Diversified (3)<br>**Total: 9** | Dairy (1)<br>**Total: 1** | Diversified (2)<br>Diversified (aspiring) (1)<br>**Total: 3** | N/A | N/A | **49** |
| **Non-profit** | People (10)<br>Organizations (10) | People (7)<br>Organizations (5) | People (6)<br>Organizations (2) | N/A | People (3)<br>Organizations (2) | N/A | People (5)<br>Organizations (5) | **People: 31**<br>**Organizations: 24** |
| **Government** | NRCS (3)<br>State (4)<br>County (1)<br>Tribal (10)<br>**Total: 18** | NRCS (1)<br>**Total: 1** | NRCS (2)<br>State (1)<br>**Total: 3** | NRCS (2)<br>State (1)<br>**Total: 3** | N/A | NRCS (1)<br>**Total: 1** | NRCS (1)<br>**Total: 1** | NRCS (10)<br>State (6)<br>County (1)<br>Tribal (10)<br>**27** |
| **Farmer education** | 4 | N/A | N/A | N/A | N/A | N/A | N/A | **4** |
| **Finance** | 2 | 1 | N/A | N/A | N/A | N/A | N/A | **3** |
| **Company** | People (7)<br>Companies (6) | N/A | N/A | N/A | N/A | N/A | N/A | **7** |
| **University employee** | 1 | N/A | 1 | 3 | N/A | N/A | 2 | **7** |
| **TOTAL** | **70** | **17** | **19** | **7** | **6** | **1** | **8** | **128** |

Tribal government employees include Tribal farm managers. Some of the non-profit, University, and government employees we interviewed were also farmers, but we counted them by their other profession if we asked them to speak primarily in that capacity. The state categories for companies and organizations represent where they were based, though some operate across multiple states.

and broader governance actions that could support managed grazing and equitable opportunities for all graziers in the Midwest, including two questions about supporting farmers of color and others who have been marginalized within the food system (Appendix A in Supplementary material). In this paper we have included identifying information for people who wanted to be quoted with their name; others are referenced by occupation.

## 2.3. Workshops

The participatory part of this research came primarily from a series of three workshops. We selected workshop participants who were actively involved in making change within the region and were interested in high-level conversations about social change. Most of these people were interviewees, but we also invited a few people to represent interviewees who could not attend, or close connections interested in participating. Convening the workshops primarily with people we had interviewed served two purposes. In the spirit of participatory research, it allowed us to engage interviewees in the process of analyzing the interview data. It also allowed us to organize a safe space for conversations about racial justice and transformative change. Twenty out of twenty-five workshop participants were non-profit employees and/or worked in Tribal government in Wisconsin and five were farmers. We did not include people in government positions because many were reticent to speak more aspirationally about topics that fell outside their job descriptions. Participants were from Wisconsin, Illinois, Iowa, and Minnesota. Six months prior to the workshops we held one-on-one meetings with many workshop participants to understand what could make the workshops useful to them. The workshops took form based on their feedback.

The goals of the workshops were:

1) To share and assess findings from the 128 interviews
2) To build on vision themes that emerged from the interviews define what agroecological transformation could look like in the Midwest region
3) To use actions proposed in the interviews to create a plan to carry forward the vision
4) To connect participants with one another and to build collective power across the many initiatives happening around sustainable agriculture in the Midwest

The first workshop focused on exploring interviewees' visions for the future of agriculture. In the second workshop, we shared interviewee's recommendations for actions that could support managed grazing and facilitated conversations about how current work could be shifted or expanded to move toward the future vision. The third workshop focused on strategies for building collective power to support the actions identified in the second workshop. This included more in-depth conversations on some of the actions identified in workshop two, activities exploring effective organizing strategies, and mini-workshops on topics identified by participants including messaging and storytelling, cooperatives, and policy strategy. While the majority of data came from interviews, this paper draws on ideas and synthesis shared in both the interviews and the workshops (many ideas were echoed in both). When we refer to "interviewees" this includes both perspectives. Where ideas were introduced only in the workshops, we emphasize that the recommendation came from "workshop participants."

## 2.4. Data analysis

### 2.4.1. Interview coding

We coded interview transcripts in NVIVO Version 1.5. Two researchers completed the coding using both inductive and deductive coding processes. We developed an initial set of codes based on themes we had heard in the interviews. After each researcher had coded 15 interviews, we discussed, reorganized, and added codes. We repeated this several times over the course of coding. To increase consistency across coders, we coded the same initial set of 5 interviews and came to an agreement about how they should be coded. We coded all statements concerning the benefits/drawbacks of managed grazing, barriers to/opportunities for change, policy/governance, and visions for change.

### 2.4.2. Data synthesis and analysis

We used responses to the two vision questions, along with other statements about future aspirations that came up throughout the interviews and discussions from the workshops to identify 4 vision themes that encapsulate major tenets of what interviewees envisioned for a more equitable and ideal future for agriculture in the Midwest region. These themes were: (1) quality of life, (2) more, diverse farms for food sovereignty and environmental resilience, (3) opportunities for the next generation of farmers, and (4) democratic food systems and redistribution of power (Section "Grazier visions for an agroecological transformation").

We then synthesized actions that could support managed grazing from interviewees' responses and workshops discussions. We consolidated these into 8 action categories: education, alternative markets, processing, essential workers, consolidation, capital, land access, and social norms (Section "Actions that support managed grazing" and Figure 2; for a more complete summary of actions see Lowe and Fochesatto, 2023, Rissman et al., 2023). To understand the transformative potential of specific actions within the 8 action categories, we applied Anderson et al.'s (2021) framework focusing on *shield, nurture,* and *anchor/release.* We focused on *shield, nurture, anchor/release* because we analyzed actions intended to support rather than undermine agroecology (Section "Assessing the transformative potential of actions that support managed grazing"). (See Figure 1 for conceptual diagram of the paper).

# 3. Grazier visions for an agroecological transformation

Anderson et al. (2021) stress that agroecology is based on an underlying set of values that honor ecological principles and social justice as well as the agency of food producers. An agroecological transformation restructures the food system and equitably redistributes power in ways that support these values (Anderson et al., 2021). When we asked interviewees about their ideal future, the visions they shared aligned closely with this definition of an agroecological transformation, painting a picture of what a future agroecological food system could look like in the context of the Midwest U.S.

We divided interviewees' visions for the future into the four themes detailed below. No single person mentioned every element of every theme, and there was disagreement about certain aspects (e.g., the degree to which people wanted to see mostly small farms versus a mix of farm sizes). However, all of the elements of the vision as defined below were shared by multiple interviewees.

### 3.1. Quality of life

Interviewees thought that people who produce and process food should be valued so that they can live a comfortable life and support community and environmental well-being. To some, this meant breaking down the false divide between farm owners and workers (i.e., farm workers are farmers in their own right, and both are "essential workers") and ensuring that both have access to social supports like healthcare, housing, a living wage, and a means to retire. These supports would make it easier for farmers to steward the environment—as April Prussia, a pastured hog producer in Wisconsin put it, allowing them "make a living … not off the land, with the land."

### 3.2. More, diverse farms for food sovereignty and environmental resilience

Interviewees wished to see more farms creating a "lovely patchwork," of a variety of farm types and sizes. Managed grazing was a key part of this. They talked about how grazing could support more farms rather than fewer and how it could build more thriving communities. They also stressed the importance of building public understanding around the benefits and drawbacks of different ways of farming. Some connected this to building a diverse and regional food system which could reconnect eaters with the farmers in their communities.

Interviewees imagined the positive impacts of these changes on community food sovereignty and on building resilience against crises like COVID and climate change. Moreover, they also wanted to see food sovereignty for individuals. They imagined a world in which everyone is able to access affordable, sustainably produced, and culturally appropriate food, one like poultry farmer Melissa Ulmen imagined in which "an apple does not cost more than a doughnut."

### 3.3. Opportunities for the next generation of farmers

A Wisconsin dairy CAFO owner told us, "Anybody who has a desire and a passion to farm … should be able to farm." This sentiment was shared widely by interviewees who spoke about the next generation of farmers. Interviewees wanted to see more equitable access to land and resources particularly for beginning farmers and farmers of color; pathways to ownership for farm workers; and more people of color in leadership roles. On a community scale, they imagined rural areas that would be far more cooperative and collaborative than many communities have become.

### 3.4. Democratic food systems and redistribution of power

Interviewees envisioned a future in which democratic processes govern the food system and power and resources are distributed more equitably. In this vision, land and animals would be stewarded by more people, there would be less concentration in markets and processing, government support would be shared across farms of all types and sizes, and profits made by large companies would be shared with farm owners, workers, and consumers. To Native interviewees, revitalizing cultural practices of cultivating and harvesting food was central to reclaiming power in the food system. As Vanessa Miller, Food and Agriculture Area Manager for the Oneida Nation put it, "When you take … power back over your food [and] your economy, you take the political [and] systematic power back over those same things."

### 3.5. Visions for the future: grazing and agroecological transformation

We primarily interviewed people with an interest in managed grazing, and many interviewees saw grazing both as a means of moving toward their ideal future and as an important element of their future vision. However, they also saw grazing was part of a much broader vision for change. Pete Huff, Co-Director of the Wallace Center, saw grazing as a means of acknowledging and honoring Indigenous farming practices that have "shaped the Midwest landscape and are still alive today in the Indigenous communities that have persisted in the face of efforts to eradicate and erase their culture and practices." A beef grazier based in Illinois shared that grazing made farmers happier and provided more jobs for the community, supporting future generations of farmers and addressing the issue of a "rural America that's dying." Expressing a similar sentiment about future generations, Lynn Utesch, a beef grazier and worker at Tsyunhehkw^, a farm run by the Oneida Nation, said: "grazing [is] replicating those big herds of buffalo going across the savannas. Those did not degrade the soil they built up the environment We need to be working on those foods that can provide for all future generations going forward."

Interviewees wished to see a regional food system based on agroecological principles of crop and livestock diversity and farming practices like managed grazing. They also expressed a desire for a food system that supports farmers, in part because it would enable farmers to better steward the environment. Interviewees' responses emphasized social justice in that they imagined a food system with equitable access to farm support programs; to land, resources, and healthy and sustainably-produced food; and opportunities for all farmers. As part of this, they cited the need to acknowledge and address racial injustice enacted through agriculture. Finally, the vision themes emphasize the agency of food producers and communities: democratic control over food systems, community agency to determine what is produced and how, and decolonizing agriculture to return agency to Native communities.

## 4. Actions that support managed grazing

Interviewees responded to questions about what is needed to support managed grazing and equitable opportunities for all graziers with a wide variety of actions ranging from technical and directly-related to grazing to more comprehensive systems-level changes. We synthesized their recommendations into 8 action categories: education, alternative markets, processing, essential workers, land, capital, consolidation, and social norms (Figure 2).

In the sections below, we present actions around land, capital, and consolidation together, to emphasize the interconnections between these issues. A number of critical concerns are woven throughout all these categories, including social and racial justice,

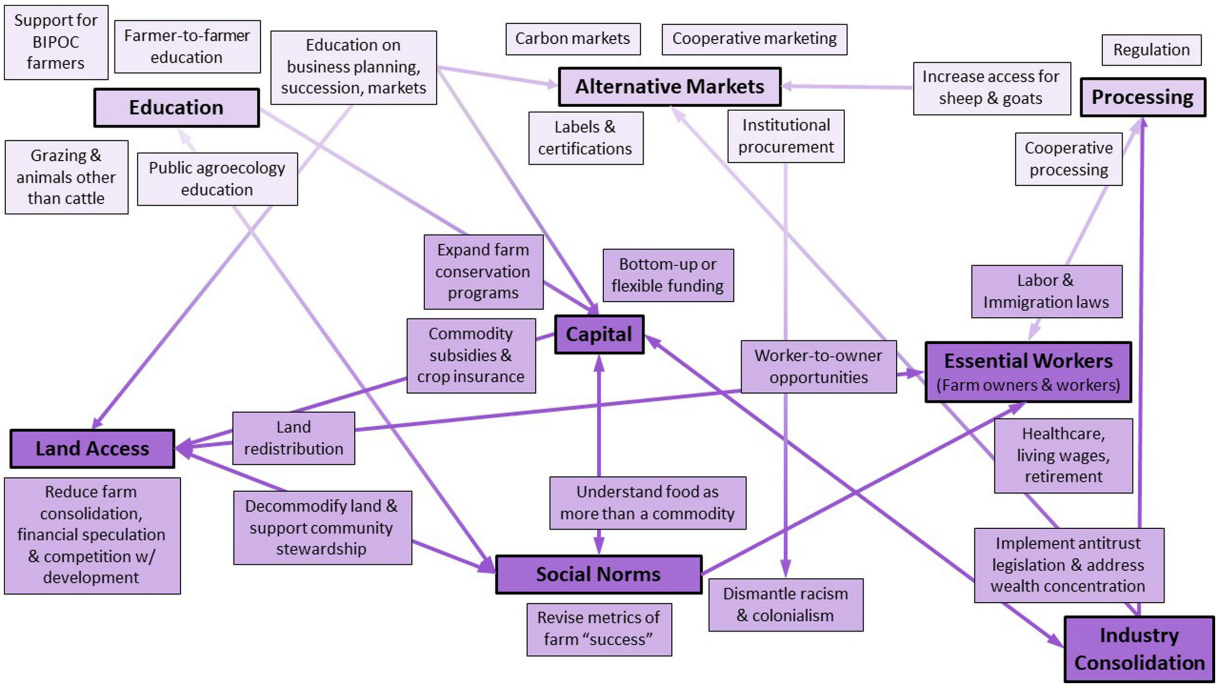


FIGURE 2
Eight action categories proposed by interviewees to support managed grazing in the Midwest region of the United States. Each category contains actions that could be implemented through government policy and/or broader governance approaches. Arrows indicate that these categories interact and emphasize connections between actions that we discussed in this paper. The direction of the arrows shows the direction of impact, for example, actions around land access such as land redistribution programs could positively impact essential workers, particularly beginning farmers and farm workers. More transformative action categories (based on the degree to which these categories supported the vision themes) are shown in darker colors and toward the bottom of the figure.

environmental health, and climate change. Both government policy and broader governance approaches were likewise represented in all 8 categories, though interviewees had different opinions about the efficacy of government policy in facilitating change. A subset of actions within each category are highlighted below. For a more complete summary of actions, see Lowe and Fochesatto (2023).

## 4.1. Education

Because managed grazing is a knowledge-intensive practice, technical support is critical. Yet particularly in states where corn and soy dominate, there is a lack of educational capacity for grazing. This is especially true for grazing animals other than cattle like goats, sheep, chickens, pigs, and bison. Interviewees expressed a need to build support within institutions like NRCS (e.g., through government conservation assistance programs) and Extension. They also emphasized the importance of developing more farmer-to-farmer networks and mentoring programs, which to some, including Kirsten Jurcek a beef grazier and grazing plan writer in Wisconsin, is "so much better than [hiring] an agency person." Building trusting relationships between technical support providers and communities of color and establishing networks for farmers of color was also seen as critical, as farmers of color have often been excluded from traditional education networks. An important part of this is hiring educators who can speak languages other than English. Air Philavanh, a HMoob immigrant and diversified grazier shared that he "would like to (access government programs) but the problem is English. … If somebody helped to direct me…I'd go for it."

Broader education initiatives are also important. Interviewees emphasized the significance of providing more support for business and succession planning, marketing, lending, and accessing government programs. They also expressed a need to expand public knowledge of agroecological food systems and sustainable farming practices by investing in elementary, high school, and higher education on these topics.

## 4.2. Alternative markets

Certifications such as Organic and grass-fed can help educate consumers and support markets for managed graziers. However, interviewees also emphasized that certifications can be difficult to acquire due to lack of staffing at certifying organizations and some labels can obfuscate rather than educate. Moreover, while price premiums provide important income support for sustainable farmers, they can also make sustainably produced food a luxury item, out of reach for many consumers. As Andrew Bernhardt, Agriculture Program Specialist at the Wisconsin Department of Agriculture put it, "A just food system is one where the farmer gets paid, and all of the community can access the food that's being grown. But grass-fed [and]

Organic [products have] become [niche foods that] only the wealthy can afford."

Interviewees talked about the benefits of institutional procurement programs and cooperative marketing. For example, Clifford Martin, a beginning farmer who pastures chickens in a worker-owned cooperative called Feed the People Co-op supported by the Regenerative Agriculture Alliance, talked about how much easier it was for him to start farming as part of a co-op: "[If you are] integrated into an actual functioning economic system like a coop, [it's] really different than, 'well, I've been to 10 Farm trainings, but I still have no buyers'…I'd rather be trained in something I'm gonna run that already has an infrastructure to it."

Interviewees also talked about ecosystem service markets like carbon markets. While carbon markets have the potential to reward graziers, those we spoke with felt that current propositions will replicate other government conservation programs which tend to disproportionately channel resources toward conventional farmers. As Meghan Filbert put it,

> "Carbon market(s) [are] incentivizing corn and bean farmers to adopt practices … like cover crops, no till … But (for) the people (like graziers) who've been doing the right thing for many, many years…there aren't as many programs tailored to them, when they're the ones that should be getting the payments."

## 4.3. Processing

Limited processing capacity, particularly for meat but also for dairy and fiber, has made it difficult for farmers to stay in business. In the meat industry, lack of processing capacity is driven primarily by lax antitrust laws which have enabled rampant vertical integration and consolidation. This has created a situation in which fewer and fewer companies own a shrinking number of large processing plants. Access to affordable processing for goats and sheep is particularly challenging. Cherrie Nolden, a diversified grazier and owner of 1DR Acres in Wisconsin shared that in her experience, processing a small ruminant adds $4–$8 per pound, "prevent(ing) lamb and goat meat from being an accessible food to many Americans."

Opening new, small meat processing facilities is costly because all processors are regulated the same way regardless of size. This leads to high startup costs and small margins especially for smaller processors. Moreover, only ~25 states allow state-certified processing plants (as opposed to those certified by the USDA), increasing regulatory burdens and reducing the number of processing options. Certain markets including Federal institutional purchasing programs require meat to be processed in USDA facilities.

Labor exploitation in processing is also commonplace. Interviewees wanted to see more support for small and cooperative processors, which some felt could provide better labor conditions. Dan Cornelius, who grazes beef cattle at Yowela Farms and works as an Outreach Specialist at the University of Wisconsin-Madison Great Lakes Indigenous Law Center, shared that:

> "Immigrant(s) [do most of the labor in processing plants that put them] in dangerous working conditions. [They're] underpaid for doing hard work that most people … don't want to do. [They'd have an] opportunity to work in better conditions in a Tribally-run plant or joint-run, co-op."

## 4.4. Essential workers

People who work on farms and in processing plants are some of the most marginalized groups in the food system. Because farmworkers do not qualify for overtime pay like other workers under the Fair Labor Standards Act (FLSA), workplace exploitation is institutionalized. Worker exploitation is common and workplace abuses are often not reported by workers who are either unaware of their rights and/or fear deportation. Marita Canedo, Program Coordinator with Migrant Justice, highlighted how exploitative the conditions are on many of the dairy farms she works with:

> "Farmworkers become like a servants … You live where you work and if you lose your job, you lose your housing … Some workers live in very crowded situations with pests, holes, and no heat. They work(ed) three shifts, I think it was 3am - 8am, 10am - 2pm, and 3-10pm, without a day off."

Interviewees emphasized the importance of changing labor policies and immigration laws and building structures that allow workers to live a more dignified life. One way to create more opportunities for workers is by creating pathways to farm ownership. Edgar Navarro, a farmworker at Uplands Cheese in Wisconsin said:

> "I've noticed a lot of Hispanic people are losing interest in working in a ranch because they can't progress … I have many friends who used to work in farms becausr they liked [the work and the lifestyle] … now they're working in factories … because there's not really a path to follow in agriculture … My ideal vision would be for workers to have more opportunities. If there are employees who have been working 10-15 years in a farm, maybe banks can take that into account (and give them a loan to start a farm)."

While workers occupy a more marginalized position within the food system, many farmer owners also struggle to attain the basic necessities, and interviewees stressed the importance of providing social supports like healthcare, housing, a living wage, and a means to retire, for all "essential workers" – both farm owners and workers. Vicki Morrone, sheep grazier and Organic Farming Specialist at Michigan State University, emphasized how fundamental this is. She said, "we are not talking [about] entitlement to a fancy truck. We're talking about basic human needs … there's no guarantee [of] that, and here these are the people that are harvesting our food, growing our food, transporting our food." Moreover, some interviewees talked about how providing social supports could help resolve issues with environmental stewardship and land access. Randy Hampshire, a Michigan dairy grazier said, "If I did not have to worry about profit, God, could I be a good farmer … a sustainable farmer," while a non-profit employee and land access specialist emphasized that "people would not need to sell land to the highest bidder to fund their retirement

if we had more support for the dignity and retirement for people who farm."

## 4.5. Land, capital, and industry consolidation

In addition to ensuring that those who grow our food are supported, interviewees also expressed a desire to more equitably distribute the power and wealth that is currently consolidated by industry, large commodity farms, and wealthy absentee landowners, so that more profit goes to farm owners, workers, and consumers. Interviewees expressed frustration with how difficult it is for farmers to make a profit while maintaining food affordability, and some connected this problem to concentration of wealth. Darin Von Ruden, a Wisconsin dairy grazier and President of the Wisconsin Farmers Union said:

> "When I was in high school, the farmer received on average 45 cents of every dollar … Today the farmer is receiving about 16 to 18 cents … Where has that 30 cents gone to? It's basically went to the middleman, whether it's private corporations or private individuals. They're building their wealth very fast, whereas the farmers not. So really the consumer is paying too much for the products they're receiving versus what the farmer is receiving."

Likewise, Laura-Anne Minkoff-Zern, Associate Professor of Food Studies at Syracuse University said:

> "I think it's hard to have a just food and farming system if we don't redistribute some of the wealth from the massive corporations … We get stuck in the weeds of talking about farmers versus farmworkers and small business owners; we ignore the fact that … no matter what the economy looks like, money's being made in the food system. I think we need to be targeting our energies toward redistributing that [wealth], breaking up those monopolies that make it so everyone down the line just gets pitted against each other."

Addressing inequities in the distribution of land and resources was also central to many of the vision themes. People wanted to see a future that would curb financialization and consolidation of farmland. As part of this, they talked about how addressing the inequitable distribution of government subsidies could facilitate land access and environmental health. Rod Ofte, diversified grazier and General Manager of the Wisconsin Grassfed Beef Co-op said:

> "Crop insurance is giving farmers incentives to raise something that loses money. The government subsidizes tilling up the soil, pumping chemicals into it … spraying pesticides everywhere. Why are we incenting that system? … Because … big companies are making a living off that. I think that's the big thing that you need to change."

Evan Schuette, a beginning beef grazier in Illinois emphasized that crop insurance and commodity subsidies are "what's kept the land price up in our county. If you took that away, maybe I could have had cattle in this county, but at $12,000 an acre ground, you just cannot pencil having cattle let alone even row crop at those prices, especially if you are starting out." Interviewees also imagined policies that would directly address concentration in land ownership. For example, Ian McSweeney the Director of Agrarian Trust shared:

> "We're silent on who owns the land … That's why the largest farmland owner in this country is Bill Gates. There are systems at play that allow the aggregation of land. There are systems at play that allow the theft of land, the marginalization of people, removal of people from land, and we're silent on all of that … we're missing the critical piece."

Moreover, as Ian acknowledged, structures within the food system have led to land being taken, mostly from people of color (Horst and Marion, 2019). Interviewees emphasized the need to address this by redistributing land and other resources specifically to marginalized communities. A non-profit employee voiced that in her ideal future, "[land] ownership and access would prioritize young farmers who are from … historically marginalized communities," while Cris Stainbrook, President of the Indian Land Tenure Foundation shared, "my optimal vision … is that American Indian people can own and control and manage what was promised. They have protection of sites off the reservation that are still important to them."

Community stewardship of land and resources was also important to interviewees. Interviewees felt that this could create stronger rural communities, lower the barriers to entry for beginning farmers, and create more viable opportunities for communities of color. Aspiring Farmer, DaQuay Campbell shared that for him, a co-op "would be an ideal situation. I would love to work cooperatively with other farmers to produce a product." Rodrigo Cala, a diversified grazier and Agricultural Trainer with the Latino Economic Development Center talked about how farming cooperatively made sense to him because it was similar to the *Ejido* system where he was born in Mexico. He said that being a part of a cooperative is "not an easy task [but] for me, the co-op is the way to do business because many families can reap the benefit, not just one person."

## 4.6. Social norms

Shifting social norms and values was an important part of all the vision themes, and an underlying issue connected to many other action categories. For example, people spoke of community land stewardship as a means of fundamentally changing our relationship to land and land management. They expressed that the underlying cause of issues with both inequitable land access and detrimental land use is that many people conceptualize land primarily as a commodity and a financial asset. As Neil Thapar, Co-Director at Minnow shared, "community ownership … is starting to return back to an understanding of land not just as a financial asset, but as something that actually provides for community and that a community has responsibility to steward." Moreover, interviewees discussed changing the way we conceptualize food, farms, and farm landscapes to value the wide range of environmental and community benefits they can produce. Rick Adamski, who grazes beef cattle at Full Circle Organic Farm said that he would like to see "food become less of a commodity and more of a cultural experience where we celebrate around food, where we heal with food, that we recognize that it is a part of the gift

of where we are living. [Through food] our relationship with each other and our relationship with the earth can be healed immensely." Dave Wise, a NRCS Tribal Liaison in Minnesota, applied this thinking to farm landscapes, stressing that "we need to wonder more about … what does a healthy landscape look like? How does it feed multi-generations sustainably and answer cultural needs?"

Some interviewees also emphasized that the commodification of land, farms, and food is grounded in Euro-centric, colonial ideologies, and thus undoing legacies of colonialism and supporting communities of color is critical to shifting these social norms. Neil Thapar noted that the conception of farms as a business came to the U.S. with European settlers, and that "Black, Indigenous, and people of color farmers and food producers hold significant value and wisdom" to create a food system that values agriculture beyond the profits it produces. Our conversations with Native interviewees illustrated important differences in the way they think about food and farming. Many emphasized that they think of "food as medicine" for physical, mental, and cultural healing. Along with this, they underscored the impact that colonization has had on their food systems, culture, and health, and the importance of reclaiming traditional foods and farming practices as a means of healing. Gary Besaw, Director of the Department of Agriculture and Food Systems for the Menominee Nation in Wisconsin, shared:

> "When [Native people] were given this highly processed flour and sugar [through colonial government programs] they did their best with what they had, and they made fried bread in grease … It's understood in a lot of people's minds that that's cultural [but] that … wasn't [part of our culture before colonization]. It sure as heck isn't healthy for you … we were one of the healthiest peoples. We'd like to get back to that."

## 4.7. Coalition-building

In addition to these 8 action categories, interviewees also highlighted how identifying the interconnections between these actions can help build solidarity across movements. Jessica Kochick, Federal Policy Organizer for the Land Stewardship Project shared, "I think [there are] cross movement opportunity(ies) with labor, and racial justice, [and] animal welfare," while Daniel Guzman-King, an elected government representative for the Oneida Nation, said, "we treat our environmental … policies separate [from] our agriculture systems and our healthcare systems … I think on global scale we need to change that."

Because the dominant food system is benefiting so few people, there is also an opportunity to build connection across political boundaries around issues like access to a living wage, healthcare, and retirement, farmland transition, and industry consolidation. As Austin Frerick put it: "most Americans will agree, the system just does not work … (I'm not a Trump supporter but) most of my family likes Trump [and] that's something we all agree on … People [who work in the food system] just do not feel respected." To build these connections, workshop participants suggested that organizations could leverage their skill in connecting people to create more space for dialog about shared struggles in the food system and what a brighter future could look like. As Pete Huff put it, "policy does not come from Washington, it comes from people. We all have to think about how to invest in equitable participation and not write people off because they see differently than we do."

# 5. Assessing the transformative potential of actions that support managed grazing

Interviewees saw all 8 action categories as a means of managed grazing and equitable opportunities for graziers. However, to support an *agroecological transformation* these actions must change the structures that maintain the current food system and more equitably distribute power within it. To understand the transformative potential of specific actions within the 8 action categories, we categorized them as *shield, nurture,* or *anchor/release* (Anderson et al., 2021).

## 5.1. Actions that shield agroecology

Actions that *shield* agroecology support agroecological practices like managed grazing but fail to unsettle the socio-political and governance structures that maintain the dominant agricultural system or to shift power toward farmers and rural communities (Anderson et al., 2021). Many of the shielding actions proposed by interviewees were centered around education, markets, or processing (Figure 2; Table 2). These included increasing technical support for managed grazing, beginning, and BIPOC farmers; expanding government-funded conservation assistance programs; revising labeling laws or developing niche markets; and creating opportunities for small processors (Table 2). These actions provide critical support to agroecological farmers and can enable agroecological practices, like managed grazing, to grow in niche spaces. However, because they do little to address the structures that uphold the dominant agricultural system or to shift power within it, they maintain the status quo, and agroecological practices like managed grazing are likely to remain niche. Because of this, shielding strategies are not transformative. However, they are important to the process of agroecological transformation and can provide critical support to those marginalized within the current agricultural system.

Interviewees shared that government-funded conservation assistance programs provided valuable technical support and helped them afford critical infrastructure investments. However, they also felt that the way these programs are structured disproportionately supports conventional farmers. As Meghan Filbert, a small ruminant grazier and Livestock Program Manager at Practical Farmers of Iowa put it, "NRCS does not incentivize producers who are doing the right thing. They only incentivize people who are addressing a resource concern. Grazers do not have resource concerns because they have already been doing the right thing. So, it is backwards. The incentive structure is backwards." Similarly, Dave Wise shared, "sometimes I think we just develop all these programs and the same people that are already on the land, owning the land, continue to reap the benefit."

Accordingly, interviewees wanted to see more programs pay farmers based on the degree to which they are farming agroecologically. Structuring programs in this way could move them into the realm of nurturing, as it would begin to shift the balance of capital and resources dedicated to conventional farms toward agroecological farmers. It could also support beginning farmers who wish to start farming agroecologically as opposed to primarily incentivizing existing farmers to change their farming practices. Some interviewees felt more positively about the Conservation Stewardship Program (CSP) than other conservation

TABLE 2 Actions listed by where they fall on Anderson et al.'s (2021) framework for transformative change and the effect of each category of action.

| Anderson et al. category | Effect | Transformative potential | Examples | Category of action |
|---|---|---|---|---|
| **Shield** | Do not dismantle underlying structures that support the dominant agricultural system *or* significantly shift power within the agricultural system, but provide critical support for agroecological farmers and farming practices | Not transformative alone, but can support other transformative change strategies | • Technical support<br>• Expand conservation assistance programs<br>• Labels & certifications<br>• Institutional procurement programs<br>• Address processing regulations, increase access | Education<br>Education<br>Markets<br>Markets<br>Processing |
| **Nurture** | May not dismantle underlying structures that support the dominant agricultural system, but explicitly shift power to agroecological farmers and rural communities | Somewhat transformative in that they shift power within the system, but do not necessarily transform the system itself | • Farmer-to-farmer networks & co-ops<br>• Communities self-determine how grant funding is spent<br>• Farmworker-led campaigns<br>• Social supports for farm owners & workers | Education, Markets, Processing, Land Access<br>Capital<br>Essential workers |
| **Anchor/release** | Directly dismantle aspects of the dominant agricultural system (release) and replace them with agroecological practices (anchor) | Transform the dominant agricultural system so that it is structured around agroecological principles | • Mainstream education on agroecology<br>• FIDPR 638 Program<br>• Antitrust legislation<br>• Address activities limiting farmland access<br>• Limit commodity subsidies & crop insurance<br>• Dismantle racism & colonialism<br>• Build alternative governance structures | Education, Social Norms<br>Markets<br>Consolidation<br>Land Access<br>Capital<br>Social Norms |

programs because it is set up to pay farmers for sustainable practices rather than incentivizing them to move away from unsustainable ones. However, others were frustrated because they felt the program was still better-suited to conventional farmers. Laura Paine, an agricultural educator who raises beef cattle on Paine Family Farm in Wisconsin, explained how grazing farms are structured such that many of the practices included in CSP are unnecessary. Because CSP pays for individual practices, it means that conventional farms for whom more of those practices are relevant "get paid more per acre by having more things stacked up than (you do) for having a comprehensive grazing program on your farm."

## 5.2. Actions that nurture agroecology

Actions that *nurture* agroecology are similar to shielding strategies in that, depending on the scale at which they are implemented, they do not necessarily dismantle governance structures that support the current agricultural system. However, they explicitly shift power to farmers, communities, and the environment by "bolstering the agency of food producers, democratic governance, and food sovereignty" (Anderson et al., 2021). Some nurturing strategies fall under education, alternative markets, or processing; actions like supporting farmer-to-farmer networks and cooperative farming, marketing, and processing. These actions are different from more common top-down approaches because they support community agency.

Other nurturing actions fall under the "essential workers" or capital categories. Grant-making structures that allow communities to dictate how grant money is allocated is one example. Yimmuaj Yang, Community Director at Groundswell Conservancy in Wisconsin shared:

> "There's a lot of advocates advocating for … bottom-up funding opportunities, where community organizations or the people that are the most in need … dictate how that funding gets used so that it is culturally appropriate, so that it's making differences within the community."

Programs like the Milk with Dignity (MWD) program, which seeks to address labor abuses and support farmworker dignity, are another important example of nurturing interventions. Companies that participate in the MWD program pay farmers so that the farmers can afford to provide quality housing, overtime pay, and paid time off for workers. This redistributes resources from companies who make a disproportionate share of profit in the food system to farm owners and workers, and it has a critical impact on workers' lives.

Importantly, campaigns like MWD are led by farmworkers. Through defining the conditions of the MWD program, MWD gives workers critical agency to determine their own circumstances. However, we have classified it as nurturing because it does not substantially change the relative power of companies or workers within the food system as a whole. Because MWD is voluntary, companies redistribute a small portion of their profits, too little to address issues with wealth concentration. Likewise, recruiting companies to voluntarily join the program is difficult, and MWD currently relies on a single company, Ben and Jerry's, which actively targets a socially-conscious consumer base. Finally, while the program makes substantial improvements in the day-to-day lives of many workers, workers will continue to live in the shadows until there are substantive pathways to citizenship as well as policy changes that protect the fundamental rights of agricultural workers. Outside of MWD, Migrant Justice also does immigration and labor advocacy work to promote systems-level change.

While changing government policies is important to transformative change, MWD intentionally focuses on market mechanisms because the U.S. government has long failed to provide farmworkers with basic labor protections, and momentum to change these policies has been slow. As Marita Canedo, Program Coordinator with Migrant Justice, explained, MWD is seeking to create "our own system in response to lack of (governmental) protections and recognition [for] our communities." This was an important sentiment shared by other interviewees, particularly those who work with communities of color that have generally been marginalized rather than supported by the government. Cris Stainbrook echoed Marita's sentiment, saying "the Federal government [is] too ossified and they aren't going to change Indian country. Indian country is going to have to step up and say, 'we are on our own. We're going to do this stuff. We do not need the federal government anymore.'"

## 5.3. Actions that anchor and release agroecology

Strategies that *release and anchor* agroecology directly dismantle aspects of the dominant system (*release*) and replace them with agroecological practices (*anchor*; Anderson et al., 2021). Through this process they institutionalize agroecology, transforming the dominant agricultural system so that it is structured around agroecological principles rather than supporting agroecology as a niche practice. Actions that *release* directly address the underlying issues inhibiting change and redistribute power and resources. Examples of releasing actions include antitrust legislation to reduce the monopoly power of agribusinesses companies, addressing consolidation and financial speculation in farmland, and limiting crop insurance.

People also emphasized how shifting the balance of agricultural education away from conventional agriculture and toward agroecology could help dismantle social norms that maintain the current system and anchor mainstream educational contexts. Lynn Utesch said: "[The benefits of grazing are] not getting out… through the universities [or] the tech schools, because so many of those instructors are still pushing yield, yield, yield … they are not looking at profits [or] the overall benefits of grazing versus conventional agriculture."

Likewise making space for farmers of color can release and anchor agroecology by introducing different cultural and social norms around food and agriculture. As Neil Thapar shared:

> "Before the US was colonized … this land had been stewarded and preserved for many, many, many years. It's only in that short amount of time (since colonization) that we've seen these catastrophic changes to the landscape, to the water, and to our overall climate … remembering [this] can give us clues as to what… and who we might need to … learn from in order to move forward."

To create opportunities for more farmers of color to participate in the food system, interviewees talked about how we need to address legacies of racist and colonial land policy by redistributing land and resources to communities of color. Members of the Oneida Nation in Wisconsin also shared how the USDA FIDPR 638 Self-Governance Demonstration Pilot Program helps dismantle colonialism and anchor Indigenous agricultural practices. This program seeks to reorient a government food aid program, once used as a tool of colonization, to support Tribal food sovereignty. The U.S. government enacted colonial violence in part through dismantling Native food systems and cultivating reliance on government food aid through programs like FIDPR. The U.S. government controls the sourcing and the type of food distributed through FIDPR, preferencing large farms off-reservation and commodity foods that have contributed to high rates of obesity and other health problems in Native communities. The 638 Program gives some Tribes control over this process, enabling them to choose culturally appropriate foods sourced from Native farmers. This program is an institutional purchasing program, a category of programs that Anderson et al. (2021) classify as shielding because they often do little to change the structure of the market itself. However, we would consider the 638 Program transformative in that it releases the food system from colonial policies and anchors agroecology by supporting the revitalization of Native farming practices.

An example of a non-governmental anchoring strategy can be found in efforts led by the Regenerative Agricultural Alliance (RAA). RAA is bringing together a network of farmers and partners to build an alternative governance system based on agroforestry poultry systems, equitable distribution of power, and democratic and cooperative governance. The goal is to build an alternative and robust governance structure that provides education, capital, land access, collaborative marketing and processing to its farmers who are primarily Latino/a farmers and former farmworkers access to collaborative marketing and processing. The system is based on Indigenous governance structures from Central America, which are run through governing bodies that operate in parallel to the government. While RAA is currently a young organization, their goal is to institutionalize this system at scale, thereby anchoring agroecology. As Reginaldo Haslett-Marroquin, RAA's founder and current co-director put it:

> "The systems are owned, controlled, and designed to be unjust. Exploitation is central to making a profit off people and the environment in the conventional agriculture system. We [will] coordinate ourselves [so that we can] make things change. [We will] collect capital [and] deposit [it] into the common investment funds [to] get the scale of capital that builds a system that is just."

# 6. Conclusion

## 6.1. Identifying opportunities for transformative change

The goal of this paper was to identify which actions that support managed grazing and graziers can also promote agroecological transformation in the Midwestern U.S. Actions that fell within essential workers, land access, capital, and consolidation were more likely to be actions that Anderson et al. (2021) would consider transformative (nurture, anchor/release) – actions that redistribute power in favor of farmers, communities, and the environment and/or dismantle the underlying structures that maintain the current food system. Meanwhile, many actions that fell within the education, markets, and processing categories were shielding actions which are

not transformative on their own (Table 2). Actions to support farmers and farmworkers, promote land and capital access, and address consolidation also overlapped most with interviewees' visions for a more ideal future; more technical issues around education, alternative markets, and processing were less directly tied to the vision themes, while other actions were more central. While actions that fell within education, alternative markets and processing fell less frequently into nurture and anchor/release, this was not true across the board. Much of the current focus in agricultural education is on providing technical support, administered in part through government conservation programs, which is a shielding action. However, some actions within the education category could be more transformative, including developing more farmer-to-farmer education programs (nurturing) or normalizing and scaling public education around agroecology (anchor/release) (Table 2). Similarly, while most actions related to markets and processing are shielding actions, we classified the development of cooperative marketing and processing structures as nurturing, and the FIDPR 638 Program as anchor/release (Table 2).

This does not imply that some actions are more important than others. Actions that nurture or anchor and release agroecology can over time, create a system that better supports farmers, communities, and the environment. However, these actions can be slow to implement, and farmers in danger of losing their farm, workers who lack basic rights, and ecosystems on the verge of collapse, often require more immediate attention. Because shielding strategies can generally be implemented more quickly, they can help fill this gap, providing critical support. Moreover, shielding strategies can play an important role in creating the conditions necessary for more transformative change and supporting the scaling of agroecological processes (Miery Terán Giménez Cacho et al., 2018; Gliessman, 2019). However, if implemented alone, shielding actions are likely to maintain the status quo, meaning that agroecological farming practices like managed grazing will likely remain marginal and farmers and food workers will remain disempowered. Thus, to facilitate transformative change, actions that nurture or anchor and release agroecology are imperative.

Workshop participants analyzed current efforts within the Midwest sustainable agriculture movement and how those efforts could be expanded to support more transformative change. Most initiatives in the Midwest are currently focused on education (particularly technical support), market development, and processing – the action categories that are generally *less* likely to facilitate transformative change. They agreed that focusing more effort on the transformative action categories—supporting farm owners and workers, land and capital access, consolidation, and social norms—was a critical step in the future.

## 6.2. Drivers of change

Another important consideration is the role of government in facilitating transformative change. Interviewees proposed changes to government policy in all 8 action categories, and policy has a place across the Anderson et al. (2021) spectrum. However, some interviewees were skeptical of the role of government in part because the government was and is a source of violence, particularly for people of color. For those who have been repeatedly marginalized through government policy, it is difficult to trust that the government will address this injustice, and there is significant repair that needs to happen if the government is to facilitate transformative change (Allen, 2010). Moreover, politics can make government policy unreliable. Agroecologists emphasize that support for agroecology can fluctuate widely with changes in government administrations (Miery Terán Giménez Cacho et al., 2018; Giraldo and McCune, 2019; Anderson et al., 2021) warn against transformative actions being co-opted to reinforce the power of the current agricultural system. While co-option can happen with both governmental and non-governmental actions, it is a particular issue for governmental policy due to the influence of lobbying power. Current attempts at co-option are evident in the development of carbon markets which are currently designed to primarily benefit conventional farmers.

Additionally, the more transformative the change, the more difficult it is to achieve through government policy. For example, one policy advocate told us that advocacy campaigns around crop insurance reform have been active for 35 years but have made little progress. In 2012 legislation to limit crop insurance payments had passed the House and Senate but was removed before the legislation was signed. For this reason, many policy campaigns emphasize shielding actions (like developing support programs for graziers), while leaving structures that support the current system (like commodity subsidies and crop insurance), in place. Because of this, it is important to support broader governance actions as well, particularly on the more transformative end of the spectrum.

Finally, many Federal policy advocacy efforts within the sustainable agriculture movement focus primarily on the Farm Bill because it is such a critical piece of legislation. However, many of the actions important for transformative change, including immigration and labor policy, social supports like healthcare and retirement, and land policy, are not a part of the Farm Bill. Many of these are critical to supporting racial equity and justice, emphasizing the government's lack of attention to repairing the racial injustice that has happened through agriculture. Therefore, if policy is to be a tool for transformative change, thinking beyond the Farm Bill is critical.

Addressing deep-seated issues with socio-political and economic structures is daunting. However, defining issues based on these underlying structures also presents an opportunity to build a broader, stronger, and more inclusive movement. At this deeper level, the connections between social and environmental problems are more evident (Robbins, 2012), and identifying these connections makes it easier to build solidarity across movements. Interviewees highlighted many potential opportunities to do this including collaborating with movements for labor rights, public health, conservation, racial and environmental justice, and animal rights. Moreover, because the agricultural system benefits so few people, there is opportunity to build connection across political boundaries around issues that affect everyone in the food system such as access to living wages, healthcare, and retirement; land transition; and industry consolidation. Through building a broader, more inclusive movement and working toward actions that address deeper, underlying issues, the Midwest sustainable agriculture movement has the potential to move the food system toward a brighter future.

## Data availability statement

The datasets presented in this article are not readily available because Data is not shared to preserve anonymity of interviewees. Authors can be contacted for more information about the research or

sharing quotes or interview text. Requests to access the datasets should be directed to eblowe@wisc.edu; adena.rissman@wisc.edu.

## Ethics statement

The studies involving human participants were reviewed and approved by the Institutional Review Board, University of Wisconsin-Madison. The participants provided their written informed consent to participate in this study.

## Author contributions

EL and AF conducted interviews, workshops, and analyzed the data, contributed to the conception and design of the manuscript. EL wrote the manuscript. AR and AF edited the manuscript. AR contributed to data collection and provided guidance throughout the process. All authors contributed to the article and approved the submitted version.

## Funding

This work was funded in part by USDA Sustainable Agriculture Systems grant 965 (#2019–68012-29852) (EL, AR, and AF), as well as University of Wisconsin Hatch grant no. WIS01988 and the University of Wisconsin Graduate Research Fellowship program (EBL). AF and EL also received small amounts of funding from the Center for Culture, History, and Environment and the Center for Integrated Agricultural Systems at University of Wisconsin-Madison.

## Acknowledgments

This project would not have been possible without more than 100 people across the Midwest who lent us their time and expertise to participate in interviews and workshops. Particular thanks to Pete Huff, Reginaldo Haslett-Marroquín, Kara O'Connor, Alison Volk, Armando Ibarra, Robin Moore, Jessica Kochick, Jeff Mears, Dan Cornelius, Lori Stern, Celize Christy, and Sarah Hackney for providing feedback that informed the workshop structure, and to AR, Andrew Bernhardt, Claudia Calderón, Laura Paine, Mia Ljung, Michelle Miller, Michael Bell, Randy Jackson, and Rebecca Power for helping to facilitate. We also owe many thanks also to AR for advising the project and editing the manuscript, to Ryan Hellenbrand and Gaby Shay for transcribing interviews, and to Alex Lara for transcribing and translating interviews from Spanish. The text of this document previously appeared in a published dissertation (Lowe, 2022).

*As people who study land and food systems, land and its history is integral to our work. The land on which we live and work is called Teejop, the homeland of the Ho-Chunk Nation. In 1832 the Ho-Chunk were forced to cede this territory, which, along with additional parcels of Indigenous land seized under the Morrill Act, helped build the wealth of University from which we now benefit. While this statement acknowledges our history, it is also a matter of the present. In this project we've worked with members of Native Nations in Wisconsin to identify strategies for dismantling colonialism in our agricultural system. Moving forward, we are committed to developing deeper partnerships with Native Nations, supporting Native sovereignty, and working to address ongoing legacies of colonialism and land-based injustice. We challenge our readers to do the same.*

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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## Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fsufs.2023.1096230/full#supplementary-material

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