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RESEARCH ARTICLE

# A critical assessment of participation in stakeholder engagement in agrifood system research

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## Abstract

The importance of stakeholder engagement and a range of challenges with inclusion in stakeholder engagement has been well articulated in previous research. However, there has been less focus on how participation is shaped by factors such as race, ethnicity and gender. Previous research suggests that agrifood systems are often framed as a space dominated by white men. In this paper, we utilize the framing of social exclusion theory and an intersectional approach to analyze reporting and representation of gender and race of stakeholders in agrifood system studies archived in the Web of Science between 2000 and 2021. We also evaluate reporting and representation by type of research approach, discipline, and over time. Findings show that there is a lack of attention paid to reporting of demographics in empirical research utilizing stakeholder engagement and that women and racial and ethnic minorities are underrepresented. Our results also show that participatory action studies are less likely to report gender and race demographics, that the lack of reporting and representation is persistent across disciplines, and that reporting and representation have somewhat improved over the past five years. We urge researchers to be more specific about whose voices they publish and encourage the inclusion of women and racial and ethnic minorities that are often overlooked as stakeholders in agricultural working landscapes.

**Keywords** Gender · Race · Justice, Equity, Diversity, and Inclusion · Stakeholder · Agriculture · Environmental Justice

## 1 Introduction

The practice of engaging with communities in the production of knowledge and policies has increased in a range of spaces in recent decades, including in government agencies, nonprofits, and universities involved in natural resources and working landscapes. One way that this is framed is via stakeholder engagement. The increasing inclusion of stakeholders in research has occurred in a variety of fields, including health (e.g., Burke et al. 2013), business (e.g., Biraghi et al. 2017), and higher education (e.g., Dempsey 2010). While several of these studies show an underrepresentation of marginalized populations (e.g., Grosser 2009; Warmington et al. 2018; Holman et al. 2021), to our knowledge no systematic review has evaluated demographic representation in stakeholder studies in agriculture and food (agrifood) system research. Questions of exclusion and representation are essential for research focused on the agrifood system, given the historic centering of white men in this system. This centering of white men is problematic in part because many people who work in the agrifood system are women and people of color (Allen 2010). As part of the special issue on stakeholder engagement in working landscapes,[1] this research contributes to the theme of justice, equity, diversity and inclusion; ethics; research; and practice synergies, by considering the degree to which women and racial and ethnic minorities are included in stakeholder research (Eaton et al., this issue).

Stakeholder engagement is a contested term, and the application of this term varies by context (Talley et al. 2016, p. 37–38). Burke et al. (2013, p. 494) find that when looking at definitions of stakeholders among key federal

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[1] Working landscapes are defined as areas that serve human needs for food, resources such as timber, oil, and cotton, and recreation. In this manuscript, we examine stakeholder engagement within the agrifood system broadly, while recognizing and paying particular attention to the essential role that working landscapes play within this system.

agencies funding health research, the term usually refers to "those who have interest in or who are impacted by the proposed research." Looking more specifically at the use of stakeholder engagement in working landscapes, Talley et al. (2016, p. 38) note that stakeholder engagement "most often refers to the participation of stakeholders in planning or decision-making efforts in order to integrate their knowledge and values with a particular project's more specialized knowledge and purpose." They further state that "stakeholders are often broadly defined as those people who are affected by or can affect a decision (following from Freeman 1983, p. 2) and range from the 'average' citizen to groups of highly interested or invested decision-makers." Taking these definitions together, we see that a common theme is that stakeholders have something to say about decision-making, either because of the knowledge and experience they hold or because they may be affected by policies based on stakeholder research outcomes. This definition is reflective of how others define stakeholder engagement in this Special Issue, including Gagnon et al. As noted by Gagnon et al. (this issue), terms such as stakeholder can work to "delimit who is recognized and who is rendered invisible in engagement processes" (p. 3).

When applying the stakeholder concept to the agrifood system, specifically to working landscapes, stakeholders would include farmers, including those who own land (e.g., Guehlstorf 2008, p. 550; Yoder & Chowdhury 2018, p. 357). However, many other actors could bring expertise and knowledge to the process or be affected by research outcomes and decision-making. As agrifood systems extend beyond what occurs on agricultural lands, we can imagine a broader range of people who may be integrated into research related to agricultural landscapes. For example, in agrifood decisions, stakeholders could include not only landowners but also those who work on the land or who live in proximity to the land. Given that we are all impacted by decisions made about the agrifood system, whether via environmental, social, or human health effects, all people are ultimately stakeholders when it comes to agricultural working landscapes. Nevertheless, even if we take a narrower view of who may be included as stakeholders in research on agricultural working lands, and in the agrifood system more broadly, questions of inclusion and representation, including along the lines of race, ethnicity, and gender, are warranted.

Tracking women's participation in agriculture, including as farmers, is difficult given inconsistent data collection by the USDA across time (Ball 2020; Pilgeram et al. 2020). However, some research demonstrates that there has been an increase in women's participation as farmers across time (e.g., Fremstad and Paul 2020, p. 124–125). Whitley and Brasier (2020) note that while women have long played essential roles on farms and that they have not historically been identified as, or self-identified as, farmers, this identity is shifting. According to data from the 2019 Agricultural Resource Management Survey (ARMS), while only 14 percent of farming operations in the US had a woman principal operator in 2019, 51 percent of farming operations had "at least one woman operator" at the time (USDA ERS 2022, p. 1). Gendered participation in farming also varies by race, with nearly 45 percent of Asian producers reporting as female, and nearly 44 percent of American Indian or Alaska Native producers reporting as female, for example (USDA 2019). Nevertheless, white men are much more likely to own land and operate farms and reap the greatest economic benefits found in agriculture (Horst and Marion 2019).

In addition to considering the changing demographics of race, ethnicity, and gender regarding farm owners and operators (Mook et al. 2022), farmworkers are important to highlight. Hired farmworkers play an essential role in the US agrifood system and represent an increasing percentage of farm labor (USDA 2022). A large proportion of hired farmworkers are people of color; 83 percent of hired farmworkers currently identify as Hispanic, with the majority being of Mexican origin (NAWS 2018). A growing number of farmworkers are also women (USDA 2022). Importantly many farmworkers are settled in place, defying assumptions that hired farmworkers migrate, either within the US to different agricultural locations or between a home country and a destination country (Meierotto et al. 2020). Despite the essential role that women and people of color play in the agrifood system, inequalities persist. The exploitation of Mexican-origin men and women, in particular, has become normative in the US agrifood system, and an intersectional lens highlights how various dimensions of marginalization and inequality, including ethnicity and race, gender, class, geography, documentation status, and more influence well-being among Latinx farmworkers (Meierotto et al. 2020). For instance, recent studies demonstrate that farmworkers experience multiple challenges to wellbeing, such as higher than average rates of food insecurity, isolation, and challenges in meeting gendered responsibilities at both work and in the household (Curl et al. 2021; Som Castellano et al. 2022). These challenges are often exacerbated by multiple and intersecting forms of marginalization, linked to race, class, gender, immigration status, geography, and more. Thus, while farm owners and operators are likely centered as stakeholders in agrifood system research, many other actors who are central to work in these spaces are likely excluded. Exclusion may work to further exploit those who are already marginalized, while inclusion could help to reduce exploitation.

This paper examines the dynamics of exclusion and representation in research conducted with stakeholders in the agrifood system, including research on agricultural working landscapes. Rather than focusing on research conducted by government or private entities, this research focuses on stakeholders selected for academic studies. We

pay particular attention to the degree to which women and racial and ethnic minorities are represented as stakeholders in this research. Using the framing of social exclusion theory and an intersectional approach, we use Web of Science to analyze articles published between 2000 and 2021 on the agrifood system, including research on agricultural working landscapes. We include both quantitative and qualitative studies and review the socio-demographic representation of stakeholders in these articles to understand which stakeholders are included—and are excluded—in academic research. For comparative purposes we include analysis of three research approaches: stakeholder engagement; community engagement; and participatory action research.

### 1.1 Benefits and challenges of broadening stakeholder engagement

Including a variety of stakeholders can bring about significant benefits. First, many scholars have noted that management of natural resources cannot be done effectively by only engaging with a few actors (Pellow 2000; Davis et al. 2017; Fraser 2010). It is necessary to include a range of stakeholders involved to understand problem definition and develop effective policy; stakeholders help researchers understand the context and the possible range of actors and issues involved. Further, critical engagement with stakeholders can work to improve social relations and address issues of inequality. This underlines the idea that power and reciprocity must be considered when engaging with the public in research (Davis et al. 2017).

On the other hand, exclusion, particularly systematic exclusion, can lead to several concerns. When people are systematically left out of stakeholder engagement processes and marginalized peoples' perspectives remain undocumented, important issues may be missed, or policy solutions may be developed that excluded stakeholders find unacceptable. This can, in turn, influence the enactment or realization of policies (Cuppen 2018). As noted by Ryder et al. (this issue) in their work on renewable energy projects, not meaningfully engaging with stakeholders in research can fail to reflect the range of priorities in a community and enhance concerns of procedural justice (Dempsey 2010). Furthermore, it can lead to an erasure of marginalized people's experiences (Butler and Adamowski 2015; Collins 2017).

While engaging a range of stakeholders is important, there are many challenges and dilemmas in engaging community members in research (Israel et al. 1998). For instance, including a wide array of stakeholders may be inconsistent with research training (Burke et al. 2013) and could be challenging or uncomfortable for researchers. It can be more difficult to aggregate the array of issues or preferences that likely arise when including a broader range of stakeholders, and often requires more time in addition to skill.

The challenge of engaging a broad range of stakeholders in research arises at the very beginning when determining who the research is relevant to and useful for (Burke 2013). While government agencies now often require stakeholder engagement, in both academic and agency-led work, facilitators and organizers ultimately decide whom to include and who not to include. At the heart of this process is the identification of the groups representing "relevant interests and values" (Cuppen 2018). There is often acknowledgment of the diversity of values and interests that may need to be represented, and people from different organizational types are often included intentionally based on this acknowledgment, with individuals from NGOs, industries, and "knowledge institutions" invited to participate (Cuppen 2018: p. 31). However, generally, this process is directed by researchers in a top-down process. It is largely through this process that exclusion can occur. As Cuppen (2018: p. 31) notes, "It is through these kinds of assumptions on who the stakeholders are and what they are considered to contribute to and how, that participation produces exclusions of social actors or competing visions […]." Furthermore, this systematic exclusion and erasure can further deepen inequalities and marginalization, particularly among those who are already systematically disadvantaged (Wolff 2017).

In articulating their five-feature framework for stakeholder engagement, Talley et al. (2016) discuss the importance of stakeholders being systematically represented. They note that designing and implementing stakeholder engagement should involve "Careful consideration of who is engaged, including consideration of who is excluded" (Talley et al. 2016: p. 3). They continue by asserting that the consideration of who is included via "representation" should "proceed from the stated objective(s) of the [stakeholder engagement]—how to operationalize representativeness depends largely on context and project goals." They further state that care should be taken when deciding whom to involve and that these decisions should be made systematically and with reflection. They acknowledge that marginalization can occur and that this should be avoided. Finally, they note that this may require thinking carefully *and* creatively. This writing brings up crucial points about the importance of care and reflection and how research may work to marginalize. In this paper, we argue that it is essential to think about how framing a project from the start can lead to the systematic exclusion of stakeholders, particularly those who have been historically marginalized and those who experience structural inequality. Therefore, understanding the degree to which exclusion occurs is essential, as is understanding how exclusion occurs prior to decision-making processes related to whom to include in research, and how. This is related to the writing of Gagnon et al. in

this issue, who argue that inclusion and exclusion can be shaped through the power of language, reducing the degree of diversity in engagement.

### 1.2 Exclusion, structural inequality, and power in stakeholder engagement

Tseng and Penning-Rowell (2012, p. 253) identify potential barriers to stakeholder engagement, including "stakeholder-based barriers; time-related barriers; and barriers caused by power inequalities." Focusing primarily on this third barrier, we frame our understanding of how and why stakeholder engagement in agrifood system research may lack inclusion by considering social exclusion and marginalization. According to Lightman and Gingrich (2013, p.124), social exclusion "refers to the official procedures and everyday practices that function to (re)produce and justify economic, spatial, socio-political and subjective divides." Social exclusion is dynamic and relational and involves "group-making" (Lightman and Gingrich 2013, p 406–407). Social exclusion can help us understand how disadvantage operates in society and can thus help frame our understanding of who is excluded, by whom, and why.

Social exclusion and marginalization, which can occur entirely or partially, are embedded within power structures that exist within a space. Therefore, exclusion and marginalization are linked to structural inequalities, such as along the lines of race, gender, and immigration status. Social exclusion and marginalization operate through various social institutions, values, and norms and can result in disadvantages in formal employment, informal work, receipt of social programs, inclusion in decision-making, and much more (e.g., Carr and Chen 2004; Popay 2010; Shucksmith and Chapman 1998; Yanicki et al. 2014). Significant for the work presented here, overrepresentation of those with privilege and underrepresentation of the marginalized can lead to specific populations or groups being included or excluded in engaged and participatory research.

Women and people of color have long been marginalized globally and in US society, including in various ways in the agrifood system. As noted above, women and people of color occupy essential positions within the agrifood system, yet they are often invisible in agriculture. Research, for example, has long shown that women's contributions to farm households have been considered "helping" and invisible labor, rather than reflecting the reality that in many instances, the work of women is essential for the functioning of farms and associated households (Haney 1982; Whitley and Brasier 2020). Many farms where women are the sole operators are smaller scale, focusing on sustainability and may operate outside of the realm of larger scale, industrialized agriculture (Struthers 2014). Women are not only underrepresented as farm operators, but women farm operators also make less money. Women are considered "socially disadvantaged farmers" by the USDA and experience a large gender wage gap (Fremstad and Paul 2020. p. 127–128). In their work analyzing representation on USDA agency websites and social media, Fairchild and Petrzelka (2020) found that the dominant focus was on white men, perpetuating the hegemonic idea that agriculture is the domain of those who are white and male.

People of color have also long experienced inequality in the agrifood system, including on agricultural working landscapes. Vividly illustrated by the enslavement of African Americans forced to work in agriculture, the system of sharecropping, and unequal lending practices, Black farmers in the US have been marginalized in US agriculture throughout history (Touzeau 2019, p. 45–46). Indigenous peoples in North America have also experienced marginalization in agriculture. While tribal communities across North America had varied and unique food systems, many of which included cultivation before the arrival of Europeans, they and their agrifood systems were devastated through settler colonial processes of dispossession, displacement, massacre, and assimilation (Gahman 2016; Horst and Marion 2018).

In addition to framing this work through a lens of exclusion, we further apply an intersectional lens, which can help guide our understanding of how specific populations are excluded within research on agricultural working landscapes. Intersectional approaches aim to illustrate how multiple identities and forms of marginalization, most often class, race, and gender, intersect and influence a person's life chances and life experiences, including as stakeholders in environmental decision-making (Ryder et al. in progress). In the case of research utilizing stakeholder engagement, likely, multiple identities often intersect, making some people and populations even more likely to be excluded. This is particularly likely with the case of farmworkers.

Racial and ethnic minorities have long played an essential role in the agrifood system as farmworkers. As noted above, farmworkers are not only predominantly people of color but are furthermore increasingly women. While farmworkers are frequently referred to as unskilled, others acknowledge the skill that farmworkers bring to their work and the ecological knowledge they hold (Klocker et al. 2020). For farmworkers, the intersection of various forms of marginalization, including race, ethnicity, gender, geography, and immigration status, can make them particularly vulnerable, physically and socially (Curl et al. 2021; Meierotto et al. 2020). Their marginalization and vulnerability makes them likely to be excluded in research on agricultural working landscapes.

### 1.3 The power to exclude

Social exclusion helps us understand not only who may be excluded, but also how. Referring to the definition of social

exclusion above, we are reminded that social exclusion is relational (Popay 2010) and can occur through everyday practices. Utilizing a relational approach to understanding social exclusion turns our focus to “exclusionary processes that are driven by unequal power relationships” (Popay 2010, p. 295). Therefore, important here is a discussion of power.

Following from Morriss (2006), here we consider power to involve the capability to influence outcomes. In the case of this study, we must consider: Who has the power to exclude or include? One way to conceptualize how power operates in research with stakeholders is through the concept of authority. As noted by Erickson et al. (2015, p. 524), "Authority captures how the operation of power manifests in the competition for influence and the ability to exert agendas by one individual or institution over another.” One form of authority is decision-making authority, which can occur in various spaces, including formal organizations and the household. Incorporating stakeholders into research on agrifood systems involves decision-making. As noted above, the researcher plays a dominant role in decision-making throughout the various stages of a study, including via the choice of research topic, development of research questions, methodological choices, and more. The use of authority to decide whom to include and how is therefore essential in the research process and is generally directed by the principal investigator in a study.

The actions of researchers are shaped by structural factors, including grant funding, academic preparation, human subject reviews, and accessibility. Further, some agrifood system research focuses on decision-making in agriculture, such as on best management practices (BMPs). In this context, it may seem obvious to focus on stakeholders who hold decision-making authority. However, as noted elsewhere in this manuscript, this focus misses (a) the knowledge that other stakeholders may hold with regards to what is most effective in best practices for the land, (b) the ways in which information may be spread on agricultural operations, and (c) the people who are most likely to be directly affected by decisions on working landscapes in terms of exposure to chemicals, work availability and load, and occupational health and safety. Thus, historically marginalized populations, and the continuation of oppression in the present potentially limits the knowledge that can be gathered and denies opportunity for all stakeholders to be involved.

As the concept of subjectivities suggests, exclusion may be reinforced through the internalization and the self-perception of those who have historically been excluded. In addition to not being seen by others as essential stakeholders, some people might not see themselves as stakeholders, further rendering them invisible in research. As noted above, this can influence the outcomes of research and further entrench or normalize existing inequalities and invisibilities. Furthermore, the historical and ongoing structural vulnerability of specific populations, such as farmworkers, may produce distrust of authority and fear of repercussions of participating in research, making farmworkers less likely to participate as stakeholders in the case that they are invited to participate. A recent example of this includes farmworkers being invited to participate in a study focused on pesticide exposure. During recruitment for this research a number of potential participants insisted that the farmers they work for needed to be notified before they would be comfortable agreeing to or enrolling in the study (personal correspondence).

While researchers may play a key role in exclusion, there has also been a growing movement to democratize research. Yet while efforts have been made to employ new methods and theories, many have asserted that we also need to shift how research questions and projects are developed. In speaking about efforts to decolonize research, Zavala (2013, p. 57) argues that "a fundamental lesson from decolonizing projects is the following: where the research grows from and who funds it matters as much as if not more than the kinds of research methods/strategies used or the theoretical frameworks that inform such work.” Community action research, for instance, argues for the forging of "research alliances with relevant stakeholders in the community to explore and develop solutions to local problems” (Ozane and Anderson 2010: p. 123). Inherent here is the idea that research can be co-produced. The coproduction of research can disrupt the traditional, linear model of knowledge production and communication. With coproduction, there is an interaction between “users” and "producers" of knowledge, which can lead to better outcomes, including as it relates to the sharing and application of research findings (Baker et al. 2020).

Building from this, we should also consider how different disciplines may be more or less likely to employ the concept of stakeholder engagement and may also be more or less likely to be inclusive when this term is applied to empirical research. As Baker et al. (2019) found, engagement with "non-researchers" was higher among academics in the fields of public health and the social sciences and humanities. However, to date, important gaps remain in assessing whether demographics such as gender and race and ethnicity have been sufficiently reported in agrifood system research and whether women and racial and ethnic minorities are sufficiently represented as stakeholders in these studies. Furthermore, whether reporting and representation of these demographics vary by research approach, discipline, and over time has not been assessed.

Addressing these gaps in the literature is important because while there can be challenges to engaging a diverse range of stakeholders, limiting engagement can be ineffective, and it can work to reproduce social inequalities and unequal outcomes within a community and further reproduce the invisibility of those who are already marginalized

(Dempsey 2010; Brandt et al. 2018). In this research, we utilize a theory of social exclusion and an intersectional approach to guide our understanding of who and how people may be systematically left out of research using stakeholder engagement on agrifood systems, including on agricultural working landscapes.

## 2 Methods

### 2.1 Sample

To examine who is included as stakeholders in agrifood system research, including research on agricultural working lands, we engaged in an extensive study of published, peer-reviewed literature focused on agrifood system research, including studies on agricultural working landscapes. Using the Journal Citations Reports from Web of Science, we first identified the top 100 journals in each of the following categories: Agriculture, Multidisciplinary; Sociology; Ecology; Environmental Studies; and Geography. We then identified journals relevant to agrifood system research in the reports from each of these categories. From there we prioritized the journals with representation in multiple categories ($n = 10$ journals), and next those that were in the first 5 of each disciplinary category and that were not already represented in the initial 10 identified ($n = 13$ journals). In total, we analyzed 23 journals publishing empirical (not exclusively theoretical) social science research on the agrifood system. For a list of journals please see Appendix.

Next, using Web of Science we searched each of these journals for articles using the following terms: stakeholder AND engag*; community AND engag*; and participatory AND research. The period of time we searched for was 2000–2021. We eliminated articles that were set outside of the USA and Canada, those that were not empirical studies, and those that were not specific to the agrifood system. Using these selection criteria, 143 articles remained. We combined the stakeholder AND engage category with the community AND engage category, due to significant overlap. In total there were 117 in that combined category and 26 articles in the participatory research category.

Each of these articles were qualitatively reviewed to capture a range of measures, including year of publication, journal, the number of people included as stakeholders, whether race and ethnicity of participants were identified, if yes, what percentage were non-white, whether gender of participants were identified, if yes, what percentage of participants were not men, and target groups for stakeholders (possible categories included landowners, farmers, agency employees, university researchers/extension, etc.).

### 2.2 Measures

Before moving on to our research hypotheses and analytical approach, we explain the variables used. All observations for the *Year of Publication* ranged from 2000 to 2021. To facilitate comparative analysis, we grouped publication years quinquennially as 1 = 2000–2005, 2 = 2006–2010, 3 = 2011–2015, 4 = 2016–2021. The variable *type of research* consists of stakeholder/ community engagement = 0, and participatory research = 1. The variable *Journal* consists of the 23 journals related to research with stakeholders in working landscapes, as noted above. Journals with articles remaining after individual article analysis was complete were divided in primarily environmental science/ agricultural-oriented journals = 0 (Journal of Agricultural & Environmental Ethics, Renewable Agriculture & Food Systems, International Journal of Agricultural Sustainability, Landscape & Urban Planning, Agroecology & Sustainable Food Systems, Ecosystem Services, Rangeland Ecology & Management, Journal of Land Use Science, Agriculture Ecosystems & Environment and Global Environmental Change- Human and Policy Dimensions) and sociology and social science-oriented journals = 1 (Rural Sociology, Journal of Rural Studies, Sociologia Ruralis, Agriculture & Human Values, Society & Natural Resources, Ecology & Society, Applied Geography, Human Ecology, and Environment and Planning A)[2].

The variable *stakeholder* was qualitatively assessed, and potential categories included landowners, farmers, agency employees, university researchers/extension, NGOs, and farmworkers. The variables *race & ethnicity identified,* and *gender identified* were measured on a binary [yes = 1/no = 0] scale. For the articles that identified the race and ethnicity and/or gender of the stakeholders, we created the variables *percentage minority* based on the proportion of included stakeholders belonging to non-white (e.g., Latinx, Black, Asian, or Native American communities) and *percentage women* based on the proportion of included stakeholders identifying as women or female[3]. In articles with multiple case studies, an average was calculated for the percentage minority and percentage women variables.

### 2.3 Research questions and analytical approach

In this paper, our analysis is guided by the following research questions. (1). Do most agrifood system stakeholder studies

[2] Four journals were excluded from this analysis because there were no remaining articles left after the exclusion criteria were applied.

[3] While the term female was often used to describe demographics in the research reviewed here, we use the term women, as the key concept of interest here is gender.

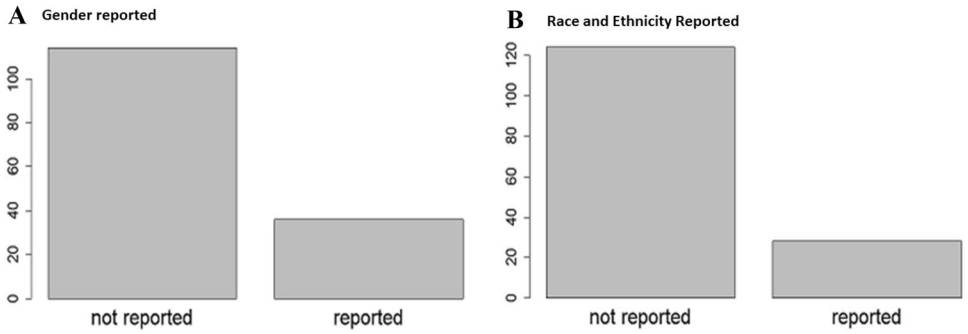


**Fig. 1** Bar graphs showing the frequency and percentage of studies that reported the gender (**a**) and race and ethnicity (**b**) demographics of stakeholders

report gender and race demographics? (2). How well are women and racial minorities represented in agrifood system studies? (3). Does reporting of these demographics vary between participatory action and stakeholder and community engagement studies? (4). Are sociology and human-geography-oriented journals more likely to report gender and race demographics than environmental science/agricultural-oriented journals? Are these journals more likely to include women and racial and ethnic minority stakeholders in their studies? (5). Has reporting on demographics of stakeholders, particularly gender and race, in agrifood system studies improved over time? Has the proportion of women and racial and ethnic minority stakeholders improved over time?

To answer our first research question, we use the *percentage women* and *percentage minority* variables, respectively, to evaluate whether women and racial and ethnic minority stakeholders are represented in agrifood system stakeholder research. To answer our second research question, we use the *gender identified* and *race & ethnicity identified* variables to evaluate how many articles reported these demographic identifiers. Then, we use the variables *gender identified* and *race & ethnicity identified* with the variable *type of research* to examine whether participatory action or stakeholder and community engagement research are more likely to report gender and race and ethnicity demographics. To answer our third research question, we use the dependent variable *journal* and the independent variables *gender identified* and *race & ethnicity identified* to compare whether sociology and human geography-oriented journals are more likely than environmental science/agricultural-oriented journals to report these demographics. Next, we use the dependent variable *journal* and independent variables *percentage minority* and *percentage women to compare* whether sociology and social science-oriented journals have higher mean percentages of racial and ethnic minorities and women stakeholders in their studies. To answer our fourth research question, we use the variable *year* and variables *gender identified* and *race & ethnicity identified* to evaluate whether gender and race and ethnicity reporting has improved over time. Finally, we use the variable *year* and the variables *percentage minority* and *percentage women* to compare the mean percentage of women and racial and ethnic minority stakeholders for each quinquennial to evaluate whether gender and race and ethnicity representation has improved over time.

## 3 Results

As shown in Fig. 1, in our sample of 26 that reported race 60% of stakeholders (median) are white. However, the mean suggests a lower proportion of white stakeholders (49.85% white). While the relatively high minority participation in stakeholder studies seems promising, several studies have been conducted exclusively in minority communities, such as indigenous communities, which are also the studies where the race and ethnicity of the stakeholders were reported. Therefore, the actual percentage of racial and ethnic minorities in agrifood system studies, and in turn agricultural working landscape stakeholder studies, is likely overestimated. The total number of agrifood system stakeholder studies that reported race and ethnicity is 26 out of 143 articles. The data for the first research question "How *well are women and racial minorities represented in agrifood system studies*?" shows that among articles with reported demographics, men are disproportionately researched in stakeholder engagement studies with a median of about 60% (see Fig. 2). In our sample of 32 studies that reported gender, 57% of stakeholders are men. This result likely underestimates stakeholders who are women due to the low number of studies ($N = 32$) where gender was reported and researchers with a more diverse sample being more likely to report gender demographics.

The data for our second research question "*Do most agrifood system stakeholder studies report gender and race demographics? Are sociology and human-geography-oriented journals more likely to report gender and race demographics than environmental science/agricultural-oriented journals?"* shows that the overwhelming majority (75%) of studies in our sample fail to report gender demographics and an even greater number of studies (80%) fail to report race and ethnicity demographics (see Fig. 3). Most of the studies in our sample use the individual as the unit of analysis in the study, although several studies

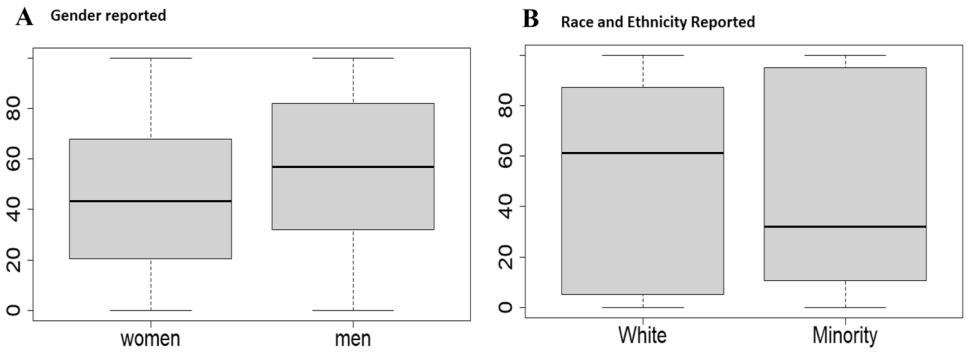


**Fig. 2** Boxplots showing the percentage of women (**a**) and racial and ethnic minorities (**b**) engaged as stakeholders in agrifood system studies

use "farms" or other entities as units of analysis. Sociology and human geography- oriented journals are 9% more likely to report race and ethnicity of stakeholders than environmental science/agricultural-oriented journals, yet were 3% less likely to report the gender of stakeholders (see Fig. 4). While the difference between the disciplines is negligible, the result is surprising as sociologists and geographers are typically trained to evaluate their research questions with social class, gender, and race and ethnicity in mind (e.g., Grusky 2019). Sociology and human-geography-oriented journals are slightly more likely to include a higher percentage of women and minority stakeholders in their studies. However, in both cases these differences are on a relatively small sample of articles that did report gender and race and ethnicity demographics, therefore the differences could be due to chance. Furthermore, sociology and human-geography-oriented journals published slightly more articles focused entirely on minority populations (e.g., Indigenous communities) which might have skewed the results.

Next we assess the third research question "*Does reporting of these demographics vary between participatory action and stakeholder and community engagement studies?"* Comparing participatory action studies with stakeholder and community engagement studies, we find that the stakeholder and community engagement studies in our sample are more likely to report gender (33% of studies) and race (11% of studies) than participatory research studies, where 11% reported gender demographics and a meager 7% reported race demographics (see Fig. 5). This is a surprising finding as participatory action research is designed on the principles of collaboration and reflection (Keahey 2020).

Our fourth research question is "*has reporting on gender and race demographics on stakeholders in agrifood system studies improved over time? Has the proportion of women and minority stakeholders improved over time?"* We find that gender and race and ethnicity reporting in agrifood system studies remained somewhat stable between 2000 and 2010 and deteriorated significantly between 2011 and 2015. However, reporting of gender has improved significantly over the past five years growing from its lowest point of 7% of studies reporting gender of stakeholders in 2011–2015 to 31% in 2016–2021. Similarly, reporting of race and ethnicity finds a somewhat similar trend with 13% of studies reporting race and ethnicity in 2011–2015, and 25% in 2016–2021. We find that the percentage of women stakeholders increased in the period from 2000 to 2015, however decreased in the period from 2016 to 2021. Building from the finding noted above in the literature review that sustainable agriculture is more likely to involve women, relative to conventional agriculture, the use of innovative approaches that take a more holistic perspective of the agrifood system including for

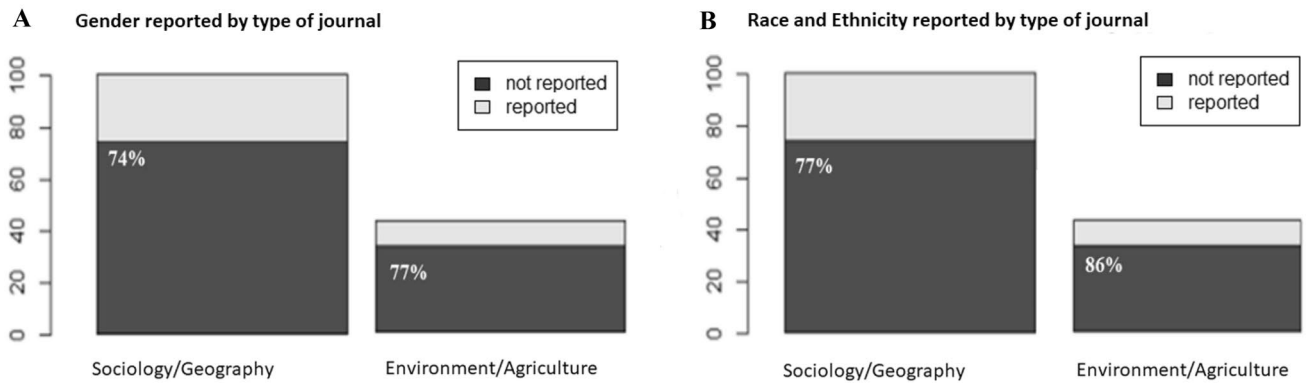


**Fig. 3** Stacked bar graphs showing the frequencies and percentages of studies in sociology/human geography journals and environmental science/agricultural-oriented journals failing (shaded region) to report gender (**a**) and race and ethnicity (**b**) demographics of stakeholders

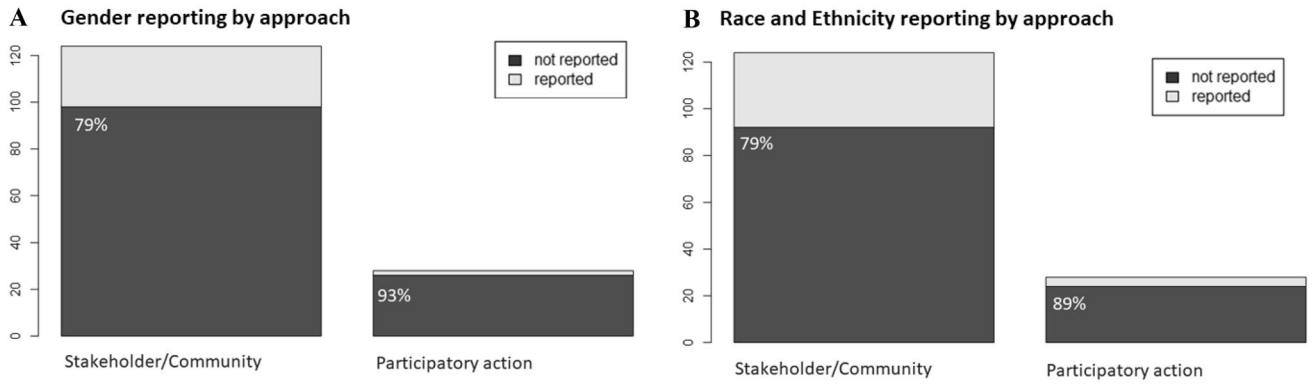


**Fig. 4** Bar graphs showing the mean percentage of women (**a**) and minority (**b**) stakeholders by environmental/agricultural and sociology/human geography-oriented journals

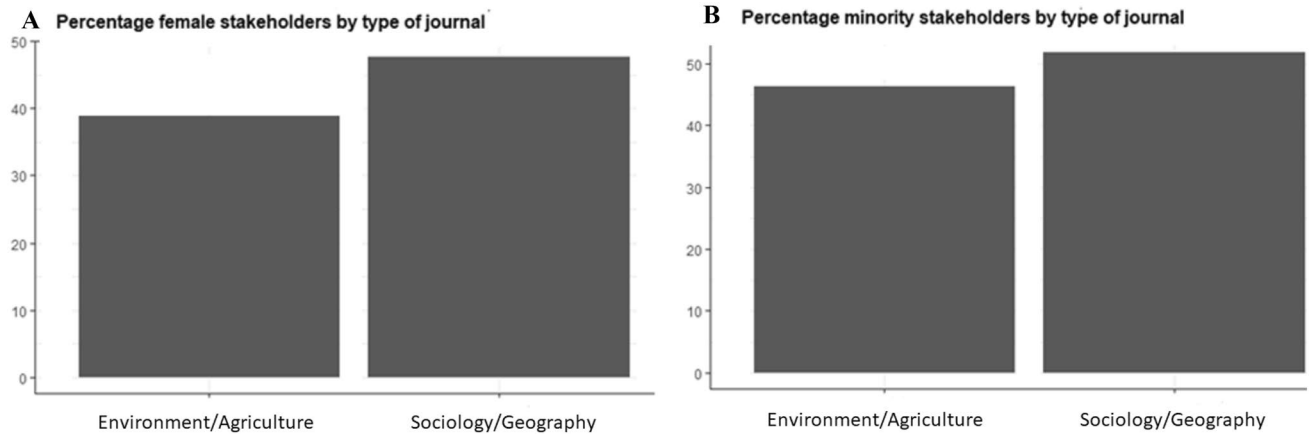


**Fig. 5** Stacked bar graphs showing the frequency and percentage of studies failing (shaded region) to report gender (**a**) and race and ethnicity (**b**) demographics of stakeholders

example consumers, residents, and volunteers in sustainable agriculture projects may similarly be more likely to include women (see Fig. 6). Further, research that includes consumers or volunteer-driven projects often has an overrepresentation of women stakeholders as they are more likely to be responsible for food provisioning, including shopping. For race and ethnicity, on the other hand, we do see an increase in minority stakeholders in agrifood system research, growing from 16% in 2011–2015 to 25% in 2016–2021. These results should be interpreted with caution, however. Especially in earlier years, low gender and race and ethnicity reporting led to a relatively low number of studies to calculate the mean percentage over each time period. Nevertheless, given increased reporting over the past five years, our findings do suggest that racial and ethnic minorities have a greater actual or acknowledged role in agrifood system stakeholder studies in the past five years (see Fig. 7).

## 4 Discussion

This paper examined the degree to which women and racial and ethnic minorities are included in agrifood system research utilizing stakeholder engagement. Our analysis involved a systematic review of articles in agrifood system journals that utilized the terms "stakeholder engagement," "participatory research," and "community engagement." We found that despite all the talk about the importance of engaging stakeholders in research, a relatively small number of articles published in these journals explicitly utilized the concept of stakeholder engagement in empirical research in the US and Canada during the 20-year time span of this study. In addition, a large portion of articles did not report on demographics, particularly socio-demographics. This was true even in articles that focus on demographics as essential variables in the analysis. Frequently, when demographics were reported, gender and/or race and ethnicity were not identified. At times there would be mention that these

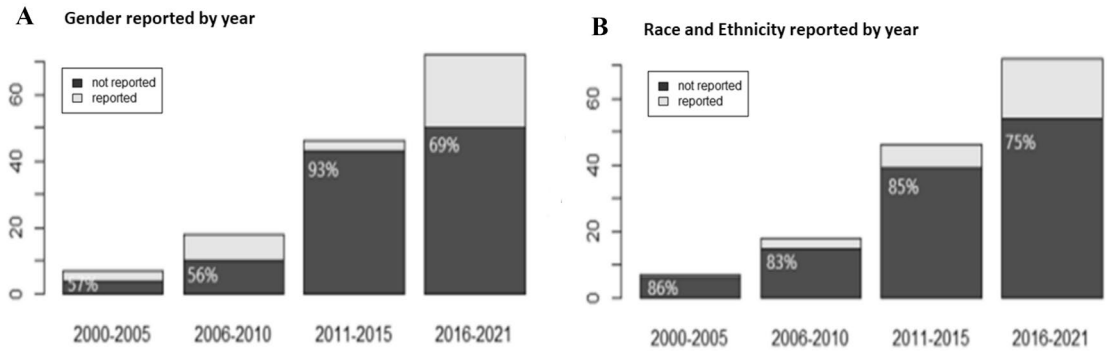


**Fig. 6** Stacked bar graphs showing the frequency and percentage of studies failing (shaded region) to report gender (**a**) and race and ethnicity (**b**) demographics of stakeholders

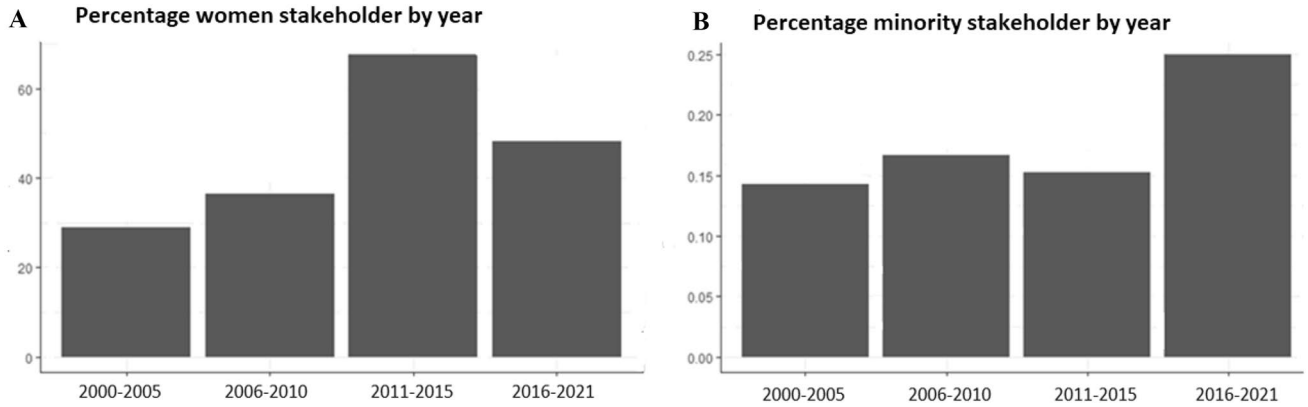


**Fig. 7** Bar graphs showing the mean percentage of women (**a**) and minority stakeholders by year

data were collected, but they were not reported. This raises important questions about why socio-demographic data are not being gathered or reported. Some journals did seem to be more likely to report out some demographics. For instance, several articles published in *Human Ecology* reported on the gender of research participants. While in this journal race and ethnicity were rarely explicitly reported out, they did have a significant number of articles focused on the experiences of Indigenous populations, suggesting an implicit focus on non-white stakeholders. However, a more explicit reporting on race and ethnicity would increase transparency and accountability. Furthermore, when gender and race and ethnicity demographics were reported across the journals we examined, our data suggest that women and racial and ethnic minorities were underrepresented as stakeholders in agrifood system research, including research on agricultural working landscapes.

Our findings reflect in part the broader social landscape rather than actions specific to researchers. For instance, as noted in the literature review there are a range of structural factors that shape decision-making regarding who is included in research, and whether certain demographics are reported. These include historical and contemporary hierarchies and practices reflected in the agrifood system, such as those related to race, gender, class, and immigration status, which are connected to structural features of the agrifood system; historical research practices; and dictates from federally funded research. For instance, previous research suggests that women are more likely to be represented in sustainable agriculture, and we see this reflected in these findings. Take an article by Iles et al. (2020), for example, where not only were race and gender identified, but women were found to be highly represented, with 57.1 percent of the sample being women. In this instance, the authors did the work of acknowledging these socio-demographics. Importantly, the subject of their research also made it more likely that women and people of color would be represented.

When interpreting these findings, it is important to consider how utilitarian factors may be at play. For instance, some researchers may be hesitant to ask about race and ethnicity when conducting research based on a perception that asking about these variables could make research

participants uncomfortable, or out of concern for confidentiality, which may be a particular issue in rural communities. Yet while the behavior of researchers may be constrained in several ways, researchers do have a role to play in addressing issues of exclusion through the practice of research. The lack of demographic reporting our findings demonstrate suggest that we need to do a better job of reporting the demographics of research participants collectively as researchers. This is essential for us to be able to develop clarity on the state of inclusion and work on appropriate metrics and goals regarding inclusion. Our findings also suggest that women and racial and ethnic minorities are not represented in agrifood system research to the extent that they are involved in the agrifood system. This further suggests that farmworkers are largely left out of stakeholder-engaged agrifood system research, including studies focused on agricultural working lands. As noted by Talley et al. (2016, p. 8), one of the essential steps in the process of stakeholder engagement is "systematic representation," where it should be asked: "1. Who are you engaging, and why? 2. How do you know this is the "right" set of stakeholders, and is it possible that relevant stakeholders have been excluded?" We would echo this statement and emphasize that our understanding of who the "right" set of stakeholders are is shaped by social structure and power. As researchers, we should consider how structural inequalities, exclusion, and power shape hierarchies within the agrifood system and how our own research reproduces these hierarchies via decision-making authority. In particular, we argue for researchers to more carefully consider how farmworkers, who live near agricultural working landscapes and work in the agrifood system, and who hold important knowledge, skill, and insight that could benefit stakeholder processes, are excluded because of intersecting identities, including race and ethnicity, documentation status, gender, and more. Similar to the work of others in this special issue (e.g., Healy and Booth, Whitton and Carmichael), this research also affirms the importance of co-production of research. The decision of research topics and questions matter, as this may shape who we understand the "relevant stakeholders" to be. Who is involved in the research topic and question development process and methods can significantly shape who is included as respondents/stakeholders/partners. This is also one way that concerns related to asking about socio-demographics in research can be addressed.

Additionally, this study suggests that there is a need for greater clarity regarding what is meant by the term stakeholder engagement and how it may differ from other ways of engaging individuals with the research process. The data suggest that there were no significant differences regarding representation in the different categories of research analyzed (stakeholder and community engagement, relative to participatory research). This may be related to a lack of clarity with regards to definition and application of key terms, such as "stakeholder" and "community." This relates to the work of Gagnon et al. (this issue) and their assertions regarding the importance of careful and deliberate use of language. All forms of community-engaged research should report on the demographics of research participants and actively engage a diverse set of individuals in their work with communities.

Relevant here is the concept of procedural justice, which can be defined as "the extent to which individual and organizational actors are able to meaningfully participate in the decision-making process" (Ryder 2018, p. 267). As noted by Jenkins et al. (2016, p. 4) procedural justice "requires the use of equitable procedures that engage all stakeholders in a non-discriminatory way." Our findings suggest that some agrifood system research violates procedural justice. To increase procedural justice, we should be using our decision-making authority to ensure that more people are involved *throughout* the research process. This is not only an issue to be solved by individual researchers. We need to consider how as a community of researchers we are embedded within larger systems of power, which shape our practices and decision-making. This includes the role that federal funding plays in perpetuating who is included as stakeholders in research, particularly on agricultural working landscapes. These findings can potentially provide some small evidence that researchers need to be pushing back (or expanding) current requirements placed on researchers when they are operating in these contexts.

That said, we should not assume that inclusion will lead to greater justice (Pellow 2016). By focusing on inclusion, we agree to the systems through which power and inequality often function. Further, as Gaventa (2006) has noted, engagement can entail not only access or presence but also influence. Thus, we also need to think beyond simple inclusion and consider meaningful influence over processes and decisions. Otsuki (2016) asserts that while people are often "at the table," this may do little to change the status quo. Further, they and others (e.g., White 1996) have argued that dissensus politics and organized non-participation can be powerful ways to address the needs of marginalized populations. In sum, through the practice of research scholars can do much to improve inclusion in research processes, including when stakeholder engagement is the goal. However, as in all acts of research, this should be done with thought and care and should not be understood as a sufficient act in improving justice, equity, and inclusion in research in agrifood systems broadly, and on agricultural working landscapes more specifically.

### 4.1 Limitations

This research has several limitations. First, this research focuses exclusively on the US and Canada. While we suspect that unequal representation of marginalized stakeholders in working landscapes will be found across the globe, a broader scope is not practical because understanding marginalization and measuring diversity of stakeholders varies by region. For example, in Western Europe we would expect a high number of marginalized Eastern European farmworkers that may be white and EU citizens, but nonetheless excluded as stakeholders in agrifood system research (e.g., Rye and Andrzejewska 2010). Additionally, the analysis dichotomizes categories, such as race and gender. There is a need to more dynamically understand processes of power and representation in research utilizing stakeholder engagement. As Slocum (2007, p. 521) notes, "Whiteness is hegemonic in the US... regardless of the number of bodies in a certain place."

### 4.2 Suggestions for future research

Given our findings and the limitations of our study, expanding research to consider processes of inclusion and exclusion on stakeholder engagement in other parts of the world would be an important next step. Further, while we worked to be systematic in our selection of journals, we were only able to examine a select number of journals. Future research could expand on this study by examining a broader range of journals and focus not only on the numbers of people coming from marginalized identities that are represented, but further could seek to understand how their ideas are included in research. For instance, next steps in research could pay attention to the ecological knowledge that farmworkers hold, the ways in which this knowledge is understood by farm owners, and whether and how their perspectives are included or excluded from research utilizing stakeholder engagement. Thus, future research should involve building on the findings of this paper to reveal not only who is represented in research but also the degree to which, and the ways in which they are included and excluded.

## 5 Conclusions

The purpose of this research was to examine the degree to which women and racial and ethnic minorities are included in agrifood system research utilizing stakeholder engagement. By engaging in a systematic review of articles in agrifood system journals that utilized the terms "stakeholder engagement," "participatory research," and "community engagement" we identified that few articles published in these journals explicitly utilized the concept of stakeholder engagement, that a majority of articles did not report on socio-demographics, and that women and racial and ethnic minorities are underrepresented as stakeholders in agrifood system research, including research on agricultural working landscapes. These findings contribute to our understanding of who is included as stakeholders in agrifood system research, and who is excluded. Importantly, farmworkers appear to be largely excluded in this research, which is concerning given the central role they play in the agricultural working landscapes. A range of structural factors work to shape decision-making among researchers, and as researchers we need to enact our agency in order to improve representation among the stakeholders we engage with. Further, moving forward we should be cognizant of thinking not only about who is included, but how, and to what effect.

## Appendix

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|---|---|---|---|
| Agriculture and Human Values | Ecology and Society | Human Ecology | Rangeland Ecology and Management |
| Agroecology and Sustainable Food Systems | Ecosystems Services | International Journal of Agricultural Sustainability | Renewable agriculture and food systems |
| Agriculture Ecosystems and Environment | Environment and Behavior | Journal of Agricultural and Environmental Ethics | Rural Sociology |
| Annual Review of Environment and Resources | Environment and Planning A—Economy and Space | Journal of Land Use Science | Society and Natural Resources |
| Applied Geography | Environment and Planning D | Journal of Rural Studies | Sociologia Ruralis |
| Behavioral Ecology | Global Environmental Change—Human and Policy Dimensions | Landscape and Urban Planning | |

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## Declarations

**Conflict of interest** On behalf of all authors, the corresponding author states that there is no conflict of interest.

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