GUEST EDITORIAL

Advancing the scholarship and practice of stakeholder engagement in working landscapes: identifying and responding to six key research gaps

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1 The current state of knowledge on stakeholder engagement in working landscapes

Improving management of complex socio-environmental problems that threaten human and environmental well-being requires coordinating action across diverse stakeholders who are active in both managing and perpetuating these challenges. Better coordination between stakeholders and researchers can lead to multi- and transdisciplinary (academic with non-academic) interactions needed for building more robust scientific knowledge and solving practical problems to achieve more sustainable agroecosystems (Herrero et al. 2019; Wyborn et al. 2019). Given the limited success of top-down, regulatory-led approaches for solving complex socio-environmental problems, interest in and implementation of stakeholder (and rightsholder) engagement is on the rise (Newig et al. 2018; Jager et al. 2019). Stakeholder

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engagement is defined here following Reed (2008, p. 2418) as a process whereby individuals, groups, and organizations choose to take an active role in making decisions that affect them. Stakeholder engagement bears the promise of achieving normative goals (those considered morally right or good), including empowering stakeholders to shape research and decisions that will affect their lives (Arnstein 1969), instrumental goals for encouraging pro-environmental behavior and improving environmental quality (Koontz and Thomas 2006), as well as addressing inequalities. To reach these goals, while also addressing social injustices, there is growing interest in understanding the role of political power, inequality and non-western epistemologies in engagement (Brandt et al. 2018; Latulippe and Klenk 2020; Dobbin and Lubell 2021). However, enthusiasm for and the practice of stakeholder engagement has outpaced evidence for its effectiveness at achieving social and environmental goals (Newig et al. 2018; Jager et al. 2019; Feist et al. 2020).

As a result, whether and how, under what conditions, and for whom stakeholder engagement leads to actual changes in environmental behaviors or improvements in social and environmental outcomes remains uncertain (Koontz and Thomas 2006; Newig et al. 2018; Musch and von Streit 2020; Eaton et al. 2021). In the context of working landscapes—spaces where livelihoods are inextricably linked with policy and the use and management of land, water, and other natural resources (Plieninger et al. 2012, p. 2 of 14)—understanding the efficacy of engaged approaches in reaching social and environmental goals is particularly urgent, as the sustainable production of food, and the ability to respond to climate change, depend on the behaviors of and coordination among stakeholders, researchers, and practitioners in these spaces. Without systematic knowledge about what forms and types of engagement produce intended or unexpected results, those taking engaged approaches risk wasting time and resources, perpetuating inequities, and ultimately

failing to achieve lasting social and environmental change (Schulsler et al. 2003; Bluhdorn and Delflorian 2019; Huang and Harvey 2021).

2 Our approach to addressing research and practice needs for stakeholder engagement in working landscapes

Given the pressing nature of these concerns, we, the authors of this article, along with additional team members, convened an international working group of over 160 researchers and practitioners of stakeholder engagement in working landscapes. This working group met regularly in a virtual format over the course of a year in 2021 and 2022 to achieve the following goals: (1) the co-production between researchers and practitioners of a research agenda for stakeholder engagement in working landscapes (see Eaton et al. 2022); (2) the formation of a network of engagement researchers and practitioners to facilitate future work (Eaton et al. 2022); and (3) the production of the present special issue to contribute to gaps in our understanding of the efficacy of stakeholder engagement in working landscapes. The research agenda (goal 1) was formed through an iterative process of eliciting ideas and expertise from the workshop participants, analyzing these participant responses and then returning these categorizations back to participants for further refinement. The collaborative research network (goal 2) includes a subset of workshop participants that continues to convene, address, update and move forward the goals of the research agenda, leverage funding, form relationships with other similar networks, and expand participation to further diversify the network. Submissions to the present special issue (goal 3) were developed through a writeshop process with workshop participants, though outside submissions were also welcomed. This writeshop process took place concurrently with the workshop series and included peer-reviewed writing circles, lightning talks, and author meetings intended to improve articles, foster learning, and identify linkages across papers. After initial review of resulting publications, twenty authors were invited to lead development of new research manuscripts for this special issue.

Socio-Ecological Practice Research is an ideal fit for this special issue because of its focus on transdisciplinary research with implications for both new knowledge production and knowledge that can improve ecological practice. This special issue expands our understanding of what the planning, implementation, and assessment of stakeholder engagement could look like in working landscapes, and provides explicit guidance to help practitioners make informed decisions about their engagement activities. For example, it provides a detailed set of opportunities for research to fill key gaps in our understanding of stakeholder engagement

effectiveness, while also growing our understanding of the contexts where investments in the intensive process of co-production with stakeholders leads, or does not lead, to desired outcomes. The authors and contributors are scholar-practitioners of stakeholder engagement who aim to improve practice and broader understanding of the science of engagement.

3 The thematic areas of need that we identified for advancing stakeholder engagement in working landscapes

While this special issue was originally convened to begin to address the gap in our understanding of how diverse forms and types of stakeholder engagement lead to different outcomes, we found, through our workshop and writeshop processes, that there was a need to address a broader range of practice and knowledge gaps in the literature. The articles in this special issue therefore address the full range of themes identified in the co-produced research agenda (Eaton et al. 2022), which were (1) Justice, Equity, Diversity, and Inclusion; (2) Ethics; (3) Research and Practice; (4) Context; (5) Process; and (6) Outcomes and Measurement. Articles addressing gaps 1 and 2 in this special issue explore who participates in engagement activities and why. Those addressing gap (3) focus on the skills needed by both the engager and the engaged to bridge differences and to overcome barriers to engagement. Authors attend to gap (4) through investigation of how external and internal factors influence the engagement process. Gap (5) is addressed through questioning how various approaches to engagement shape outcomes, while gap (6) is approached by authors who ask how and when engagement leads to positive or negative changes.

The articles included in this special issue feature qualitative analysis of case studies from across the world, literature reviews, and reflection on personal experience and practice. Through these approaches, the authors of this special issue make notable contributions to addressing the six key research gaps described above. The articles contribute to both the theory and practice of stakeholder engagement in working landscapes in ways that can ultimately guide practitioners, researchers, stakeholders, and rightsholders, toward achieving desired social, behavioral, and environmental goals. In what follows, we briefly summarize each of the articles we included in this special issue.

3.1 Justice, equity, diversity, and inclusion and ethics

Understanding the ethics of stakeholder engagement and its implications for justice, equity, diversity, and inclusion (JEDI) in working landscapes is a theme of relevance to all

six identified research gaps, but is also deserving of focused attention as stakeholder engagement has the potential to either exacerbate or help alleviate power imbalances among actors and as practitioners must carefully consider the ethics of their work. Som Castellano and Mook (2022) contribute to the JEDI and ethics components of the overall research agenda by asking who participates in engagement research in agricultural working landscapes. They systematically review social science literature in the agrifood system with specific attention to the race, ethnicity and gender of stakeholders in empirical stakeholder-engaged research projects. Based on their review of 143 articles across 23 journals between 2000 and 2021, they find, first of all, that the demographics of stakeholders are vastly underreported, inhibiting a thorough examination of representation across demographic categories. Secondly, they find that for articles that do include demographics, women and racial minorities are underrepresented as stakeholders, with negligible increases over time. The authors argue researchers must be more specific about whose voices they publish and that women and racial and ethnic minorities are often overlooked as stakeholders in agricultural working landscapes.

Gagnon et al. (2022) contribution to this collection's focus on JEDI is to call attention to the language commonly used in stakeholder and community engagement, and how different language systems can both construct boundaries for engagement, or conversely, build bridges. Their team draws from rich experience with food-energy-water systems science and Indigenous knowledges and languages, with particular focus on lessons from Indigenous knowledges, to contrast languages of boundaries and bridges through detailed first-hand accounts. The key points made in this article are that typical approaches to building capacity, e.g., among teams of researchers and practitioners, may not critically reflect on how language itself may play a hand in limiting inclusion in engagement efforts, and that failure to examine language closely may unwittingly serve to construct boundaries for joining diverse stakeholder and rightsholder interests and perspectives in addressing wicked problems in working landscapes.

Ryder et al. (2023) contribute to our understanding of how engagement processes shape outcomes with a particular emphasis on ethical and social implications of community engagement pursued only to meet the needs and interest of renewable energy project developers. Through interviews and qualitative analysis, they focus on relationships between actor rationale, the structuring of engagement processes, and how communities perceive the driving forces behind engagement practices. They find that engagement is often perceived by community members as insincere, insufficient, ineffective and instrumentally driven. They suggest that a more community-centered approach to energy project engagement is necessary. This can include creating more inclusive decision-making processes where powers are balanced and designing community engagement to incorporate multiple rationales beyond achieving social acceptance of energy projects.

3.2 Research and practice

The journal of Socio-Ecological Practice Research values research with real-world implications for practice. Within the context of stakeholder engagement in working landscapes, one of the issues in reaching this real-world impact is the disconnection between practitioners of engagement and scholars of engagement. The articles helping to connect research with practice in stakeholder engagement highlight the importance of teaching future researchers how to conduct engagement-based projects that build shared definitions of success and manage participant expectations as key to ensuring success in researcher-practitioner partnerships. Canfield et al. (2022) investigate how researchers and stakeholders perceive and value engaged research using a case study of a solution-driven research project designed to solve challenges related to nutrient pollution in Cape Cod, Massachusetts. They use semi-structured interviews with project participants to determine how well the project worked and its impacts on research to improve coastal water quality. They find that project participants believed the engaged approach improved perceptions of the usefulness of the research, in part because participants had a shared understanding of success. They also find that while this type of engaged research holds promise, it requires significant time commitments and would be improved by more efficient communication infrastructure.

Next, Healy and Booth (2023) make the case for teaching good engagement practices in university course settings. Drawing from personal and professional experiences as teachers of engagement practices and processes with a Canadian university, these authors reflect on and share their pedagogical and instructional approach to building future practitioners' capacity to convene and facilitate effective community engagement. Their aim here is to counter the catch-22 of, on the one hand, a growing interest in and plethora of approaches to engaging with diverse stakeholders (including virtual), and on the other, an apparent shortcoming of ethical foundations and practical knowledge. Their contribution sets the stage for dialogue on pedagogical needs and opportunities related to stakeholder engagement training.

Holzer et al. (2023) provide a perspective essay that details the lessons they learned organizing virtual stakeholder workshops to support landscape governance research and practice, offering insights into the barriers to engagement in virtual contexts. Specifically, they describe their experiences organizing and facilitating three workshops

in support of a Canada-wide project to monitor, model, and improve governance of ecosystem services. Overall, they suggest that while online workshops do not replace the need for in-person relationship building, virtual stakeholder engagement can be successful when the workshops and their goals are kept simple, feasible and straightforward, and organizers are flexible and adept at managing participant expectations.

3.3 Context

The ability of stakeholder engagement processes to lead to desired outcomes, including behavior change that supports sustainability, depends upon contextual factors internal and external to the stakeholders (Eaton et al. 2021), including institutional structures and settings that shape the rules and norms of engagement. Lindemann et al. (2022) argue that while university extension programs have typically focused their efforts on rural spaces, they need to develop outreach and engagement approaches designed to promote urban well-being and resilience that take into account the complexity of urban issues and social systems. Using a narrative-based inquiry and interview approach, they examine how Pennsylvania State University extension educators and faculty practiced extension in urban communities and how communities experienced those efforts. They found that the centralized organizational structure of the Pennsylvania State Extension system and siloed nature of the working environment made taking the time to build collaborative relationships with urban communities and understand their needs, perspectives, and lived realities difficult. Further, they found that the traditional epistemic model of university extension programs, one rooted in information transfer, acted as a barrier to translational and co-produced approaches to extension education, which are needed to account for and reflect the full complexity of urban spaces and well-being. Overall, their work suggests that building community relationships in urban places through democratic and translational approaches to extension education and engagement is central to extension fostering urban resilience.

3.4 Process

Achieving desired outcomes from stakeholder engagement also requires an understanding of the factors that shape the effectiveness of the engagement process itself. Burbach et al. (2023) show us that engagement processes in collaborative water management benefit from participants who are able to collaborate across scales, sectors, and organizations. Through qualitative case studies of two stakeholder engagement processes in two different watersheds in Nebraska,

the authors examined boundary spanning behaviors of participants through direct observations of meetings and interviews with 25 stakeholders. The results suggest that there is a spectrum of boundary spanning behaviors, where some behaviors are more prevalent (e.g., relationship building, perspective-taking, and authentic leadership) than others (e.g., autonomy, trustworthiness, and effective science communication). The authors suggest that conveners of collaborative processes consider incorporating this spectrum of boundary spanning behaviors amongst participants. Such skills can increase the efficacy of collaborative processes by linking and facilitating exchange of knowledge and information between diverse groups. Further, the authors found that boundary spanning behaviors increased throughout the stakeholder engagement process, which indicates the importance of designing processes that allow for information sharing over time. Overall, this research contributes to our understanding of the importance surrounding who is part of collaborative water management efforts and the design of these processes to allow for collegial interactions over time.

Fisher et al. (2022) describe their approach to building capacity among urban climate change adaptation and resilience stakeholders through the development of a stakeholder-engaged course shared with partners across 12 countries and 40 cities of South and Southeast Asia, and the Pacific Islands. The course is being used to assist municipal leaders and stakeholders in developing a shared and locally relevant understanding for the physical impacts and processes associated with climate change in their communities. The course built capacity for identifying vulnerabilities, adaptation strategies, and identifying resources for implementing policies and projects. Overall, their article provides a map for researchers and practitioners to activate and build community capacity to respond to local challenges and opportunities associated with climate change, and in doing so, highlights engagement process features and designs conducive to community capacity building.

Jackson-Smith and Veisi (2023) draw attention to growing interest in farmer participation in research. Building on previous conceptual and practical work, they develop an updated typology of participatory farmer research that incorporates a growing diversity of goals and approaches in participatory projects. Their typology clarifies three dimensions of participatory research with farmers: goals and motivations; methods and approaches; and contextual conditions shaping process dynamics and outcomes. This typology is useful for design, evaluation, and distinguishing among a range of participatory approaches. Their hope is to generate discussion of the range of farmer engagement approaches currently in play internationally and invite reflection on how these practices fit or extend their new typology.

3.5 Outcomes and measurement

Understanding what outcomes are achieved through engagement and how they can be measured is essential to building an understanding of when and why certain approaches to engagement (e.g., co-production, consultation) should be implemented. Church et al. (2022) help build this understanding by empirically examining the credibility of assertions that knowledge co-production helps solve complex environmental problems by enhancing the adaptive capacity of communities confronting climate change. To do this, the authors qualitatively analyze 13 case studies of United States Department of Agriculture National Institute of Food and Agriculture portfolios that funded research, education, and extension projects focused on climate and water issues on working lands. Their novel case study approach included qualitative analysis of several sources including interview and survey data as well as reports and publications from individual projects. Remarkably, they found that projects targeting specific stakeholder needs and resources, as compared with highly interactive co-production efforts, had strong connections to adaptive capacity outcomes. These findings ask researchers and practitioners to think critically about the intensity of engagement when designing stakeholder engaged research projects that aim to increase adaptive capacity.

Next, Singletary et al. (2022) describe a collaborative research framework (CRF) as part of a stakeholder engagement process in the Walker River Basin, California-Nevada, USA (the SNOWPACS project). Here, the authors report on their initial engagement implementation, which entailed 28 interviews with a diverse set of stakeholders. This initial interview process helped facilitate building relationships between the research team and stakeholders, while providing foundational information that helped set project goals and objectives. As part of the CRF, the authors conducted a formative evaluation to understand and measure outcomes of the initial interview by administering an online survey to the interviewees within 48 h of the initial interview. The formative evaluation results suggested that the initial interviews helped participants understand the project's scope and goals. Moreover, participant responses indicated broad support of collaborative research processes, positive perceptions about collaborating with the SNOWPACS project specifically, and confidence that their expertise would be incorporated into the project. Overall, this research showed the importance of putting stakeholders at the center of the CRF to co-produce knowledge that is hoped will lead to adaptation to continued reduction of water supplies.

Finally, Urcuqui-Bustamante et al. (2022) pose the question, can role-play simulations, as a novel form of stakeholder engagement, foster desired outcomes including collaborative learning, empathy, and trust? To do this, they drew findings from two role-play simulation workshops on payment for hydrological services in the state of Veracruz, Mexico—programs that provide resources to support adoption of land-use activities upstream favoring sustainable water use beneficial for downstream users. They then facilitated discussions with stakeholder participants on how the design and features of role-play simulation can best achieve social and environmental goals. Their analysis of mixed-methods data collected through these workshops suggests role-play simulations did enable collaborative learning—participants reported change in views on programs, program administrators, and overall knowledge of payment for hydrological services. Their research contributes to the evidence base for change through engagement including evidence for collaborative learning outcomes through a role-play simulations.

4 Summary of contributions and next steps

This special issue includes an article describing a co-produced research agenda for advancing understanding and practice of stakeholder engagement in working landscapes (Eaton et al. 2022), as well as 13 articles and essays that begin to address the gaps identified in this co-produced research agenda. The research agenda published here is the product of the iterative collaboration among over 160 international researchers and practitioners who convened virtually over the course of a year, and lays out both a practical and conceptual infrastructure for future work in response to pressing needs for improving both engagement processes and our understanding of and methods for doing and assessing stakeholder engagement in working landscapes. Through this iterative co-production process, members of the collaborative identified six areas in need of further understanding in stakeholder engagement in working landscapes: (1) Justice, Equity, Diversity, and Inclusion; (2) Ethics; (3) Research and Practice; (4) Context; (5) Process; and (6) Outcomes and Measurement. This special issue not only describes these gaps and needs, but also begins to address them through the contributions of the enclosed articles on topics ranging from demographic representation of stakeholders in engaged research to the relationship of engagement design to socio-ecological outcomes. Moving forward, our team will continue to refine and fill gaps in this agenda, while also networking with each other and other engagement organizations to identify, implement, and reflect on socio-ecological practices in stakeholder engagement that produce desired social and environmental outcomes.

Declarations

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