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Proceedings - U.S.A Agroecology Summit 2023

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PROCEEDINGS

U.S.A. Agroecology Summit 2023

This docket is a memory of the meeting held in Kansas City from May 22-25 called the 2023 USA Agroecology Summit and contains all the documents generated before, during and after the meeting.

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Contents

Introduction to the 2023 USA Agroecology Summit

Agroecology is increasingly recognized for its potential to address multiple crises in the food system, including those pertaining to climate change, biodiversity loss, rural livelihoods, nutrition declines, food insecurity, environmental degradation, and persistent racial and social inequities. According to the High Level Panel of Experts of the World Committee on Food Security (HLPE 2019), agroecology reflects,

"Approaches that favor the use of natural processes, limit the use of purchased inputs, promote closed cycles with minimal negative externalities and stress the importance of local knowledge and participatory processes that develop knowledge and practice through experience, as well as more conventional scientific methods, and address social inequalities. Agroecological approaches recognize that agrifood systems are coupled social–ecological systems from food production to consumption and involve science, practice, and a social movement, as well as their holistic integration, to address food and nutritional security."

This definition is useful because it encompasses a broad understanding of agroecology within which a diverse set of actors - from scientists to movements to farmers – are viewed as important participants.

Agroecology has become a key part of the global response to climate change, while meeting food needs and ensuring no one is left behind. Yet awareness of agroecology and its implementation in the United States is lagging relative to many other countries. While there are related fields of thinking, movements, and approaches in the U.S. (e.g., regenerative agriculture, organic, sustainable agriculture, local food, food justice), agroecology has been underdeveloped, despite its potential to foreground the deep transformative changes desperately needed here in the U.S. and globally.

The notion of advancing agroecology in the U.S. raises many important questions, such as: What does agroecology look like in different socio-ecological contexts? What practices, technologies, and market-arrangements are best suited for U.S.-based agroecology? How can we tackle the structural barriers in U.S. agriculture and food systems (e.g., unequal land ownership, Farm Bill policies and processes, corporate concentration and corporation-dominated markets), especially as they relate to racial inequality and other dimensions of inequity in this country? Given the political and economic power of agribusinesses in the U.S., how can agroecology gain a foothold? How can research and academic institutions be transformed to confront the structural and systemic barriers that constrain agroecology? How can research support agroecological transition processes at the farm, community, regional, and national levels? What is required of researchers who seek to collaborate with farmers, farmworkers, rural communities, and social movements? What kinds of shifts in funding programs, priorities, and in the governance of public and private research need to occur to support agroecology? How can a bridge be created from the current US agriculture system to one based on agroecological principles?

These questions motivated a group of scholars to convene the first national summit on agroecological research in the U.S. The summit Organizing Committee commissioned the survey presented in this report to inform the discussions and debates at the 22-25 May 2023 summit in Kansas City. The summit convened scholars, activists, and growers to build relationships, identify shared goals and values, navigate disagreements, and learn together across differences. One specific goal was to leverage this convening to support the development of research that could help advance agroecology in the U.S. The aim was to prompt thinking and guide researchers, organizations, and other actors engaging with research in their agroecology work. The Organizing Committee wishes for the outcomes of the summit to help inform the wider agroecology community, farmer

organizations, research networks and groups, foundations, the USDA, and other policymakers. Such outcomes, we hope, can help mobilize policy change and increased financial support for agroecology writ large and, more specifically, for individuals and communities who have been most harmed by food and agricultural policies to date.

Any effort to envision a path towards scaling agroecology in the U.S. must draw on the experience and expertise of a diverse array of participants. To that end, the summit gathered a group of nearly 100 researchers, activists, funders, policymakers, and practitioners from across the country. But while the group of participants was diverse, it represented only a fraction of the many perspectives, experiences, and priorities that comprise agroecology in the U.S. We desired a way to invite additional perspectives so that summit proceedings and outcomes may be informed by a broader range of voices. To that end, we created a pre-summit survey. We viewed the survey as an opportunity to include the perspectives and knowledge of those who, due to logistical constraints, were unable to attend the summit. The preliminary results of this survey were shared prior to the event and are included in this docket (p. 51).

General Notes on the Summit

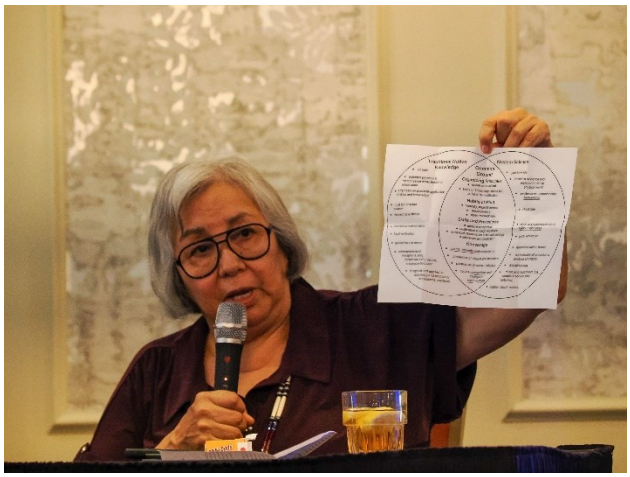
The event had diverse representation of participants from different disciplines in universities, farmer organizations, social movements, NGOs, students, Indigenous Peoples and geographical representation from across the United States, Puerto Rico, and Europe.

Holding a national level summit was an important moment for agroecology in the United States and brought together a plurality of perspectives in a participatory meeting with the aim to lay the groundwork for an ongoing process of relationship-building, co-learning, and co-production of knowledge.

While this created a rich dialogue, it was also clear that the protagonism of the research community in the organization of the meeting resulted in many tensions, highlighting the importance of foregrounding Indigenous, community and social movement voice in the planning and fabric of such convenings.

The organizing committee has been meeting periodically since the meeting and discussing how to best support the range of different follow-up activities that were suggested and initiated at the event. Below is a summary of outcomes and processes that are being generated out of this event. Some of these were planned before the summit, others emerged from the discussions at the meeting itself and reflect the enthusiasm, energy and ingenuity of the members of the agroecology community that assembled in Kansas City.

There was interest in continuing this national agroecology process in some form, with a possible follow up meeting in 2-years' time and many related initiatives, ideas and projects that are now spinning-off of this event. The organizing committee has continued to meet monthly and as of late 2023 is considering how to best transition from the summit to next steps that could continue to build agroecology in the region. Any next iteration needs to have a wider diversity of actors from Indigenous, farming and other affected communities to foster a dynamic that facilitates a dialogue of knowledges and intercultural exchange that can support the flourishing of agroecology in the USA.



Video Outcomes

These videos were produced so that the presentations and ideas shared at the Summit could be shared more widely and used as resources in communities, classrooms and other contexts. These and other videos are available at the UVM Institute for Agroecology's YouTube page (@agroecology_UVM).

8-minute compilation video, providing an overview of some of the dialogue from the 2023 Agroecology Summit held in Missouri. https://youtu.be/zlVR7ulnRG8?si=W2VR2QGywlETB9Cc

Panel Sessions

Opening Session - Framing and Context on Advancing Agroecology in the USA https://youtu.be/KCCPAacySwo

Session 1 - Configuring Research Institutions and Approaches to Advance Agroecology in the USA https://youtu.be/jFW96K_2Q3Y

Session 2 Centering Diversity, Equity and Inclusion in US Agroecology
https://youtu.be/uOeSzN4jERw

Session 3 Translating Research and Agroecological Knowledge into Practice
https://youtu.be/4RYpxSEWVX4

Session 4 Harnessing Resources, Redirecting Policy and Addressing Structural Barriers to Advance Agroecology
https://youtu.be/BE7ZVmsJrqo

Other Outcomes

Some immediately available material:

- The Organizing Committee met with the USDA-NIFA representatives that attended the conference to discuss the follow-up opportunities to bring the learnings from this meeting into the USDA process. We wrote a short summary of the conference from the perspective of the organizing committee in relation to implications for USDA's engagement with agroecology (see p. 45)
- You can read a commentary on the conference from Steve Gliessman who is one of the earliest academic advocates of agroecology in the USA.

Outcomes that the participants from the conference are working on in self-organized groups:

- A **Special Issue** of commentaries and research articles on agroecology in the USA in The Journal of Agriculture, Food Systems and Community Development (JAFSCD), expected to be released in March 2024.
- A group is writing a "**Statement of Commitments**" for agroecology in the USA, which is currently being drafted and will later be shared for sign-ons. This statement focuses on – and is written primarily by – voices of groups who are too often left out of academic-focused discussions of agroecology.
- A group is focused on developing a new **Community of Practice**. Interest in creating a sharing space to exchange about Agroecology research emerged from this Summit. A goal is to create networking and co-learning opportunities to strengthen collective action, knowledge co-creation and the exchange of innovation and information to improve research quality and build lasting and equitable partnerships among stakeholders.
- A group has formed on the issue of **agroecology data sovereignty.**
- Another post-summit idea is to draft a USDA-focused sign-on declaration, to address what it might entail for USDA to seriously engage agroecology, and how doing so would change their domestic and international work.
- An initiative to organize those at **1862 Land Grants** to mobilize for Institutional support at 1892/1994 Land Grants which tend to be neglected and receive less funding.

Other information:

- We have been connecting participants to existing networks for the agroecology-scholarship space; including:
    - The Agroecology Research Action Collective (ARC)
    - Inter-institutional Network for Food and Agricultural Sustainability (INFAS), an academic-focused network, open to all.
    - Sustainable Agriculture Education Association (SAEA)
    - The US Food Sovereignty Alliance
- Participants are encouraged to become a reviewer for NIFA, to help ensure that agroecology-oriented funding applications receive a fair review process.

Summary of Notes Taken from Each of the Five Sessions

After each of the five keynote and panel discussions, participants in the room were asked to hold small group discussions at their tables (of 5-8 people) and to record a few comments and notes. These were collected and the following reflects short syntheses of the main points that were raised in those notes. The notes recorded at the tables were more comprehensive in the earlier sessions than the final sessions and thus the synthesis of the fifth session is relatively short. We encourage you to watch the videos and read the written statements from panelists to explore different aspects of the panel topics from more in depth and diverse perspectives.

Monday May 22 - Opening Session

Keynote: Ricardo Salvador

Panelists: Deb Neher, Raj Patel, Molly Andersson, Steve Gliessman

Four key themes emerged from the comments made by attendees following the Opening Keynote. First, many tables discussed the importance of centering the work of Agroecology around farmers rather than academics. As one table noted, "If farmers are leading, things work better." Another table commented, "AE is studied by academics, but practiced by others (farmers)." In advocacy of greater inclusion of farmers in the formation of research questions, one table wrote, "Who is asking the research questions? Need to ask farmers" and consider other practitioners like farmers, hunters, fisherfolk, food producers, workers, and gathers. Another table supported this idea, writing, "research could further tailor itself to the questions of today and to the farmer needs." While the tables seemed to support continued research among academics, they took away the idea that farmers must ultimately be at the heart of their work.

The second key takeaway was that there is a need to include more diverse perspectives in Agroecology and to root out social inequities through Agroecology. One table wrote, "Diversely engage small holders and others to diversify and move faster." Another table posited as a point of inquiry, "How to redistribute power based on what the US owes the world, based on what harm we've caused." Supporting the idea that Agroecology has a role in answering this question, one table noted, "Reparations/reconciliation/resource redistribution - guideline, emerging from Agroecology."

The third key takeaway is that there is urgency in the need to advance the Agroecology movement. For example, one table wrote, "SENSE OF URGENCY: We do not have 30 years. Academia needs to move faster." Another table queried, "What new ideas can we give funders that advocates the agroecology movement more rapidly and effectively and urge people to collaborate?" Other tables focused on the need for policy change; one wrote, "Change policies to link grants rather than compete with each other and fracture what we need to apply." Another proposed, "Create a road map to influence and change the U.S. Agriculture trade policies to align with agroecology principles."

The fourth key takeaway was that there is a need for greater, and more equitable, land access in the United States. When discussing missing social change movements, one table identified "Land access for people who want to farm" as one such movement. This same group recommended that the USDA "move away from individual farming practices," and instead, "think about things more systematically." Another group noted as a critique of the status quo that, "Ownership of land =

humanity in the US." In discussing the need for land justice, one table wrote, "History of land use (colonialism) has an impact on what is happening today."

Tuesday May 23 (AM) - Session 1: Configuring Research Institutions and Approaches to Advance Agroecology in the USA

Keynote: Tim Crews

Panelists: Nick Jordan, Andrew Berardy, Ivette Perfecto, Annie Shattuck

Two key themes emerged in the discussions about the Tuesday morning panel. First, many tables discussed the necessity of practitioners driving the research instead of academics. For example, one table wrote, "Need to engage practitioners in developing research agendas and allocating resources." Another table noted, "Ask farmers, communities what they are concerned about: identify needs from those who will benefit." Finally, one table wrote about the need for "more connections between community organizations and research, co-creation."

The second key theme was discussing the ability for farmers to scale while maintaining sustainable practices. For example, one table wrote, "Critical scaling theory needs to be used." Another table noted, "So much basic agronomic/ecology problem solving that needs to be done to get to sustainability." When considering the issues faced by some who cannot scale up production, one table discussed, "What are the levers? For collective action of small-scale diversified farmers? Everyone is victimized by the system."

Tuesday May 23 (PM) - Session 2: Centering Diversity, Equity and Inclusion in US Agroecology

Keynote: Devon Peña
Panelists: Jennifer Taylor, Antonio Roman-Alcalá, Hannah Duff

Three key themes emerged in the discussions among attendees following the Tuesday afternoon session and panel. The first key takeaway identified was that Diversity, Equity, and Inclusion (DEI) efforts should be integrated meaningfully rather than consisting of a "checkbox" process. One table noted, "Worries about creating DEI efforts and being praised for it, but then that being pointed to as a 'well we have the thing already.'" Another table wrote, "If [DEI] work isn't integral to your process, it's ornamental." Finally, one table discussed the potential "performativity" of this process where institutions say "we do DEI" as a badge but fail to transform the culture of their organizations.

The second key takeaway identified was that Agroecology should collaborate with social movements to purposefully advance equity. As one table wrote, "Requires collaboration with social movements, inclusive movements that are complementary (e.g. climate justice, abolition, housing, healthcare)." Another table noted the need for a "shift in thinking of DEI, toward relationship building and reciprocity." Finally, one table discussed the idea that there is "so much to learn from movements, how to ally and connect - don't have to be the one individual." The idea that DEI is largely about diversifying staff positions with individuals of more 'diverse' backgrounds was by and large rejected as tokenizing and inadequate.

The third key takeaway was that Agroecology should work to promote BIPOC voices, not only including them but also elevating them to positions of power. One table noted the need for "diversity in power not just participation." Another table emphasized this, writing, "Having people 'in a room' is not enough."

Wednesday May 24 (AM) - Session 3: Translating Research and Agroecological Knowledge into Practice

Panelists: Liz Carlisle, Tim Bowles, Garrett Graddy-Lovelace, Hektor Calderon, Ernesto Méndez

Three key themes emerged from the Wednesday morning session comments. First, most of the tables emphasized the importance of networking and collaboration within the Agroecology community. One table wrote as a reason for why they decided to attend the conference, "Meet new people, build collaborations." Another table noted two of their reasons to attend as "connect with allies; relationship building."

The second key theme was the need for Agroecology to consolidate as a field and find more common ground despite being interdisciplinary. One table wrote, "Maybe some sort of regional or national 'communities of practice.'" Another table noted a reason for attending the conference as, "melding ideas together" and "figuring out together what Agroecology means; new ideas, approaches." Finally, one group commented, "Consolidate Agroecology... Norms we need to agree on?" They proceeded to note, "Agroecology has multidimensions; bring us all together."

The final key theme was the need for policy action within and outside federal government agencies. For example, one table wrote, "Maybe USDA with another advisory committee for Agroecology." They proceeded to write as an idea, "National Advisory Committee within the EPA like the Environmental Justice Advising Board for EPA and CEQ." Another group held an alternative perspective, writing, "USDA is not appropriate entity to propel Agroecology in U.S., but we can use this summit to think about what ways we (this group) can do to strengthen Agroecology." Finally, another table noted, "Also political understanding is necessary. Can we share things that translate into public policy" (through organizations that promote policy change and do advocacy like National Sustainable Agriculture Coalition and the Institute for Agriculture and Trade Policy).

Wednesday May 24 (PM) - Session 4: Harnessing Resources, Redirecting Policy and Addressing Structural Barriers to Advance Agroecology Research in the USA

Keynote: Andrea Basche

Panelists: Jordan Treakle, Claire Lamine, Michael Happ, Jonny BearCub Stiffarm

The comments made by tables at the Wednesday afternoon session focused on the theme of the power of data. They noted terms such as "data democratization" and wrote, "maps sometimes used against people in communities, but data must be meaningful and translated." They also commented that data should be "understandable, usable. Don't want data just to describe you – [it should be] used."

Opening keynote and panel (Framing and Context): Advancing Agroecology in the USA

Speaker: Ricardo Salvador, Union of Concerned Scientists

Panelists: Deborah Neher (U Vermont), Raj Patel (University of Texas at Austin), Molly Anderson (Middlebury College), Steve Gliessman (US Santa Cruz Emeritus)

Theme Facilitators: William F. Tracy, Andrea D. Basche, Bruce D. Maxwell

Ricardo Salvador, Union of Concerned Scientists

What bold, big-picture, and long-term visions and strategies are emerging for agroecology now? What is the historical context for these visions and strategies?

Visions: Government policies, land use, land "ownership," and agricultural practices must reflect that the purpose of the food and agriculture system must be to nourish and sustain community wellbeing. In this sense, "community" refers to both the human societies and the ecological systems upon which we are contingent. We can see that the result would be mosaics of bountiful, food-producing, diverse, polycultural, production areas—featuring perennial and annual species, less dependent on external inputs, and located near large population centers. Agricultural and food systems must emerge from their historical origins in systems that exploited people and nature. We must rethink the unexamined assumption that the role of government policy is to support an ostensively market-driven private sector to deliver the best outcomes for all involved. Over a century of data and experience demonstrate that this is a failed paradigm and must be replaced by one that recognizes the dominant role that public interest must play in government decisions and investments in socioeconomic wellbeing. "Socioeconomic wellbeing for all" is, or should be, the main objective of a sustainable agrifood system.

How does the scientific focus of this conference relate to important work in the movement and practice dimensions of agroecology?

Agrifood systems must reflect our current and rapidly developing scientific understanding of the way the planet works: Human societies are contingent on a set of mutually interacting biogeochemical cycles. Key catalysts in most of these cycles are biota that are unaccounted for in industrial practice and business models. The capacity of contemporary human activities, including agriculture, to intervene, disrupt, or ultimately appropriate these cycles is a first-order threat to the human prospect. Yet, conventional practice and education proceed under archaic, unscientific paradigms that compartmentalize agriculture from planetary biogeophysics. The thriving field of planetary biology should inform agricultural science in the design of systems that incorporate planetary signals and feedback loops as we interact with the Earth's fundamental life systems. This perspective does not separate "physical" and "social" science dimensions from the large-scale understanding of how to sustain life equitably and prosperously on a planet where that life is its signal characteristic.

How might the core research themes emerging from this conference maximize agroecology's positive impact on pressing food systems problems in the United States?

Current investments in developing agricultural knowledge and technology reflect our species' historical interest in, and understanding of, agriculture as an extractive and polluting activity. Therefore, we have focused our science and technology to better enable us to extract, exploit, and pollute (examples of the results are degradation and consumptive use of air, soil, water, none of which will abate under current practices and trends.) This approach must be abandoned and our intentions and resources must be directed to support the perspectives summarized above. The outcome should be a well-nourished and thriving human population, in both urban and rural settings, existing in equilibrium with climate-positive, regenerative planetary ecosystems.

Who have we gathered here, why, and what do we hope to accomplish over the next two days?

Hopefully, we have a diverse group of applied social and biological scientists, together with community advocates, and we have struck a balance between the generation that has seen, and contributed to, the development of the current agrifood system, under failed and incomplete premises, who bring the understanding of the power dynamics that sustain our exploitative systems, and the generation that will shape the future of our world—through transforming our agrifood systems—and who are not deterred by the magnitude and difficulty of the challenge.

Deborah Neher, University of Vermont

What bold, big-picture, and long-term visions and strategies are emerging for agroecology now? What is the historical context for these visions and strategies?

My vision includes the following:

- Shift thinking away from extractive economy to working with and according to nature; nature as our model (geographic and ecosystem specific); indigenous models show it 'works' (the art) but science often lags that tells 'how' or 'why'
- Shift in economic paradigm that places value on natural resources and includes that value in business models and provides incentives to conserve and retore those resources
- Reduced fertility systems with less tillage and more perennial crops (conserve soil, the foundation of food production)
- Decentralization to increase food security which has benefits of less fossil fuel use for transportation, less pesticides and preservatives for food storage, local varieties that taste better and are fresher and more nutritious, more local, and regional food chain (increases employment, broadens market opportunities); recognize strength in scale diversity (small, medium, large) rather than one size fits all

How does the scientific focus of this conference relate to important work in the movement and practice dimensions of agroecology?

- Philosophy that humans are part of nature not above nature (ecology = interaction of organisms with environment)
- Transdisciplinary – problem solving approach, differs from multidisciplinary or interdisciplinary
- Partnerships between science and philosophically aligned grassroots, e.g., citizen science, PAR

How might the core research themes emerging from this conference maximize agroecology's positive impact on pressing food systems problems in the United States?

- Crop breeding for reduced mineral nutrients but increased crop nutrient concentration; disease management for soils with reduced fertility.
- More reliance on food production that is native or adapted to geography rather than altering environment to fit crop needs

Who have we gathered here, why, and what do we hope to accomplish over the next two days?

- Strengthen our voice through listening to diverse voices and perspectives and identifying common ground and understanding areas of divergence: agroecologists have been scattered among conferences, disciplines, departments; and academics separated often from practitioners (or at least applied less valued than basic science). Opportunity to converse to find common ground, identify team players for future projects, prioritize, brainstorm, dream, envision.
    - In 2000, Steve Gliessman and I prepared the proposal to launch an agroecology chapter in Ecological Society of America. Today, the section has 277 members. Legitimized agriculture as an ecosystem within ecology. Now an Agroecosystem subject track in the society journal *Ecospheres* edited by agroecologists
    - Agroecology is represented in the Agronomy Society of America through two sections: Global Agronomy (solutions for smallholders, perennial grain development, etc.) and Agroeconomic Production Systems (organic management systems)
- Work to improve future farm bills for leveraging more funding (~ 3% currently) for all aspects of agroecology, practice, movement, and research
- Begin to develop strategies to educate the public of our vision, articulate RFPs for funders, policy briefs; more funding with a 'serve the general public" mission

Jahi Chappell, MSU Center for Regional Food Systems

Note: Chappell provided written comments but was unable to attend the meeting.

What bold, big-picture, and long-term visions and strategies are emerging for agroecology now? What is the historical context for these visions and strategies?

Agroecology, at its boldest, recognizes two crucial points at this juncture:

1. The current agrifood system is not "broken," but is working as it was intended – to provide profit, and to keep popular resistance to a minimum (e.g. through artificially "cheap" food);
2. The current agrifood system must be recognized as generating immense harm while it simultaneously fails at supporting universal nourishment; recent research confirms that "externalized" costs of agrifood systems worldwide are over twice the size of the current global food market (~$US 19.8 trillion vs. US$ 9 trillion).

Agroecology (and its intertwined concepts of food sovereignty and food justice) recognizes that, while farmers and consumers may host a variety of practices and beliefs that do not fit neatly into "good" or "bad", "agroecological" or "industrial", the **agrifood system we are currently living in defines success as more food produced and lower retail food prices, regardless of food quality, levels of hunger or food insecurity, or health or environmental damage**.

An agroecological approach would recognize that food sovereignty, food justice, community well-being, universal nourishment, equitable distribution, food production in consonance with ecological dynamics and limits, and popular control of the means of agroecological production are the proper goals to strive for.

The vision of communities working together to grapple with how to balance these competing goals, outside of the distorted and consolidated "market" and, perhaps, outside of the provenance of the State, is agroecology's boldest, most challenging ambition. As Dr. Salvador says, "'Socioeconomic wellbeing for all' is, or should be, the main objective of a sustainable agrifood system."

A key question for this convening is, knowing as we do that such universal well-being is emphatically not the current goal of the State, the Market, or their most powerful players, what can agroecologists do within a system with the "wrong" goals? What forms of disruption, re-appropriation, resistance, revolution and reform are possible and productive?

Who have we gathered here, why, and what do we hope to accomplish over the next two days?

This question is crucial and must be answered collectively. But I wonder if we might think of it differently. Over a decade ago, activist and strategist Parke Troutman said "What I have seen is that local food activists figure out what to do by looking around them and seeing what they *can* do and then doing it… The problem is that it allows you to stick with what is comfortable even if it is not effective. Better is to ask where you want to go and work backward to figure out what it would take to get there." How uncomfortable are we willing to get? How much of the necessary work can be done within a research context? What is the evidence for the relative power of evidence? And if our research lends itself to the answer that the most important work for where we want to go lies outside of the realm of research, where do we go from there?

Molly Anderson, Middlebury College

What bold, big-picture, and long-term visions and strategies are emerging for agroecology now? What is the historical context for these visions and strategies?

Agroecology is promoting both a more rational approach to nourishing humans than the dominant industrialized food system in the US, which is destroying the ecosystems, community vitality and public health on which we depend, and a visionary re-orientation of values in the food system which recognizes human interdependence with nature and the necessity of respecting and protecting the non-human world. The values base is rooted in Indigenous perspectives, which have frequently upheld an approach to food production and consumption that incorporates culture, spirituality and the understanding that people are intimately connected with animals, plants and land. The practices arise from farmers' and fishing peoples' long-running experiments around the world, evaluated by scientific approaches. The context for agroecology is the encroachment of capitalist exploitation of people and commons into every sphere of life, supported by the US government and its corporate allies.

How does the scientific focus of this conference relate to important work in the movement and practical dimensions of agroecology?

I see the science of agroecology has lagged behind practices and the impetus that social movements are providing, in part because of critical lack of funding. We understand far too little about why

agroecological practices work and the limits of their application, and even more importantly, how to encourage massification of agroecology among farmers and a public that have been told all their lives that there is no alternative to industrialized agriculture, given anticipated population growth.

How might the core research themes emerging from this conference maximize agroecology's positive impact on pressing food systems problems in the United States?

I hope that the research themes that we identify will be picked up and supported by USDA in new funding for projects to evaluate and improve food production, marketing and dietary diversity through agroecology. I hope that USDA will be able to re-orient its current advocacy for 'climate-smart' agriculture and the spread of industrialized agriculture worldwide into support for the wider and deeper concepts and practices of agroecology, pointing to diversification and perennialization of production systems and breaking our addiction to fossil fuels throughout the food system. Support from USDA could help new researchers enter the field to analyze and support agroecology and its practitioners. It might encourage more participatory research focused on farmers' issues through USDA. It could also help to overcome negative assumptions about agroecology which are still all too prevalent.

Who have we gathered here, why, and what do we hope to accomplish over the next few days?

The organizers have given considerable attention to bringing together a diverse group of participants---diverse in age, experience, institutional settings, and ethnicity---who will engage constructively in creating an agenda for the research that is needed in the US.

Steve Gliessman, UC Santa Cruz Emeritus

What bold, big-picture, and long-term visions and strategies are emerging for agroecology now? What is the historical context for these visions and strategies?

Ever since Francis et al. 2003 published their paper "Agroecology: the ecology of the whole food system", our thinking about food and agriculture systems made some dramatic shifts. And as Ricardo says, this has promoted a shift away from a Farm Bill and USDA research agenda that is overly skewed towards promoting the productivist narrative of the industrial agriculture model of "get big or get out" driven primarily by the bottom line. It is time to bring in the agroecological vision of a socially-just and ecologically-sound system that can move us towards creating a Food and Farm Bill for the future.

How does the scientific focus of this conference relate to important work in the movement and practice dimensions of agroecology?

What scientific research should do is bring "culture" back into "agri-culture." It's not just agribusiness. It is a whole food system focus, from the soil to the table, and back again, that cares for all parts of the food system. As Ricardo says, we must re-integrate the "physical" and the "social" dimensions of sustainability. Part is manifest in the remarkable number of minority, indigenous, smallholder and family farms in the US that have already integrated this science into their farming practices. The other part is being expressed in the multiple voices of the food justice movement calling for fairness and equity for everyone.

How might the core research themes emerging from this conference maximize agroecology's positive impact on pressing food systems problems in the United States?

By making all research themes reflect agroecology's essential commitment to making food and farming systems "people-centered," we can provide pathways, solutions, and alternatives that confront the power of the current political and economic forces that have dictated agriculture research for too long. The outcome will be a participatory, farm and food system based, transdisciplinary understanding of how to integrate the complex issues and factors that have created the current unsustainable models.

Who have we gathered here, why, and what do we hope to accomplish over the next two days?

My biggest hope is that this gathering will show us the importance of unifying the voice for agroecology. For too long we have each operated as separate entities and organizations, often dividing and diminishing the power of our calls for transformative change. By uniting our voices behind the call for change, the movement towards a fair and sustainable food system will be heard. There truly must be a united agroecology movement.

Session 1: Configuring Research Institutions and Approaches to Advance Agroecology in the USA

Keynote Speaker: Tim Crews, The Land Institute
Panelists: Nick Jordan, University of Minnesota; Ivette Perfecto, University of Michigan; Annie Shattuck, Indiana University; and Andrew Berardy, Opsis Health
Theme Facilitators: Christine Costello, Bruce D. Maxwell, Deborah Neher

Tim Crews, The Land Institute

To begin thinking about a research roadmap for Agroecology in the USA, it is important to first step back and envision what future we might be planning for, and what exactly we hope research in Agroecology might accomplish. In 50 years are we imagining:

1. Agroecosystems and food systems in general will have little to no dependence on fossil fuels? If so:
- Will the types, degrees, and distribution of consumption of goods and services that Americans experience today be similar? And will renewable energy sources seamlessly take the place of current fossil fuels with little change in urban-rural settlement patterns?
- Will consumption of goods and services decline substantially based on much lower per capita energy generation. Will more people inhabit rural areas and work in agriculture?

2. Our current course of climate inaction persists as we continue to use prodigious amounts of fossil fuels amidst rapidly shifting climate patterns.

Not independent of this energetic context, are assumptions about democratization of land holdings and cultural holdings such as seeds. Will the future look a lot like today? Or will land holdings be distributed amongst populations that currently have limited access. Will crop germplasm that meets the challenges of climate change be in the public domain, or controlled privately?

Conversations stimulated by the Agroecology Summit will hopefully address these and other key questions as they will profoundly influence what research Agroecologists prioritize, what networks of researchers are best suited for the work, and the nature of the technologies that will enhance positive progress. To initiate this contextual discussion, I am going to suggest that given the urgency and severity of the climate emergency we are confronting, society should prepare for and facilitate the near elimination of fossil fuel dependence, and along with that herculean task, prepare for and facilitate a significant contraction of energy use and associated consumption patterns. Against this backdrop of energy contraction, it will be not only desirable but necessary to aim for the most equitable and democratic social arrangements possible. An agroecology research agenda contextualized by such assumptions and aspirations would prioritize:

1. Developing agroecosystems that rely to the greatest extent possible on ecological processes rather than fossil fuel-based inputs, large scale infrastructure-dependent technologies or human labor.
2. A robust analysis of social transitions that could inform governance and policy recommendations during periods of consumption contraction, and population re-distribution.

Where to look for transformative approaches:

From its inception, the interdisciplinary field of agroecology has referenced two bedrock sources to provide examples of sustainability in different geographic settings—they are the ecology of natural ecosystems, and agricultural systems of indigenous or traditional farmers. These two realms of consideration remain entirely relevant, and indeed help structure discussion around how agroecology has or has not been adopted in the US, and where important future research areas reside.

The idea of learning from "nature"—that is the functioning of ecosystems that are much less defined by human intervention--in designing human food producing ecosystems has always been a tenant of agroecology. The idea sounds good, but if I have learned anything from working alongside plant breeders, it's that nature does not optimize all agriculturally relevant traits. There are, however, consistent features of many natural systems as well as indigenous farming systems that hold great promise for informing research directions in agroecology. For example, the many roles of plant diversity, from regulating pathogens and herbivores to maximizing resource use efficiencies, is an area of community ecology that is deeply embedded in the discipline of agroecology. Recently this appreciation of diversity has been extended to the microbial world, substantially aided by our recent ability to affordably characterize and begin to sort out functions of this extremely diverse and complex universe. There have been exciting advances in understanding and influencing the microbiome, and it makes sense that technologies that can continue to elucidate microbial diversity and agroecosystem function continue to be prioritized.

Another prominent feature of natural ecosystems for which there is a strong rationale to include in an Agroecology research agenda focused on climate and social change is landscape perennialization. The disturbance ecology work by Walker (2012) and others suggests that the intensity, frequency, and extent of ecosystem perturbation associated with annual crop agriculture is unmatched in natural systems. Humans expend a tremendous amount of muscle or fossil fuel energy to battle succession so that annual seeds can germinate and establish each year. Multiple ecosystem

disservices such as soil erosion, nutrient leaching, loss of soil organic matter and establishment of weeds are logical outcomes of this unique ecosystem we have designed to feed us. Simply put, the soils that humans farm were developed under diverse perennial vegetation, as that vegetation is what characterizes virtually all natural ecosystems. Research on the integration of diversity and perenniality in agroecosystems is highly relevant to a US research agenda based on lower fossil carbon future.

Advancing the type of agroecology research agenda I have alluded to here will require special attention in fostering interdisciplinary and transdisciplinary research groups equipped to work through the complex social, ecological, and agronomic dimensions of future farming and food systems. No single land grant university, non-land grant university, college, non-profit, trade group or on the ground practitioner is likely to hold the breadth of knowledge and experience needed to inform the type of agricultural transformations being imagined. Regionally-specific virtual agroecology institutes, modelled to some extent after NSF's Biology Integration Institute program, may hold promise to solicit an unprecedented assortment of people from different institutions and cultural backgrounds to address the unprecedented research agenda we are trying to tackle. Regional specificity will help tailor agroecological solutions within the unique limits of different biomes and would be supported by already existing LTER and LTAR networks.

In recent decades, a tremendous amount of research has demonstrated changes in temperature and precipitation patterns that are already influencing crop production or will in the future. A recent example in Kansas highlighted how wheat yields are expected to decline due to increased nighttime temperatures. Similarly, there is a wealth of research on how the history of racism and colonialism have helped define current land ownership patterns and many aspects of the US agro-industrial juggernaut as a whole. While this research has been important for understanding where we are, we now know enough to allocate a greater proportion of resources to adaptation and mitigation than to detection or demonstration of the challenges we face. The discipline of agroecology seems uniquely suited to help forge a path to a livable future.

Nick Jordan, University of Minnesota

First, I concur with several main themes in the statement by Tim Crews: the need to more deeply understand 1) diversified farming systems, particularly on extensive spatial scales, and 2) social transitions relevant to meeting grand challenges facing agriculture. Secondly, I will address three questions among the motivating questions posed for this session:

1) How can agroecology be developed as an interdisciplinary science and a transdisciplinary approach to the co-production of knowledge?

- The concept of ecosocial systems provides a strong framework for organizing interdisciplinary science in agroecology. This concept holds that the nature of agroecosystems is results from the coupled dynamics of biophysical components (defined as "non-human") and social components, e.g., economic, cultural, and political elements. Building understanding of ecosocial systems invites participation of a wide range of scholarly disciplines.

- Another strong framework for developing transdisciplinary knowledge production is transformation and scaling processes in agroecosystems, by which sustainability transitions occur at extensive scales. Transformation and scaling require participation by a wide range of practical and

scholarly disciplines. If transformation and scaling are undertaken on an ethical basis, then humanistic disciplines (both practical and scholarly) become necessary.

2) What driving questions should inform the direction of research in agroecology?

- How can regional-scale transformation of agroecosystems (e.g., diversification at regional scales) be effectively and efficiently supported?

- How can broad collective action be organized and sustained through distinct and successive phases of transformational changes in agroecosystems (e.g., "preparation", "transition" and "consolidation" phases of transformation)?

- How can cooperative urban-rural relationships be developed to manage common interests in intertwined food, water, and energy systems?

3) What is the current state of research on agroecology in the USA? Where are the big gaps?

We have relatively few researchers that identify as agroecologists, and academic research programs and curricula in agroecology receive limited investment and support. Most agroecology research addresses biophysical aspects of agroecosystems and their dynamics, with social dimensions and ecosocial interactions receiving much less attention. To close these gaps, emphasis can be placed on:

- integrating the "practice" and "movement" aspects of agroecology with science aspects;
- bringing new human and social capital into agroecology research by methods such as participatory plant breeding, "mother-baby" trials, and action research;

- developing integrative projects focused on sustainability transitions in agriculture, which can attract many different scholarly and practical disciplines to agroecological projects.

Ivette Perfecto, University of Michigan

How can agroecology be developed as an interdisciplinary science and a transdisciplinary approach to the co-production of knowledge?

- Agroecology is **thought-intensive** rather than capital/fossil fuel intensive. That is why we need research as well as local/traditional/indigenous knowledge and, more than anything, we need the interpenetration of local/traditional/indigenous knowledge with scientific knowledge.
- Agroecology is also **interdisciplinary** and therefore we need to begin the process of breaking up intellectual silos, while acknowledging and appreciating the expertise and experience of those currently occupying those silos.

What driving questions should inform the direction of research in agroecology?

- There are four kinds of research that I think is necessary, first, research questions aiming at documenting current examples of agroecological systems that are working well from a productive, ecological, social, and economic perspective. Second, research aiming at understanding the basic ecological/social/cultural/economic ways in which current examples of agroecology are functioning, with the end of improving them and encouraging

their expansion (scaling out, massification, etc.). Third, we need to research the factors and conditions that confer socio-ecological resilience to small/medium-scale agroecological farms. Finally, I think it is important to document the ways in which the highly concentrated agribusiness sector affects the capacity of agroecological farms to flourish.

- Regarding basic research, a priority should be given to:
    - Crops that have not received a lot of attention in the past (non-commodities)
    - The ecology of intercropping and agroforestry systems (and diversified systems in general)
    - Basic ecological/geophysical/ biophysical processes involved in systems that are climate resistant and resilient
    - Better understanding of complexity within agroecosystems (indirect interactions, critical transitions, multidimensionality, positive/negative feedbacks, etc.)

- Regarding more applied research:
    - Transformation processes (from conventional to agroecological)
    - Justice and equity issues related to that transformation
    - Scalability of agroecology
    - Farm diversification (within fields, farms, and landscapes)
        - management of intercropping, rotations, and agroforestry systems
        - conservation biological control
        - soil conservation techniques
    - A landscape/regional/territorial approach
    - Seed quality, conservation, and dissemination
    - Mechanization for small/medium-scale diversified farms
    - Communication technology that prioritizes local and regional food distribution systems

What is the current state of research on agroecology in the USA? Where are the big gaps? How do we prioritize addressing these gaps?

The current state can pretty much be summarized as "not enough." Agroecology needs to engage in research that challenges the structure that created the problems it seeks to solve –industrial capitalist agriculture. Regarding prioritizing, although I listed some areas that I think should research priorities, I'm not sure there is either a need or that it is a good idea to set a more specific agenda. What we need right now is more creativity and more people, aiming at the same underlying goal: the transformation of the food system into a just system that nourishes us all (equally and in a healthy way) and does not harm the planet.

Annie Shattuck, Indiana University

What driving questions should inform the direction of research in agroecology? How do we create an agriculture that supports biodiversity and thriving rural communities?

I think my co—panelists will cover many of the big environmental and technical questions: perennialization is a big one, non-chemical weed control, soil health, and pollinator and insect biodiversity. Wrapped up in this are questions about seeds, breeding, germplasm, and democratizing innovation.

But the primary barriers to implementing agroecology in the United States are not technical, they are political and economic. There is an important analogy here with renewable energy – our political will is much shakier than the technology. We know the barriers: distribution of resources, land, anti-trust enforcement, lack of a fair price (or floor price) for agroecologically grown products, racism past and present, exploitation of immigrant workers, overproduction. Rural America is more diverse and also more unequal at any other time in American history. The big social driving questions to me are about the hollowing out of rural America - about how to create the social and cultural infrastructure to re-settle America while healing the racist patterns that created who owns the land and who works it.

There are many gaps in agroecology research in the US. A major social gap is the participation of small-scale farmers, farmworkers and American peasants. It is reality that almost every farmer in America depends on off-farm income. People who farm part time or on a small scale are often dismissed as irrelevant – but there are numerically 10x more of them than large scale commercial farmers. There are less than 150,000 farms with sales over $500,000, and roughly 1.6 million farms in the United States with sales under $100,000. And it is largely these folks who are more likely to be young farmers, new entry farmers, selling direct to consumer, and generating local business through the multiplier effect of their local purchases and sales. These are the people resisting the hollowing out of Rural America, and they have little say in the direction of US research funding. Farmworkers in the United States are keepers of agroecological knowledge, and have little opportunity to become farmers themselves. This is a huge gap for advancing agroecology in practice. We need research on effective strategies to overcome the social and political barriers to agroecology, strategies that make adequate capital, land and markets available to diversified farmers. We need more farmer-to-farmer learning and new democratic institutions so that research priorities are set with the majority of the people in the US who actually work the land – farmers and farmworkers.

There is much to work on in the science of agroecology too. Funding for conventional and agribusiness led approaches dwarfs funding for ecological approaches like diversification, studies of soil microbiota, perennialization, and breeding for organic or low-input systems. Since the 2015 zero increase in agrichemicals policy, the Chinese government increased institutional support for research on biological pesticides – we have yet to mount anything approaching this kind of coordinated research effort. Equipment will have to change; we need easy to repair equipment that works with diversified systems, runs off electricity and is affordable to our 1.6 million small farmers. Agroecology requires locally adapted process that take into account limiting factors like local soils, markets, microclimates and temperature constraints; we need localized farmer-research collaborations that address these highly specific limiting factors. Our land grants tend to focus more on research that can lead to products instead of on-farm processes. Farmer-researcher collaborations on on-farm processes in the rest of the world have been enormously impactful, with SRI and the push-pull system in Kenya as iconic examples. In short, NIFA and other donors should scale up funding for agroecosystem research; support transdisciplinary, participatory approaches that include innovation in on-farm processes, farmer-researcher collaborations, innovation and extension; transitions to diversified, perennial, and electrified farm operations; social research on rural community viability; democratic priority setting; and strategies for institutions that can bring life back to rural places.

Dr. Crews' statement is a convincing argument in favor of urgently pursuing a practical, solutions-oriented research agenda that maximizes the utility of existing knowledge, while acknowledging that it is better to work with nature than to fight it and that we have significant wisdom to gain from examining ancient practices. I agree with his assessment that there is an immediate need to eliminate reliance on fossil fuels, and that this will be a potentially painful transition which can be ameliorated by a more equitable society.

In practice, I expect this will be extremely difficult to accomplish, as I acknowledge there are already many efforts being made on both fronts, with limited or no success. This is one area where a transdisciplinary approach to the co-production of knowledge may be most relevant. In this context, I believe the conceptual framework of interactional expertise (IE) will be an invaluable tool for imagining the necessary steps to engage in agroecology as an interdisciplinary science. IE is the ability to converse expertly outside one's own discipline without being fully expert in the other person's discipline and should be vital for facilitating team science communication and mutual understanding.

Although I do not suggest abandoning these efforts, I also recognize the potential good that can be accomplished in parallel by continuing to advance the more practical aspects of agroecological research. Perenniality is an excellent example of an area of research with significant potential for adoption and implementation at a meaningful scale. However, I also believe that there is a need for holistic yet quantifiable and objective assessment of alternatives to ensure that positive change is accomplished.

Life cycle assessment (LCA) is, although imperfect, the strongest tool I am aware of to serve this purpose in that it can measure the net environmental impacts of production, facilitating comparison between alternatives serving similar purposes. Social LCA's using a comparative framework include social considerations alongside environmental impacts, and are designed to allow hypothetical comparisons of potential future states to determine the most desirable system. SLCA and to a lesser extent LCA are fairly nascent fields, and have seen limited application to agroecology, so future research to answer remaining questions such as how to best represent impacts from ecosystem processes is still necessary. LCA can also facilitate the use of technology in optimizing agroecological systems, but it is important to acknowledge the risk inherent in LCA which emanates from the requirement of a functional unit (FU). FU's are an amount of a product upon which the calculations to determine environmental impacts are based, which is useful for comparisons, but also frames systems as to be optimized and favors those with the highest production efficiency.

Unfortunately, all of the potential research to be done will have little to no impact without widespread adoption, which is why a large part of future research programs should be devoted to implementation. Disciplinary alliances that can help achieve this goal should include ecologists working together with engineers and social scientists so that practical steps can be taken to improve systems while a holistic view ensures that such solutions are not simply burden shifting.

Session 2: Centering Diversity, Equity and Inclusion in US Agroecology

Speaker: Devon Peña, The Acequia Institute
Panelists: Jennifer Taylor, Florida A & M University; Hannah Duff, Montana State University, Antonio Roman-Alcala, Cal State University (East Bay) / Agroecology Research-Action Collective (ARC)
Theme Facilitators: Antonio Roman-Alcala, Ernesto Méndez

Antonio Roman-Alcala, California State University (East Bay) / ARC

"Diversity" is inherent to agroecology in the biophysical sense, well recognized in scientific definitions of agroecology as "enhancing beneficial interactions of organisms within and with their environments." It's not hard to argue in theory that human diversity strengthens the science, practice, and social movements of agroecology, just as biological diversity strengthens agroecosystems. What's harder is actualizing this commitment to human diversity, given our society's colonial origins, its foundation of white supremacy, and ongoing structural inequalities of various kinds and effects. Hence, I begin from a position that assumes "DEI" is an active pursuit of justice – DEI efforts enact a love of humanity and seek to redress injustices. This means "DEI in Agroecology" must seriously consider (and be grounded in) food sovereignty and food justice – the central frameworks to address justice in food systems in recent decades, advanced by communities facing injustice.

Issues of racial, gendered, and other dimensions of inequity can be brought into research for agroecology in the USA through changes in (a) the status quo of research funding (funders), (b) research practice (researchers), and (c) deeper relationships and dialogue with (and among) constituencies of relevance to DEI. Against the individualistic approach – which characterizes too much existing DEI work – the goal should be deeper reckoning with past injustices and how those injustices ramify in the present (such as Land Grant University thefts of Indigenous land, upon which many of our jobs exist). Out of these reckonings come structural and institutional transformations, resource reallocations, and reparations. DEI orients agroecological science as well towards ontological and epistemological diversity, and respect for diverse ways of knowing and being. It must recognize that an agroecological food system cannot be built if land ownership is concentrated, farmers are overwhelmingly white, exploited Latinx migrants form the farmworker workforce, and university research is oriented towards profit-generating results rather than societal, social-ecological, goals.

Is DEI making (enough of) a difference right now?

In my research on US food movements, I found that the growing voice and influence of people of color in today's food movements has opened up space for greater grappling with group-based marginalization both in society and in agriculture-related spaces – and more strikingly, has elevated overt critiques of the capitalist political-economy. This contrasts with current institutional patterns wherein DEI emphasizes individual identities rather than societal – read: structural – inequalities. Optimistically, DEI may elevate awareness of historical marginalization and existing injustices along the lines of group identities, make career paths easier for "diverse" individuals to navigate, or shape research agendas in useful ways. If done well, DEI improves the rigor, reach, and relevance of research. However, my sense is that US agroecological research (as currently constituted) has not been all that inclusive, influenced by diverse perspectives, or oriented towards equity.

DEI efforts are both symbolic *and* material, but when the symbolic is pursued in absence of the material, or is limited to individual-focused solutions, it can cause more harm than good. Individuals of "diverse" backgrounds may be invited to spend their time and energy on DEI committees, while those committees fail to result in meaningful outcomes that widely redistribute existing power and resources. Hence, 'inclusion' can turn out to be an extractive exercise (just like the agriculture that agroecology seeks to change) that deepens inequities rather than ameliorates them. Sticking with meritocratic reforms oriented towards individuals perpetuates the pernicious fallacies of representational (or what some call "neoliberal") identity politics. DEI cannot be about "integrating into a burning house" (as in the words of Martin Luther King, Jr.). Agroecology entails a necessary transformation for the US food system, countering long-standing structures of injustice and unsustainability. That means when more "diverse" people are integrated into status-quo-reinforcing labs and firms, or take up positions within the USDA, it is not sufficient that they simply be "diverse" – they must work to challenge and change that status quo. If they simply adopt the culture of the dominant paradigm, agroecology as a sector, no matter how diverse, will not change anything enough to make a difference to the outcomes agroecology seeks.

DEI also cannot simply be an addition on existing thinking and practices: it must suffuse every stage of our sciences of farming, food procurement, and food systems. A prime example is how conferences such as these are often set up, with panels on "diversity" as the only place where diversity is addressed. Besides simply having token representatives from this or that identity group, or a token panel on DEI issues, DEI needs to be thought through in every aspect of an event. For this summit, for instance, our organizing committee considered who is included in every panel and how DEI is included in each topic discussion. Materially, we have prioritized fundraising to ensure resources to attendees who without support would not be able to attend. We were flexible with timelines for grassroots groups representing farmers and DEI constituencies, knowing that sometimes fast timelines are ways in which inequalities are reinforced. I also tried to bring to the organizing committee concerns about how dialogues are too often structured in ways that alienate marginalized groups, even if those groups are invited into a space like this with good intentions; and I advocated that we consider how professionalism and credentialing can undermine multiple forms of knowledge – since agroecology entails wisdom that emerges from grounded traditions, practices, and value systems, in addition to conventionally-understood "science".

Some ways to enhance and support DEI through research

Agroecological research is shaped by its funders (including NIFA); thus firstly it is funders who must change course to address DEI. This requires practical changes to how funders of agroecology conceive of RFPs and desired outcomes, how they solicit applications (invitation processes), and how they prioritize and select projects to fund. For instance, including marginalized sectors in funding processes, from consultation on priorities, selection metrics, and RFP distribution processes, to application technical assistance, proposal review, and evaluation. Funders must prioritize relationship-building, transdisciplinary, and participatory approaches to science. Longer term, general-support type funding enables greater capacity to build such long term relationships and trusting collaborations. The nascent movement towards general support in the foundation sector, a result of pressure from grassroots NGOs, is one that should be mirrored in practitioner-inclusive agroecological research.

In order to develop a new status quo for DEI-serving research, researchers need to pursue partnerships with relevant constituencies to develop research agendas and to implement them. We need to study "up" to unpack and counter existing power dynamics, not just study those facing injustice (for instance, studying our own institutions, who composes them, and what research and extension agendas are included or excluded). And we need to develop legitimacy for methodologies

that place agronomic, food-consumptive, ecological, and epidemiological dynamics in political-economic context (e.g. Okamoto et al 2020).

Agroecologist-researchers can aid DEI by adopting new standards for how they conceive of their own research projects, incorporating DEI concerns into the questions they ask and their processes of organization, as well as prioritizing multidisciplinary, integrative research projects. Participatory, action-based, PAR, CBPR, transdisciplinary methods: all these approaches encourage (though do not guarantee) greater DEI in research. Including social science in natural science projects, and vice versa, can also be helpful towards DEI concerns. Too often, social and natural sciences are kept separate and indeed opposed to one another, with social sciences often denigrated as less rigorous, objective, or scientific. Our issues as "diverse" people are also often framed as "political", "divisive", or subsidiary to purely agronomic, economic, or environmental considerations. Consider, for example, my experiences of regenerative agriculture proponents waiving away social justice concerns as a "distraction" from an imperative focus on soil carbon. Yet it is social science insights that remind us that any supposedly "apolitical" approach to science is in fact already political, and claiming to be apolitical tacitly accepts (if not reinforces) the status quo oppression of marginalized groups. Agroecological science needs to overcome fears of politics and of normative science, and to boldly refuse to "be neutral on a moving train".

More broadly, research can involve invocation, avocation, convocation approaches (Khasnabish & Haiven 2012): **invocation** invokes progressive efforts of agroecological/DEI movements to bring them attention and support (e.g. studying a Latinx youth food project); **avocation** minimizes researcher agency in allowing movements to set the research agenda (e.g. studying what the youth group asks you to study); **convocation** puts the researcher in the role of 'convoking' movements (or farmers/practitioners, or any relevant agroecological group) to strategize from their own conditions (e.g. gathering multiple youth groups in a region to address barriers to success). Each of these approaches have their merits, but also drawbacks, that we should explore.

Finally, it is imperative that we see ourselves as more than just researchers: we are community members and political actors. Hence, whether we are friends, allies, accomplices, or enemies of DEI depends on our everyday actions, as much as (or perhaps more than) on our published rhetoric or stated values.

The future of DEI

DEI will make the most difference insofar as it builds out from individuals to institutions and becomes the status quo for thinking about transitions to agroecology. That is, if including human diversity in agroecological research – in equitable ways – counters neoliberal identity politics with attention to political-economic structures and the barriers they place in front of agroecological transitions. This does *not* mean simply adding "classism" to the list of isms to rhetorically oppose. It means concrete attention within research (even agronomic research!) to the influences of economic and class dynamics, political-economic institutions beyond the farm, and the ways deep histories of injustice manifest in the present. And towards the goals of building the change we want to see, it means seeing and building from diverse and often buried histories of resistance and agroecological alternatives, which are often rooted in the very communities that DEI seeks to serve. The solutions are here, among us, ready to mobilize if we only choose to see them, value them, and defend and advance them politically, in and out of the academy.

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Janaki Anagha, Community Water Center

Note: Anagha provided written comments but was unable to attend the meeting.

How can issues of racial equity, gender and other dimensions of inequity be brought centrally into research for agroecology in the USA?

The economic and social stratifications suffered by rural people in the US are a result of the structure of industrial agriculture. For this reason, beginning with the fractures and deriving agroecological solutions is imperative, as opposed to beginning with agroecology as a stated solution and incorporating a consideration of the fractures after the fact. Because agroecology as a movement and practice are centrally organized around anti- oppressive approaches to agriculture, I believe that all research on agroecology must engage as diverse a range as possible of the forms of knowing and learning about agriculture and must begin its inquiries with the issues of inequity caused by our farming political economy in the United States. Agroecology as a politic elevates wisdom from traditional practices and values as well as western science and its applications. As such, issues of racial equity, gender and other dimensions of inequity need not be brought centrally into the research for agroecology in the USA; to the contrary research questions should be centrally derived from these inequities to begin with.

What are the high priority areas for DEI in agroecological research and engagement, and why?

Priority areas for DEI in agroecological research and engagement are the priorities of modern social movements for agroecology in the United States. Such themes are: the historic role of slavery and genocide in the creation of our existing agricultural system; the resulting lack of access to land and means to farm for communities of color; the suppressed human development and life expectancy in agricultural communities; the impacts of agrichemical use on local ecosystems and human health; and the role of dominant forms of agriculture in creating (or suppressing) the creation of universal

policies for health, immigration, and freedom from gender based oppressions. These are high priority areas because these are matters that form the focus of several agroecology-based movement spaces in the United States. The agricultural system of the United States has played a significant role in shaping modern politics and continues to play this role to this day. Current agroecological movements in the United States are directly responding to these forces. Global movements are also follow this approach. Take La Via Campesina as an example, who focuses its campaign messaging around an end to violence against women. The deep dark histories of oppression are the ones that are often addressed by communities of the global south organizing for freedom from neoliberal trade policies. This is indeed the special role of agroecology as a movement and are central to movements for agroecology in the United States. It is my belief that research should follow the social movements of the time.

Where is DEI making a difference right now, and where will it make the most difference in the next decade?

I think DEI as a term has been most helpful in determining the allocation of philanthropic resources. It has been a helpful frame for corporate America and philanthrocapitalism to have a set of terms through which to justify reparative behavior short of the capacity to make these changes by establishing anti-oppressive values or policies within their companies or foundations.

Hannah Duff, Montana State University

To begin, I think it is important to acknowledge the diverse ideas, causes, and issues that have brought all of us to the science, practice, and movement of agroecology. Some of us may have come through our questions of wonder and curiosity about the soil, plants, and processes, or through questions of worry and concern about survival, access to nutritious food, access to land, and climate change, among countless other things. While this **convergence of curiosity and concern** is what gives agroecology power, it can also be a cause of **fracture and internal division** within agroecology. However, despite the need for intentional discourse and long-term planning, there is a sense of urgency to act now, whether from a climate perspective, biodiversity perspective, or human wellbeing perspective. So today I want to address 2 main points.

First, I think we can all agree that diversity is a foundation of agroecology in both the ecological and the socials sense. Then we must also agree that **fostering diversity in any system involves confronting power imbalances**. As an ecologist by training, I know that biological diversity tends to promote life, stability, abundance, and wellbeing; while the lack of diversity can lead to homogeneity, vulnerability, malfunction, and collapse. Growing concern about the survival of our own species on this planet became more and more urgent throughout the evolving biodiversity crisis evolving from our awareness of extinction from the 1950s to the 1980s. In the 1980's, a journalist named Ellen Goodman called attention to this crisis as public concern for human survival became more urgent. She famously asked "are we the asteroid or the dinosaur in our own extinction story?" **This applies to questions of DEI today, as we all gather here to question our role as practitioners, researchers, and activists in a failing food system. We can ask, will we be the victims or the villains in this effort to fix it? Are we currently the oppressed or the oppressors in our food system?**

This question should bring us to consider our own relationship with power in our current system: to consider our ability to change the system, or to consider our place, at times, oppressed within it (be it a political system, food system, academic system, etc.). Questioning our own relationship with power can create space for diversity, equity, and inclusion principles to broaden and inform our

vision of what the future of food and land can look like. In our breakout group conversation today, **we spoke about the need for white people to talk about dismantling white power in order for plural societies to emerge; perhaps acknowledging our role as the asteroid causing harm to others in the current system. We also talked about the responsibility of those on the inside and in power to assume responsibility for changing the dominant system**. Just as in my training as an agroecologist I had to be trained to observe, measure, analyze components of biodiversity that often get overlooked- be it microbiota in the soil or earthworms below ground- agroecologists have responsibilities to call attention to social injustices that may be invisible through ignorance, or hidden intentionally in our systems, and take responsibility to confront them.

This means that our responsibility as agroecologists is not only to ask how we should farm, but who gets to farm? Who gets access to land? Whose ideas get to shape our landscapes? While many federal policies and institutions have largely worked against agroecology by funding research and encouraging adoption of the same conventional practices; and by actively working against food sovereignty both in the US and internationally, there are ways to redirecting federal and state dollars to disrupt path dependency. Research dollars should be allocated to practitioners and communities, whether that's through reparations, seed grants with no strings or timelines attached as we talked about in the breakout session, and absorbing risk for farmers and communities. Transformative policies are needed that enable widespread equitable land access, data and seed sovereignty, and opportunities for new and historically marginalized farmers.

My second and final point is that within agroecology, we need to break down the barrier between the branch of science and the branches of practice and movement. In order to do so, **we need to acknowledge and value experience and evidence** as equal forms of data, or ways of knowledge creation. Robin Wall Kimmerer has a useful visual analogy for this way of thinking. When she talks about the complementary value of western science and traditional ecological knowledge and how they inform one another, she uses the analogy of two lenses, side by side like glasses, that allow us to see both forms of knowledge as equal. This honoring of divergence and celebration of convergence can transform our concepts of "who can know", of "what research is or who a researcher is" and redirect who research is for.

Lastly, we have heard that at times, **"Inclusion can be violent…Inviting voices into spaces that are not built for them or undermine their messages, lived experiences, and expertise can often work against the well-intentioned goals of inclusion."** Here we need to consider how can we co-create knowledge that doesn't silence or disregard other ways of knowing? And how we can reinvent these spaces- even this conference- that create space for new voices rather than silencing them.

Session 3: Translating Research and Agroecological Knowledge into Practice

Keynote Speaker: Liz Carlisle, UC Santa Barbara
Panelists: Ernesto Méndez, University of Vermont; Garrett Graddy-Lovelace, American University; Hektor Calderon, National Young Farmers Coalition; Tim Bowles, University of California-Berkeley
Theme Facilitators: Aubrey Streit Krug, Ernesto Méndez

Liz Carlisle, UC Santa Barbara

Who needs to be involved to make possible the application, translation, and legitimacy of research?

- Everyone!
    - We can take inspiration from the concept of *mantenimiento*, as described in *Zapotec Science*, the organizing theory unifying the diverse contributions made to local agroecology by the entire population of a Zapotec village.
    - Also we see a broadening of thinking about who needs to be involved in research within the field of agroecology itself, which started tacking on the phrase "and sustainable food systems" about 20 years ago to indicate a broader framing of agroecology and the research process, beyond the farm and into all the spaces in which food touches people's lives.
    - This radically inclusive framing of the agroecology research process has implications for the scope of our mentorship, which for academics has traditionally focused heavily on training researchers who will earn advanced degrees and work within the academy.
- Centering Indigenous communities, communities of color, and frontline communities
    - Drawing on the principles of Environmental Justice, those on the frontlines of extractive agriculture are both the experts on the *impacts* of this agriculture and *strategies* for resistance, repair, and regeneration.
    - Extractive agriculture is the direct outgrowth of a larger colonial and imperial project, and so agroecology must be understood and practiced as part of a larger project of decolonization.
    - This implies the importance of alliances with others engaged in decolonizing work in other spaces and sectors.
- Structural change makers: activists, advocates, policymakers
    - Most of the key barriers to agroecological transition are structural not merely technical
    - We can't put the application and translation of agroecological research on farmers, researchers, technical assistance providers, and consumers alone!
- Organic intellectuals – distributed leadership model, knowledge in context

What kinds of interactions, networks and platforms are needed to foster the translation of research into practice?

- Culturally diverse, culturally appropriate
- Mantenimiento again: agroecology woven into the fabric of everyday life
- Ceremony and ritual: thinking of the Burning Cascade Head section of Braiding Sweetgrass about how science can be practiced as ceremony
- Music, art, and friendship are all central to agroecology!
- We need both "all hands" spaces for working across difference and "caucus spaces"
- Attend to the slow variable: building relationships

How could or should scientists interact and work with practitioners to advance agroecology? How should engaged research be designed?

- Participatory Action Research: key insight of this longstanding methodological innovation is the idea of co-designing projects from the jump, such that practitioners and researchers are collaboratively identifying the challenges to be addressed and the research questions to be explored.
- Sometimes practitioners don't have time for the ideal-typical form of PAR, so it is worthwhile to come back to the fundamental principles and goals of this method and think

about how best to integrate practitioner insights as deeply as possible without burdening them in the process. E.g. maybe they already specified challenges that need to be addressed, in a blog or report or YouTube video!
- Building relationships is key! Hopefully these relationships transcend single projects, and inform a whole body of work!
- Building strong relationships implies reciprocity. There is no template for reciprocity, as I was gently reminded by Nikiko Masumoto in the process of researching Healing Grounds and trying to do things "right." Reciprocity is contextual and always evolving. It requires self reflection about why you are doing the research, what you are asking of others, how you are benefiting, and what you have to offer. As a graduate student researcher, I offered to do people's dishes and watch their kids for a little bit while they went to the store, to help them make up the time that I was asking from them to do an interview with me. Now, as an author and faculty member with access to more resources, I have both the opportunity and responsibility to share these resources in some reasonable relationship to the amount that I am benefiting from the knowledge of my collaborators.
- Final thought: we all have our lanes in the movement, and that's OK! Some work is for researchers to do, some work is for practitioners to do, and it's important that we have relationships with each other and collaborate on a shared vision, but we don't have to co-create every single part of the work.

What does an agroecological approach to extension look like and how can it be supported institutionally and financially?

- Caveat: I defer to the extension professionals in the room!
- Diálago de saberes, rather than one way flow
- Extensionists as facilitators, conveners, mentors
- Doing this work will require reinvestment in extension: people need job security and the opportunity to work on hard money rather than soft money
- Can we create more pathways for experienced farmers to work in extension and mentor others?
- Can we create more pathways for people from within frontline communities to work in extension and help solve challenges in these communities?

Does research need to be directly policy-relevant, and if so, what does that look like?

- I think research should engage all social actors: back to *mantenimiento*
- I do think it makes sense to prioritize collaborations with structural change makers, since we know from an extensive body of research and also just common sense that most of the barriers to agroecological transition are structural
- There are many arenas for policy change! For example:
    - Eric Brennan from USDA ARS in Salinas, CA recently mobilized his longstanding research on cover crops to insert an incentive for cover crops in regional water quality policy (Ag Order 4.0)
    - The California Climate and Agriculture Network Science Advisory Committee has been central to mobilizing an evidence-based argument that agroecological practices improve climate resilience, which has directly resulted in the state investing money from its cap-and-trade program in incentives for farmers to adopt agroecological practices
    - While working with the Union of Concerned Scientists as a summer intern, agroecologist Paige Stanley calculated the return on investment of the Conservation Stewardship Program, an analysis which has in turn been very useful in lobbying for this program to be robustly funded

    - The Center for Good Food Purchasing develops supply chain research on the impact of public food procurement, which has guided the policies of school districts in more than a dozen major cities.
    - IPES-Food mobilizes research to influence FAO and EU policy
- Research can also be critically important in other stages of the political process, such as building political will, building coalitions, demonstrating saliency and relevance, movement strategy, and political education. Policy is just one piece of that puzzle, and actually getting it passed and implemented relies on all the other pieces!
- Ultimately, we have to change what is (not) socially acceptable

How can science advance on-farm innovations while paying due attention to beyond-farm factors (e.g., unequal land ownership patterns)?

- Each individual in the agroecology community doesn't have to do everything!
- Teams! Relationships!
- As an agroecology community, we need to work on multiple levels of transition (Gliessman) simultaneously – some people will be working to reduce nitrogen fertilizer runoff (harm reduction), while other people are working on biological alternatives to fumigants, while other people are designing agroforestry systems, and other people are creating food hubs and fighting for land justice. We can show up and support each other at the key inflection points in this work when a critical mass is important!
- Question I often think about: can we address immediate challenges and barriers in ways that help us organize and build power to tackle deeper structural barriers?

Ernesto Méndez, Institute for Agroecology, University of Vermont

Who needs to be involved to make possible the application, translation, and legitimacy of research?

In my work, I have always used a participatory action research (PAR) approach as the translational tool to bring research into practice. PAR offers a platform to intentionally include relevant actors in all steps of the research process, from the inception of question to the analysis, interpretation and application of results. In my experience this is effective as a translation mechanism because the people who will use the knowledge that has been co-created are part of the process, and hence ready to take it to the action phase right away.

The legitimacy piece is trickier because there might be people affected by the research that are not part of the research process, so this needs to be carefully considered. Ideally, when potentially affected people cannot participate, they should at least know that this is happening and what the potential outcomes might be.

What kinds of interactions, networks and platforms are needed to the translation of research into practice?

More opportunities and platforms for PAR, and horizontal co-creation of knowledge and co-learning. Not only in the academy, but also in civil society.

How could or should scientists interact and work with practitioners to advance agroecology? How should engaged research be designed?

Researchers are one actor in a PAR process, so we should try to develop horizontal relationships where practitioners and researchers can contribute and co-create knowledge in the best way possible. There are several principles to PAR, and one of them is humility. Because the academy has been

traditionally setup in an elitist way, many academics lack the necessary humility to engage horizontally with others, and really listen to and learn from their knowledge. Researchers need to be humble and transparent about what they bring to a process and be open to learn from others.

Engaged research needs to be designed with people and for people. Structurally, neither the academy of the state in the U.S., is setup to do this, so it requires a lot of work, with pressure from within and outside to change research structures that are top-down, to those that are co-constructed, and where research and knowledge are co-created.

What does an agroecological approach to extension look like and how can it be supported institutionally and financially?

Continuing with the thread starting above, extension, like research has been traditionally designed top-down- the extensionist teaches the farmer. Ideally, it would also be more horizontal, with farmers and rural people defining the direction of extension work, based on their needs. Some of this already happens, but usually at a lot of cost to extension professionals. We really need to make systemic changes so that the funding supports this model.

Does research need to be directly policy-relevant, and if so, what does that look like?

Yes, we need to make an effort so that the research that solves problems on the farm gets communicated upward, so that policies can in turn support that kind of research. There is a disconnect between farmers and extensionists with policy makers and politics, and this only helps industrial agriculture and ineffective politicians. We need collective work to pressure the system to support agroecology at all levels, from the farm, to the university research, to the policy (eg farm bill).

How can science advance on-farm innovations while paying due attention to beyond-farm factors (e.g., unequal land ownership patterns)?

I think agroecological research/science needs to commit to taking into account equity and politics in all that it does. If this is the case, whenever designing a project, a team will ask what are the equity implications of this? how can we support to strengthen equity and avoid maintaining inequities. This may not be possible in all cases, but it will be in many, and researchers need to have it as a priority on their radar.

Garrett Graddy-Lovelace, American University

Following the lead of the 2015 Nyeleni Declaration of the International Forum for Agroecology, I understand "Food Sovereignty as a banner of joint struggle for justice, and as the larger framework for Agroecology" (1), that "ancestral production systems have been developed over millennia, and during the past 30 to 40 years this has come to be called agroecology" (1), and that it advances via *diálogo de saberes* (2). In the Turtle Island/United States context, agroecology primarily centers, supports, and learns from Indigenous agricultural practices, landscapes, worldviews, including agroforestry, *in situ*-centered agrobiodiversity, fisheries, and foodways. Echoing Liz Carlisle's prompt for this session as well as practitioners, agroecology both requires and engenders structural change, grounded in what Zapotec science calls *mantenimiento*.

This session's title 'translating agroecological knowledge and research into practice' begs big questions of translating for whom, by whom, and to whom. Amidst the many answers and follow-up questions, I'll focus on the to whom of policy-advocates, activists, and current and potential

policymakers. Antonio Roman-Alcala have a long-brewing co-intervention called Agroecology Beyond the Statist Quo: the tension of working to improve laws, land tenure, labor rights, trade rules, agroindustry (de)regulation, the Farm Bill, reproductive justice, market management, and intellectual property regimes—while *concurrently* striving to transform the whole neocolonial system *at large*. To dismantle racial agro-capitalism, misogyny, and militarism *at large*.

At the heart of this tension is how the latent massive potential of agroecology could be unleashed in the US/Turtle Island context (and beyond). So very many current and would-be growers grasp the world-saving importance of growing/raising/catching/foraging for nourishing foods while stewarding, restoring, regenerating (agro)ecological life. In addition to the issues of land access/tenure and debt (and health insurance and more), there is also the issue of fair remuneration and the collective bargaining this necessitates. Nyeleni Declaration of Agroecology asserts this "requires the re-shaping of markets so that they are based on the principles of solidarity economy and the ethics of responsible production and consumption. It promotes direct and fair short distribution chains. It implies a transparent relationship between producers and consumers, and is based on the solidarity of shared risks and benefits" (3). How can markets be re-shaped to provide collective livelihood for those doing the work of agroecology. Not researching it, or lauding it from laptops like me. But day in and day out, doing agroecology on the ground. Ultimately, agroecology serves food sovereignty at community self-governance levels, so what is the role (roles) of government? Of policy? Amidst the economic and ecological ravages of late racial agro-capitalism, in the belly of this beast in fact, government has a role to stave off (further) corporate exploitation, degradation, and dispossession of workers, waters, land, people. The U.S. government, so deeply colonial settler and imperial, is also not monolithic. Brave activists and grassroots movements have won victories of social, racial, environmental, and farm justice, though they are continually and currently under attack. What agricultural policies could make room—open space—for agroecologists to do their crucial work and live out the life-giving potential of agroecology in action?

On one hand, the Zapotec boldly forge an autonomous space from Mexican government altogether: Agroecology Way Beyond the Statist Quo. On the other hand, tens of millions of Indian farmers—in all their vast diversity—occupied Delhi for over a year, risking their lives amidst fascist policing, to protect Minimum Support Prices and markets secured against corporate capture. They know MSP and mandis are imperfect, but without them, farmgate prices collapse in a foreseeable race to the bottom, and debt, bankruptcy, and land loss ensue. Now many Indian farmer coalitions struggle to expand MSP to agrobiodiverse, native, nutritious foods. Are policies needed to let Agroecology have (land-spatial, financial, infrastructural, social, political, epistemic) room to flourish? If so, what would this look like?

These questions are being asked, explored, deliberated on, and answered by agroecology and food sovereignty movements in La Via Campesina coalitions and beyond. Research is needed—grounded in dialogues of knowledge and ways of knowing. Such community-led action-research entails:

- Co-Inquiry – grounded in shared ethics, authentically coming to shared commitments/interests/goals of research so as to merge research questions constructively and generatively
- Co-Research – coming to epistemic convergence of how to answer the shared questions – of which questions and methods to prioritize – of how and where valuable knowledge and information can be found, and how best to gather it
- Co-Analysis – shared meaning-making – collectively contextualizing findings and, via dialogue, debate, co-discerning significance (iterative: often this means new rounds of co-research) – connecting connections – very important for academic-based researchers to

unlearn hubris here and keep learning from frontline/practitioner expertise and *ways of knowing*
- Co-Authoring/Co-Editing – the work and art of co-voicing – shared documents – extensive comments and track-changes, phone calls, group videos – this layer entails grappling with, and expanding the standard academic peer-review process – co-cohering
- Co-Presenting – communicating to broader publics – learning from process of translation – multilingual – consensus on intellectual property: open access and data sovereignty – moving beyond text – feedback and new questions – dialogue as data as dialogue as data as dialogue – *diálogo de saberes*
- Co-Action > Co-Inquiry – back to co-inquiry – keeping the central goal of research: to inform, reform, and *transform* action and practices and policies and intuitions – "Words Are For Deeds, Deeds Are Not For Words" (Shams Tabrizi)

Tim Bowles, University of California-Berkeley

Who needs to be involved to make possible the application, translation, and legitimacy of research?

- Liz did a great job of sketching this out, including the bit about tacking on the phrasing "and sustainable food systems" to agroecology 20 years ago! Most of my own experience has been in a pretty traditional arena of "who" – farmers, farmer-focused NGOs, policy organizations, technical assistance providers, students, and academic researchers. My experience with "who" is now expanding a lot with involvement in a farm to school project, where the who is everyone above plus school food service workers and directors, food hubs and aggregators, K-12 students, state agencies…
- But there is also one "who" that is so obvious we might forget about them… ourselves. I've been really inspired by *The Four Pivots: Reimagining Justice, Reimagining Ourselves* by Dr. Shawn Ginwright… The first pivot is from "lens to mirror", that is, refocusing our attention from "out there" to ourselves. With this pivot, Dr. Ginwright is challenging us to reverse our focus, from looking through a lens to focus on external factors / people to risking looking deeply into a mirror at our own reflection

What kinds of interactions, networks and platforms are needed to the translation of research into practice?

- Again, from Dr. Ginwright, focusing on interactions – the second pivot is from transactional to transformational relationships. Transformational relationships recognizes that we are interdependent. Such relationships are long-term, reciprocal (but not quid pro quo), and based on a shared sense of humanity, to name a few.
- I also really appreciate Liz's point about "all hands" space and "caucus spaces". Here in the U.S., one caucus space I have wished for is more community and interaction among agroecologists who do research. Our scientific societies are insufficient, we often are on the margins (e.g., ESA, tri-societies). Excited for this summit to potentially catalyze more "caucus spaces" for agroecologists to have community.

How could or should scientists interact and work with practitioners to advance agroecology? How should engaged research be designed?

- Committing to place and people with a sense of humility as a first principle and cycles of listening, action, and reflection as a core practice.
- Enacting these principles has many challenges. They take time – for everyone (farmers, faculty, PhD students, advocacy organizations, etc.), and they are not rewarded by academic or research institutions, largely. Farmers in particular are over-surveyed / over-interviewed /

over-studied. When is better to engage with farmer-focused non-profits (e.g. CAFF) or extensionists with strong farmer relationships?

What does an agroecological approach to extension look like and how can it be supported institutionally and financially?

- Humility as a first principle.
- In California, extensionists like Margaret Lloyd, Ruth Dahlquist-Willard and Jeff Mitchell all come to mind when I think of agroecological approaches to extension. I think they all are excellent listeners and connectors, are deeply-rooted in place, learn from/with farmers, and are trusted. They work within the UCCE system. Certainly not the whole UCCE system is like this. Institutions are not monolithic. Individuals can find ways of doing agroecological extension within institutions without a wholesale institutional commitment if there is enough internal and/or external pressure to hire the "right" types of positions and if the internal merit/promotion process is flexible enough to reward agroecological extension. That does not mean it is easy.
- Having extensionists from communities they are supposed to serve. Experience and culturally-relevancy should be important criteria for these positions.

Does research need to be directly policy-relevant, and if so, what does that look like?

- In short, no, not all research needs to be directly policy-relevant, but policy-relevant research is essential to advancing agroecology beyond a small niche in the U.S. Agroecological research has largely focused at two scales – 1) at the plot to farm scale (sometimes landscapes): documenting farmer-led agroecological systems / increasing understanding of ecological dynamics in these systems / co-producing new agroecological practices; 2) at the global scale: documenting in sweeping terms how systems of oppression have shaped agri-food systems and the entrenchment of the industrial agri-food system.
- By contrast, much less research has had *specific* local, regional/state, or national policies in mind to "backwards design" agroecological research that is relevant and fills a particular need to advance policy changes. Liz provided excellent examples of these.
- At the same time, both of the first types of research are still essential. On-farm, technical research is incredibly important because agroecology will always be site specific and knowledge-intensive (e.g., development of push/pull systems, cover cropping and rotation strategies in dry environments…).

How can science advance on-farm innovations while paying due attention to beyond-farm factors (e.g., unequal land ownership patterns)?

- Follow farmers' lead for what they have already done – which many times is a lot – in spite of many structural / beyond-farm factors – in order to understand where to focus research. Farmers figure out some ways of skirting these barriers to some extent. They both have agency and are limited by beyond-farm factors – it's both/and.

Session 4: Harnessing Resources, Redirecting Policy and Addressing Structural Barriers to Advance Agroecology Research in the USA

Keynote: Andrea Basche, University of Nebraska
Panelists: Claire Lamine, INRAE/ATTER, France; Jordan Treakle, National Family Farmers Coalition; Jonny BearCub Stiffarm, Fort Peck Tribal Fort Peck Assiniboine & Sioux, *Native*; Michael Happ, Institute for Agriculture and Trade Policy
Theme Facilitators: Colin Anderson, Mary Hendrickson

Andrea Basche, University of Nebraska

A note to readers: I have combined questions where I felt my responses best fit together. I will also note my writing coming from my professional experiences including in the non-profit sector (science policy work in Washington DC for two years immediately after completing my PhD) as well as my lived experiences as a white, straight woman from a relatively privileged upbringing.

What structural and systemic barriers exist for funding agroecology research? What are the problems and barriers that arise in existing programs and request for proposals that limit agroecology's potential?

In 2020, a co-authored a paper[1] with former colleagues from the Union of Concerned Scientists in which we surveyed 168 scientists in fields related to sustainable agriculture. Respondents noted that top obstacles in conducting research included the amount and duration of public funds. Additionally, 87% of respondents agreed that "entrenched financial interests" represent an importance obstacle to sustainable agriculture research. The top four topics ranked of importance to be included in requests for applications (RFAs) were 1) broader impacts, 2) agroecology, 3) interdisciplinary, and 4) human dimensions/decision-making. Earlier career respondents reported statistically different and lower satisfaction with the amount of time and training they had for policy engagement than later career respondents. Early career respondents also more highly ranked human dimensions as important for RFAs. Although it was smaller percentages of respondents, 13% agreed that they had been encouraged not to publish results of work and 11% had been encouraged by their institution to change research direction.

Taken together the main findings of our survey suggest a need to support longer, larger grants that include human dimensions, particularly amongst early career researchers. The results also underscore that the sometimes political nature of agroecological work cannot be ignored, and is a significant barrier for some.

What are changes in policy, grant-making, and resource allocation for research that are needed to foster cutting edge agroecological research?

In my opinion, "cutting edge" in this context means transforming relationships and typical power dynamics, not perhaps the typical technological interpretation of the term. Agroecology not only as a science but as a practice and movement requires greater intentionality around social and relational aspects of research. Speaking from my experience as an earlier career scientist, a most important element where I feel limited in my work is the **time** to build and maintain the relationships required for excellent agroecological research. I also feel limited in the institutional understanding of the additional time and labor required to understand and proficiently operate in a different cultural context than what we are used in the academy. The need for time and community relationships recognized as a barrier in the survey of sustainable agriculture scientists.[1] From my experience as a professor, I acutely recognize how the same institutional barriers often referred to as inhibiting

diversity, equity and inclusion in the academy also inhibit agroecology – including traditional metrics of promotion and tenure (with its focus on quantity over quality), supportive mentorship, the length of time that collaborative work takes, as well as different outcomes (relationship building/social change versus publications, for example).

What is the role that funding agencies can have in addressing these barriers? How can requirements for grants have more accountability than current mechanisms, such as "broader impact" statements or requiring multi-disciplinary collaborators? Could RFAs include plans for mentorship, equity statements, and more? Can agencies support projects being more accountability once launched, or even take funds away from PIs or universities when goals are not met? This idea comes from NIH policy requiring PIs to adhere to comply with harassment, bullying and civil rights protections.[2] Can funding agencies hold institutional leaders accountable when political interference in work is underway? Funding expectations can set an important tone for norms at universities and other grant receiving organizations.

What are the particular changes in policy needed to support agroecological research to meet the priorities in climate, nutrition and equity?

In recent years, it is recognized that agroecological funding is a limited portion of USDA competitive grants; DeLonge, Miles and Carlisle (2016)[3] found that conservatively, only 5-10% of funds analyzed had an emphasis on agroecology. With recent enhanced public investment from the Inflation Reduction Act and "Climate-Smart Commodities" programs, "new" USDA dollars have an opportunity to support truly transformative food systems research. From a policy perspective, it will be increasingly important that decision-makers understand/differentiate programs that are deemed "sustainable", "regenerative" and/or "climate-smart" with respect to agroecology. There could be an incredible opportunity to channel these dollars into transformative research, but this will require courage amongst decision-makers to see that dollars are not coopted by the status quo of our food system. Related to this, recent research by myself and colleagues[4] found that limited dollars in the EQIP (USDA-NRCS cost share program) are supporting practices with the greatest potential to improve soil and environmental health; in short, there is great potential within existing publicly-funded programs to create more transformative change.

Additionally, it is widely recognized by the APLU4 and others that Hatch funding (formula funds given to Land-grant Universities) is inequitably supporting 1862, 1890 and 1994 Land-grant Universities. For example, from 2010-2012, 61% of 1890 Land-grant Universities are not receiving one-to-one matching funds for Hatch dollars from their respective states.[5] Ensuring greater equity in such funding is a critical step to see that more voices lead and execute projects. Related to this, I would like to see a wider interpretation of who are stakeholders invested in agricultural research from leaders at LGUs, funding agencies and beyond. Every single person in America has a vested interest in a food system that produces affordable, healthy and culturally appropriate food – I challenge us all to remind leaders of this at every opportunity.

What are near- and long-term opportunity to improve public support for agroecology research?

I offer the following ideas as a starting point for near- and long-term opportunities to improve public support:

In the short-term…

-Creating more targeted, possibly longer-term and higher dollar opportunities into RFAs, building on the results of our survey and this conference's findings, to support more transformative work.

-Monitoring the enhanced USDA spending around "climate smart" efforts to channel into efforts that are holistic and transformative versus incremental or that reinforce the status quo.

In the long-term…

-Encouraging funding agencies to strengthen requirements for grant proposals and implementation that are truly ecological and transformative. In essence, explore how funding agencies can drive the transformative and needed changes that the academy has been reticent to do.

-Explore equities in hatch funding, resource allocation to ensure ability for 1890 and 1994 LGUs, as well as a greater range of organizations, to compete for and execute projects. Expand the traditional interpretation of stakeholders for agricultural research.

I recognize that some of these efforts may already be underway at funding agencies or other organizations, and if so, hope that our conference will serve as an opportunity to redouble efforts.

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Claire Lamine, INRAE/ATTER, France

A note to readers: in this short statement, I have attempted to draw on my diverse experiences with agroecological research and policies especially in France and Brazil, hoping to provide some transversal insights echoing the 4 key questions of the panel.

Devoted policies are necessary for advancing agroecology and supporting a larger commitment of research communities.

Both France and Brazil have set up agroecological policies around 10 years ago, that allowed some significant progress by supporting collective farmers' innovations and changes in practices, reorienting the agricultural teaching system (even if this is full of inertia), structuring new markets and outlets especially through public programs and regulations linked to public food procurement, and encouraging transdisciplinary agroecological research. In Brazil agroecological groups (*nucleos*) in universities, supported by national funds, developed a range of local partnerships with farmers and civil society organisations. In both countries, these policies were imperfect and could seem weak in front of industrial agriculture, and also led to processes of cooptation of agroecology by an overly technocratic agroecology in France or could not resist to the larger post-2016 policy dismantling in

Brazil; however, they also led to the creation and reinforcement of lasting alliances across the academic, farming and civil society arenas (Lamine 2020, Niederle et al., 2022).

The analysis of agroecological policies and the experimentation of new forms of collective reflexivity lead to recognize agroecological transitions as open-ended processes.

As coordinator of an Agroecology program within my INRAE department (2016-2020), I have contributed to a collective exploration of research priorities across disciplines and based on this, gathered diverse research experiences informing this open ended nature of agroecological transitions. Our work has revealed the importance of open-ended, participatory, iterative and process-focused transitions in agroecology, rather than determinist (with predefined steps and pathways) and top-down approaches that often characterize mainstream development, explored with many other colleagues and partners through a collective writing process and a collective book. Coordinating a research project in partnership with the French Ministry of Agriculture around one of the government's first agroecological program (aimed at fostering collective farmers dynamics by funding local farmers groups), confirmed this idea that public schemes should favour this open-endedness and allow farmers and their partners to set up their own experiments and knowledge exchange and building processes. This indicates the need for investments in participatory approaches to research, learning and policy.

Embedded, ongoing transdisciplinary research is needed for supporting territorial approaches to food systems sustainability

Along with local civil society /farmers networks and local authorities, I have set up an action research project, L'Assiette et le Territoire in my own region, Ardèche, around a plenary group of around 25 local actors and researchers. This allowed to build a shared interpretation of the territorial food system's trajectory and the main challenges (social inclusion, recognition of the diversity of visions etc.), to write a manifesto, to co-define research questions (around new farmers, food democracy, and other issues). This action research process led to establish a lasting autonomous local food council, involving a diversity of local actors, whose main aims is to act as an arena of exchange across initiatives and across local policies (set up within the french policy framework of 'Territorial Food Projects') as well as to play a watchdog role in relation to the key issues of food justice and food democracy.

Agroecological research support/programs should favour co-led research

At a larger scale, I have set up with a range of partners from the academic world, but also from farmers and civil society networks as well as local authorities, a European network, ATTER, whose key principles is to work on a shared portfolio of agroecological transitions territorial case studies across 5 countries (France, Italy, the UK, USA and Brazil) and foster cross fertilization processes. This was possible because European research programs allow and favour such co-led projects which appear as a powerful way to support transdisciplinary knowledge co-creation and mobilization as well as co-learning across agroecologists around the world, including from the global south.

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Jonny BearCub Stiffarm, Fort Peck Tribal Fort Peck Assiniboine & Sioux, *Native*

As a Nakoda, I was raised by my grandparents and lived most of my life on the Ft Peck Assiniboine & Sioux Reservation in Montana. I received a Bachelor of Science from Brigham Young University and a Juris Doctorate from University of Minnesota. I lived and worked in Denver, CO from 1990 to 2009. I joined *Native* in 2007 and moved back to Montana in 2009. Being home enables me to "give back" to my tribe by volunteering my skills to the Ft Peck Tribes Fish & Game's Bison Program with the focus of having sustainable healthy herds that contribute to the tribe's food security today and in the future. Being a traditional tribal woman highly educated in Anglo-Saxon modeled educational institutes, experienced in both urban and rural political environments, and having a little over 16 years working in the carbon economy has shaped my perspective of the World. My responses are based on how I see the issues from my perspective and experience combined with insight from our staff at *Native*.

Climate change is one of the most well-known threats to agriculture/ranching. Fifty years from now food security will be a focus not only for humans but for all life. Agroecology research documents change over time. It needs to gear up to not just document but become an advocate for change by focusing on actionable recommendations and practical insights. Agroecology should not just be viewed as research but should be viewed as an actively participating partner joining with a team that changes the way humans interact with nature as we herd animals and farm the Earth.

Traditional models of research, analysis, and a *focus on publication* have flawed the perceptions of both institutions and researchers. As a member of the Institutional Review Board for my tribe, I have reviewed many research proposals and have found that successful research in diverse communities is dependent on collaboration within a team made up of the researched individual(s), community activists, NGOs, private industry, and colleges/ universities. This collaboration needs to include those being researched also being supported financially and technically for their time taken to explain their behaviors while researchers are assessing the deployment, expansion and incorporation of changes being made and why.

Agroecology research could be a factor in stimulating creativity for "new" models of agriculture/ranching. For instance, combining ancient techniques, expanding the use of heirloom seeds and regenerative grazing of ruminant herds (bison, cattle, goats) with modern/futuristic methods/technology results can be validated through agroecology research. This research in turn validates the "new" practices to skeptics. Validated research results encourage capacity building investments from public-private partnerships, especially those that are accessible to the collaborative team, and can provide practical insights and an understanding of where specific organizations (or

types of organizations like technical assistance providers or food system non-profits) can and should play a role to catalyze change.

Financial incentives are key to changing generational patterns and can encourage adoption of climate resiliency changes. The "Climate-Smart Commodities" program, along with other government grants, are the types of incentives which, combined with carbon financing, can be beneficial in realizing the implementation and endurance of agroecology research. However, to sustain these changes, we need to ensure that they are not just beneficial, but are also complementary, inclusive, and created by and in tandem with the community where the research and application takes place. We need to be consistently and collaboratively accelerating our climate actions, and ensuring those actions create clarity and incentives for the producers and organizers who are making change in the landscape.

NPR article on highlights of a USDA Equity Commission's Interim Report: **https://www.npr.org/2023/02/28/1160065628/usda-equity-commission-report-interim**

A link to both the full interim report of the Commission given to USDA and USDA response to the report: **https://www.usda.gov/equity-commission/reports**

Michael Happ, Institute for Agriculture and Trade Policy

People have differing opinions on whether to engage in the Farm Bill policymaking process or not. Many people look at the Farm Bill and rightfully point out that it props up these industrial systems via every title of this $1.4 trillion dollar piece of legislation. Folks in the agroecology space are fighting for scraps while the largest corporate players are feasting at the table.

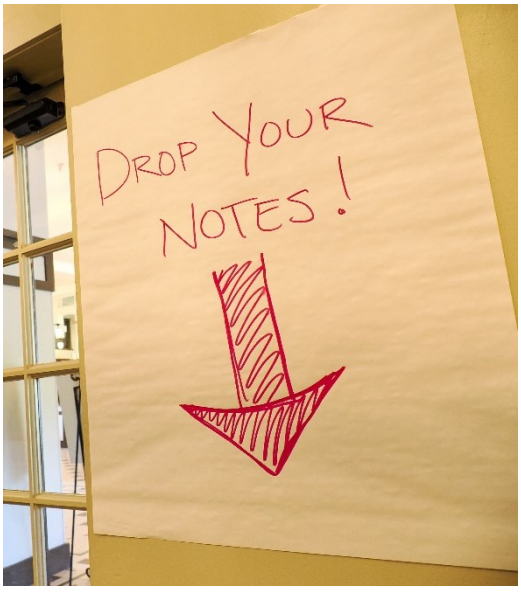
The Research Title of the Farm Bill is such a small piece of it, that it hardly seems significant at all. Despite being less than 1% of the total, that's still $1.4 billion or so to work with. That $1.4 billion can fund a lot of research, and currently goes toward programs many of us may be familiar with such as extension programs, funding for the Agricultural Research Service (ARS), Economic Research Service (ERS), National Institute of Food and Agriculture (NIFA), and the National Agricultural Statistics Service (NASS).

There are also opportunities for farmer-led research through programs in other titles, such as the Conservation Innovation Grant (CIG), where the farmer is looking at natural resource challenges on their land and coming up with a new idea that may or may not work. With CIG, that farmer can ask that question through a growing season or two. "Would planting sunflowers next to the potatoes help improve quality? Can I try out different types of cover in my field? I haven't found research on the nutrients returned to or taken from the soil by planting this particular crop." All of these sorts of questions can be asked and potentially answered through a CIG grant. That's the sort of thing we should be encouraging and expanding, is questions asked by the farmers themselves, without having to wait for universities to consider it worth exploring.

Of course, again, these are tiny programs. If we truly want to see agroecology as a widespread system, we need a transformational farm bill. One where nearly 10% of Farm Bill funds each aren't going to direct subsidies for large-scale monocropping of commodity crops, or toward a crop insurance system that doesn't actually measure risk. If a farmer tries to grow their food in a way that truly makes their farm climate resilient, an insurance agent will take a look at that growing system and say "That makes this land less productive. I can't insure that." Meanwhile the types of systems they insure are the least climate resilient, creating these dead, silent, hard-packed wastes where the

rainwater can't seep down into the soil and people cannot be nourished from what grows there. We need to completely reimagine the Commodity and Crop Insurance Titles of the Farm Bill, open them up and target them to what we in the agroecology community know truly feeds the world.

Directly funding historically Black and Native-serving universities' ag research could lead to more agroecology focused research funding. Regardless of whether it happens or not, the Government has a lot of past-due bills to pay for both of these communities. Many of these universities place an emphasis on keeping knowledge in the community and building upon it. That's a key principle of agroecology is building on traditional knowledge and providing a strong community-led economy and keeping out extractive outside players. Without that community mindset, we couldn't reach our goals of food sovereignty.



4-Page Summary Presented to USDA (perspective of conference organizing committee)

Supporting Agroecology in the USA

Notes from the Organizing Committee of the 2023 Agroecology Summit

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Introduction: Overview of Agroecology and Big Picture Implications for Research, Learning and Extension

Agroecology is gaining recognition in the USA and has become embedded in science, policy, and practice in the wider global context (FAO 2018, HLPE 2019, IFAD 2021, IPES-Food 2016). It is increasingly recognized for its potential to address multiple crises in the food system, including those pertaining to climate change, biodiversity loss, rural livelihoods, nutrition declines, food insecurity, environmental degradation, and persistent racial and social inequities (HLPE 2019). Agroecology has become a key part of the global response to climate change, while meeting food needs and ensuring no one is left behind.

In general, "Agroecology" is a way of understanding and designing agricultural and food systems using social, ecological, and civil principles to regenerate nature and create more just societies. It is rooted in indigenous practices and ancestral knowledge, which are combined with scientific knowledge from different disciplines to address the current food crisis. Agroecology is driven by the co-production of knowledge through transdisciplinarity, participation, and equity in research, learning and action. Agroecology is not only about changing farming techniques, but is also about transforming policy, science, cultures, and economies to bring about more regenerative and socially just food systems and ecosystems. Research to further agroecology needs to consider structural

barriers and how they impede the deep transformations required to realize just food systems and thriving ecosystems.

The 2023 Agroecology Summit, held in Kansas City, explored the state-of-the-art of agroecology in the USA and brought a diversity of participants into dialogue. We purposefully organized the summit and invited attendees from a range of perspectives to maximize engagement in discussions focused on strengthening and shaping the future of agroecology (please see description of the summit in Appendix A). Dialogues before, during, and after the summit suggested three primary areas that the organizing committee felt were important to highlight in order to help support agroecology.

I. Research Priorities

Participants expressed the need for research that incorporates many ways of knowing - in a way that transcends a traditional Western model of university researcher-led and prioritized studies. Participants expressed concern over the predominant exclusion of farmers, communities, indigenous peoples and other actors in the research process. . Doubts included questions of "Who gets to know?" "Who asks the questions?" and "Who is impacted by the results?" A collective call emerged for USDA to design RFPs that explicitly engage and welcome non-traditional forms and foci of "research" and knowledge production.

Thus, before summarizing biophysical, social, and engineering science research priorities that emerged from the Summit, it is important to emphasize that there is a need to confront the limits of reductionist and disciplinary approaches that miss the systemic change required to confront the complex problems in food systems. Transdisciplinary and participatory approaches can help to build an understanding of systems-problems, increase the likelihood of new practice adoption, and avoid potential unintended negative consequences of more narrowly conceived research (Global Alliance for the Future of Food, 2021).c. The key to realizing these approaches is relationship, partnership, and trust building (see more in Section II.a.). Participants also voiced a desire for academic researchers to more intentionally and effectively work with communities, and offered suggestions toward improving researcher capacity to do so and means to address institutional barriers to functional partnerships (more details are in section II.b.).

The call to transform the way research is carried out and funded was framed by a wider call to consider the broader structural social/economic/political issues that inhibit research and change. Numerous topics were discussed, including socioeconomic research on the decline of rural communities, the desire to farm, loss of local markets and processing facilities, the dominance of agribusiness monopolies, and the legacy of racism affecting food systems. Participants expressed how these broader social, political, cultural and economic are vital in any inquiry or action towards food systems change.

Participants recommended that biophysical and social research should be more integrated and identified focus priority areas including: a) agricultural systems diversification, b) perennializing the landscape, c) carbon sequestration, and d) modalities for using less fertilizer and transitioning away from fossil fuels. Data collection and analysis in support of climate change adaptation were a repeated topic of interest and need, particularly for vulnerable communities.-While USDA currently funds a great deal of research that address these questions, there is a need for further funding,

community-driven research priorities and projects, a prioritization of transdisciplinary approaches and an emphasis on addressing root causes of these problems.

For example, the problems of monocultures, one-size-fits-all solutions, and fossil-fuel reliant agriculture are well-documented, and solutions have been identified, but realization of those changes lie in social-political dynamics and community-led actions. There is for instance a paucity of research on labor relations and on how to increase land access (especially for marginalized communities). For both creation of new knowledge and adoption of new strategies, ways of knowing and communicating including the arts and humanities would be part of the process.

Moving agroecology forward will benefit from an emphasis on research programs that support emerging researcher/practitioner partnerships in agroecology, approaches that are tailored to local ecological contexts as well as training in and implementation of transdisciplinary and Participation Action Research approaches (Méndez et al. 2015). For example, topics could include exploring the positive externalities of agroecology and highlighting the impacts of negative externalities, along with research focused on complex systems. USDA could build more robust requirements for research to be embedded in partnerships between researchers and practitioners. Further, long-term ecological research could be improved by utilizing participatory, place-based, long-term, coordinated, on-farm research networks. Other specific possibilities could include local communities and/or social science researchers in the Long Term Agroecosystem Research network sites maintained by USDA, and encouraging such inclusion in multi-state HATCH projects and the Sustainable Agroecosystems (A1451) program area priority.

II. Process of conducting agroecological research

a. Relationships/Partnerships

Participants agreed on the importance of the participation of farmers, indigenous peoples, communities and especially women, youth and bipoc farmers in research processes to ensure their priorities and ways of knowing are centered in research programs. Participants recognized the importance of not simply involving these actors from the beginning (while providing funding for their participation), but on developing research that builds on their existing leadership and wisdom of farmer and civil society organizations including those working on climate justice, workers' rights, racial equity and natural ecosystem enhancement. This may in part emerge via regional networks of food producers and hubs that are deeply engaged with and value community leadership. Two major issues that emerged in the summit that need further investment and attention were: (1) strategies and approaches to engage with non-academic communities when designing research agendas, priorities and products, and (2) overcoming the administrative issues associated with working with communities of relevance.

Participants suggested that the USDA has done a poor job of deeply and consistently recognizing Indigenous people and incorporating their rich knowledge and culture based on seed and food sovereignty. This would involve shifting more authority over agroecological research and development to youth and emerging leaders in diverse communities, as well as elders in farming and indigenous and minority communities. Examples of efforts that the USDA could support centering community needs include creating multi-state Hatch Projects including 1890s and 1994 LGUs with an emphasis on community-led research and developing ways to bring researchers and practitioners

from across the country into regular conversations and planning. The USDA could improve models to compensate/center farmers and ensure respectful data management (e.g. through "data sovereignty" or "data democracy" approaches).

The USDA can foster relationships of trust among farmers and researchers, and work with farmers to give them new tools by which they can observe their own systems and empower them to draw their own conclusions. Example: Community Science and climate adaptation fellowships: peer-to-peer learning processes which require little support/input from researchers. Extension educators, instructors and faculty researchers can be provided education and training in agroecology as a globally-mobilized science, movement, and practice, to generate effective new research, papers, grants, and ideas.

b. Funding and Associated Administrative Burdens

Participants expressed a desire for new pathways for funding options and to continue to have transparent conversations about what is and is not working. Unfortunately, the current competitive grants environment is not effective or efficient for doing research on complex systems. Grant cycles need to be longer and renewable (at least 2 renewals) based on demonstrated progress and potential. We also heard a plea for more general support funds, such that research-community teams have more flexibility to allocate funds where they are needed to generate trust and secure the assets necessary to build more resilient, long-term, and transformative outcomes.

Engaging partners beyond academia requires mutual respect by compensating engaged partners. Other administrative challenges that were noted included: barriers to applying for funding, strict deadlines, and short-term project durations. Community pathways for respectful partnerships, including MOUs, appropriate IRB, and other mechanisms need to be developed and implemented. Budgets should be created in a participatory and transparent fashion, such that they reflect the ethics of all research participants and ensuring an adequate distribution of resources to community partners. These approaches would help center food growers and gatherers, food insecure communities, food justice, food and data sovereignty movements, and their needs.

Moving Research for Agroecology Forward: Immediate Next Steps

In summary, the conference focused more on ways of doing and funding research than specific ranking research priorities. Many participants emphasized the need to involve practitioners, non-academics, and Indigenous groups in agroecology research and the structural and institutional barriers to their participation. Academics were concerned about the short term nature of competitive funding when attempting to address complex long term agroecological questions.

Despite these concerns or perhaps because of them, the participants expressed interest in what would be the next steps in the process. Many were interested in staying involved in some way, and viewed the convening as a first step of a longer process. Immediately following the conference, a survey was distributed to begin organizing groups based on discussions that began in-person. Some of these groups included a focus on building a community of practice, contributing to joint publications, data sovereignty and more.

In a recent op-ed Professor Steve Gliessman (2023 Agroecology and Sustainable Food Systems 47:1075-6) reiterated the next steps he heard as one of the participants, including:

- Draft a "Statement of Commitment" to the movement
- Build a "Community of Practice" of those actually doing agroecology
- Follow up the Summit with various publications in multiple outlets on multiple topics for multiple audiences
- Connect to existing networks to help grow the movement
- Create "data sovereignty" for agroecology
- Connect agroecology to broader themes such as environmental justice, health disparities, climate change, biodiversity, community economic development, land access, employment, and many others
- Mobilize 1862 Land Grants in a call for financial support at 1892/1994 Land Grants
- Prepare a Summit USDA-focused sign-on Declaration detailing a vision for future support for seriously engaging agroecology domestically and internationally

This summit and the resulting outcomes are a part of a wider process to advance agroecology in the USA. There is still much work to do and great opportunity to harness the potential of agroecological approaches to regenerate agriculture and food systems, support dignified livelihoods, confront climate change and build healthy communities. We encourage the leaders within USDA to engage with agroecologists from across the country, listen deeply and respond to the wisdom and knowledge that comes from weaving together science, practice and movement for a better food system.

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APPENDIX A - Description of the 2023 Agroecology Summit in Kansas City

The Agroecology Summit was held from May 21 to May 25, 2023 in Excelsior Springs, Missouri. The purpose of the conference was to bring together a diverse community of Agroecology leaders to gather ideas about needs, opportunities, and barriers to agroecology and agroecological research in the USA. Among the goals were 1. engage a broad set of stakeholders to identify gaps in current funding and support opportunities through Federal and other sources 2. identify needs and recommendations to advance agroecology's ability to address ecological, social, and economic challenges in the food system. We also aimed to identify near- and long-term opportunities to improve public support for agroecology research. These were ambitious goals that we recognized would not be accomplished in one meeting.

The committee recognized that to be true to the principles of agroecology and to gain credibility with the larger community of agroecologists, we needed to hear from practitioners, advocates, and scientists in a substantive manner during the conference. This included participants representing universities, non-profit organizations, several Indigenous Tribes & Nations, people from all regions of the United States, and funders. The conference was designed as a workshop where all participants were given an opportunity to contribute. With approximately 100 attendees and many ambitious goals, the workshop design resulted in many comments and robust and frank conversations.

A critical caveat

We, the organizing committee, wish to make clear that bringing together such a diverse set of participants requires an intense focus on relationships and trust building. The groundwork for trust among the participants, including the organizers, was laid during the days of the workshop. This work included reorienting the process and arrangement of the meeting in response to critical feedback, and required patience, deep listening, adaptability and negotiation from all attendees to ensure that the agendas and voices of different participants were given space. Thus, we continually adapted the meeting agenda to meet the emerging needs, ideas, and interests of the participants that were assembled in Kansas City. We also heard expressly that individuals did not want their words and experiences taken from the conference and used directly by USDA as its agenda rather than their own. We think it is critical that USDA recognizes the skepticism across this community who are cognizant of the harm that the agency has caused in the past, and are concerned for the ways it may be continuing to marginalize the communities committed to – and therefore the success of – agroecology. Thus, as a committee we are expressing themes that emerged, rather than any individual sentiments or concrete recommendations. As organizers these are the themes that we believe are most important to communicate in a timely manner to USDA. We request that USDA staff and leadership not take these ideas as their own but recognize them as derived from the unique contributions and lived experiences that came together to provide insights on an agroecological research direction.

Assessing Agroecology and Research in the United States: Preliminary Report on a National Survey

Written by: Horner, K., Anderzén, J., Roman-Alcalá, A. and C.R. Anderson
May 18, 2023

This brief report shares the preliminary results and insights from a survey of 397 respondents to a national survey on research and agroecology in the United States.

Introduction

"Agroecology" is a way of understanding and designing food systems using social, ecological, and political principles to regenerate nature and create a more just society. It is rooted in Indigenous practices and ancestral knowledge, which are combined with scientific knowledge to address the current food crisis. Agroecology is not only about changing farming techniques, but is also about transforming policy, science, cultures, and economies to bring about more just food systems (Institute for Agroecology, 2023)

While agroecology has gained increasing prevalence and recognition around the world, its implementation in the United States is lagging relative to many other countries. Of course, there are related fields of thinking, movements, and approaches in the U.S. (regenerative agriculture, organics, sustainable agriculture, local food, food justice), however agroecology has been underdeveloped, despite its potential to foreground the deep transformative changes desperately needed here in the U.S. and globally.

The notion of advancing agroecology in the U.S. raises many important questions, such as: What does agroecology look like in different socio-ecological contexts? What practices, technologies, and market-arrangements are best suited for U.S.-based agroecology? How can we tackle the structural barriers in U.S. agriculture and food systems (e.g. land ownership, Farm Bill policies and processes, corporate concentration, markets), especially as they are refracted through the racial and other dimensions of inequity in this country? Given the political and economic power of agribusinesses in the U.S., how can agroecology gain a foothold? How can research and academic institutions be transformed to confront the structural and systemic barriers that constrain agroecology? How can research support agroecological transition processes at the farm, community, regional, and national levels? What is required of researchers who seek to collaborate with farmers, farmworkers, rural communities, and social movements? What kinds of shifts in funding programs, priorities, and in the governance of public and private research need to occur to support agroecology?

These questions motivated a group of scholars to convene the first national summit on agroecological research in the U.S. The summit Organizing Committee commissioned the survey presented in this report as a way to inform the discussions and debates at the May 2023 summit in Kansas City. The summit will convene scholars, activists, and growers to build relationships, identify shared goals and values, navigate disagreements, and learn together across differences. One specific goal is to leverage this convening to co-construct a roadmap for research that can support the development of agroecology in the U.S. This roadmap will be used as a way to prompt thinking and guide researchers, organizations, and other actors engaging with research in their agroecology work. The Organizing Committee also intends to present this roadmap to the wider agroecology community, farmer organizations, research networks and groups, foundations, the USDA, and other policy-makers. The goal is to advocate for policy change and increased financial support for agroecology writ large and, more specifically, for individuals and communities who have been harmed by food and agricultural policies to date.

Any effort to envision a roadmap towards scaling agroecology in the U.S. must draw on the experience and expertise of a diverse array of participants. To that end, the summit brings together a group of nearly 100 researchers, activists, funders, policy-makers, and practitioners from across the country. But while the group of participants is diverse, it represents only a fraction of the many perspectives, experiences, and priorities that comprise agroecology in the U.S. We wanted to find a way to invite additional perspectives so that summit proceedings and outcomes may be informed by a broader range of voices. To that end, we created a pre-summit survey. We viewed the survey as an opportunity to include the perspectives and knowledge of those who, due to logistical constraints, are unable to attend the summit. We sought to elicit responses from a broad range of people engaging with agroecological practices, research and grassroots social movements throughout the U.S. To distribute the survey widely, we relied on email listservs and direct contacts within colleges and universities, social movements, farmer networks, extension offices, and agroecological collectives & organizations. Response to the survey was overwhelming: 455 people responded and we collected 397 individual responses in just over two weeks.

Methods

The survey emerged from a participatory and iterative process amongst members of the Organizing Committee. Given the wide range of foci represented within the Organizing Committee and, more importantly, the wide range of social-ecological issues relevant to scaling agroecology in the U.S., we designed a survey that incorporated both closed-ended and open ended questions, thereby providing both quantitative and qualitative data. We asked a series of likert-scale questions, one rank-choice question, and three open-ended questions. Survey design occurred between January and February 2023 and the survey was administered via the University of Vermont's Qualtrics platform in March 2023. All aspects of survey design and administration were reviewed and approved by the University of Vermont's Institutional Review Board.

As noted above, the Organizing Committee relied on email listservs as well as personal contacts within agroecology and agroecology-adjacent (e.g., sustainable food systems) networks to distribute the survey widely. Given the wide distribution, the survey included a screening question that provided a brief definition of agroecology and asked respondents whether their current work aligns with this definition. Only those who indicated that their work aligns with agroecology were invited to continue taking the survey.

This report presents preliminary analysis of both quantitative and qualitative data. Summary and descriptive statistics of demographic data and responses to closed-ended questions were generated using the Qualtrics platform. Responses to open-ended questions were analyzed using NVivo12 software. The preliminary results presented are the result of an ongoing process of reflexive thematic analysis (Braun & Clarke, 2006), which is a flexible methodology that supports identification of broad, explanatory themes within qualitative data (Maguire & Delahunt, 2017). A member of the Organizing Committee open-coded the data (Braun & Clarke, 2006; Maguire & Delahunt, 2017) using an inductive approach (Patton, 1980; Clarke & Braun, 2015).

Initial codes were reviewed, refined, and used to create a codebook. Once the data were coded, codes were iteratively grouped into tentative thematic categories (Braun & Clarke, 2020). Reflexive

thematic analysis entails an iterative analytical process whereby codes are grouped thematically to identify "patterns of shared meaning underpinned by a central organizing concept" (Clarke & Braun, 2020). As mentioned previously, with such a large dataset, this analytical process is ongoing; discussions, insights, and outcomes from this summit will inform future iterations of thematic analysis. This preliminary analysis, however, provides an opportunity to share initial insights and to honor the voices of survey respondents.

Preliminary Results

In this section, we share results from preliminary data analysis. This includes a summary of quantitative data and preliminary thematic analysis of qualitative data provided in response to open-ended questions that centered on barriers to scaling agroecology, barriers to conducting research in support of transformative agroecology, and visions for agroecological transition processes.

Quantitative Data Summary

For full summary and descriptive statistics of demographic data and additional tables and figures for closed-ended survey questions, please see the appendix.

Characterizing the Respondents

While we provide some highlights to help characterize the respondents to the survey, the demographic data on participants can be reviewed in the appendix. Most survey respondents primarily identified as researchers, although many reported having multiple roles as educators, organizers, and growers. Of the survey respondents who shared their racial identities, many identified as white (64%), whereas the voices of Latinx, Black, Indigenous, Asian, and other People of Color were under-represented. Geographically, survey respondents worked primarily in the Midwest (22%), the West Coast (18%), and the Northeast, although statistics for this last region are complicated by a survey design error listing 'New England' as a region, which excludes New York.

Agroecology – General

Initial survey questions centered on agroecology broadly. First, we asked respondents whether they agreed with a series of statements loosely inspired by the tripartite definition of agroecology as comprising scientific research, on-farm practices, and social movements (Figure 1).

When asked whether they agreed that "Agroecology is widely practiced on farms in the U.S.," 89% of respondents either disagreed or strongly disagreed. On the other hand, 96% of respondents either agreed or strongly agreed with the statement that, "There is a need for more agroecology research in the U.S."; similarly, 93% agreed or strongly agreed that, "There is a need to strengthen agroecological social movements in the U.S.." Finally, considering the political context in which transitions towards agroecology unfold, 85% of respondents disagreed or strongly disagreed with the statement that, "Public policy in the U.S. is supportive of agroecology."

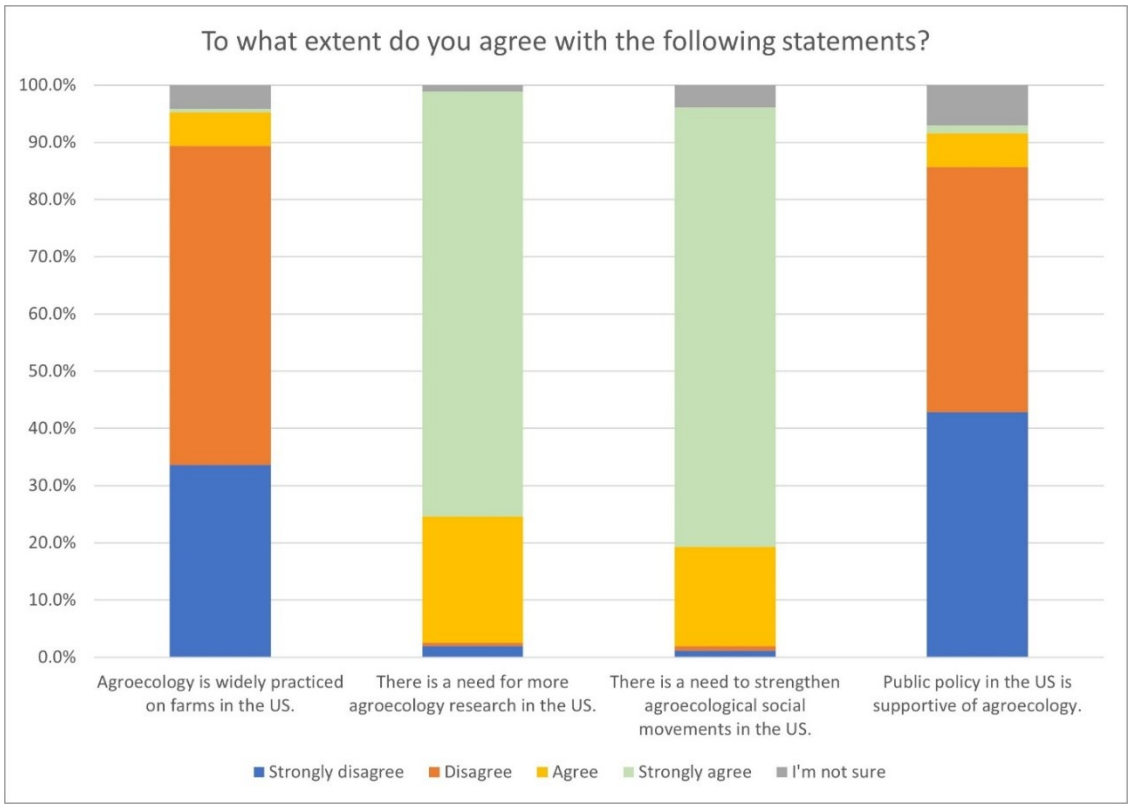

Figure 1 – Statements on agroecology in the U.S.

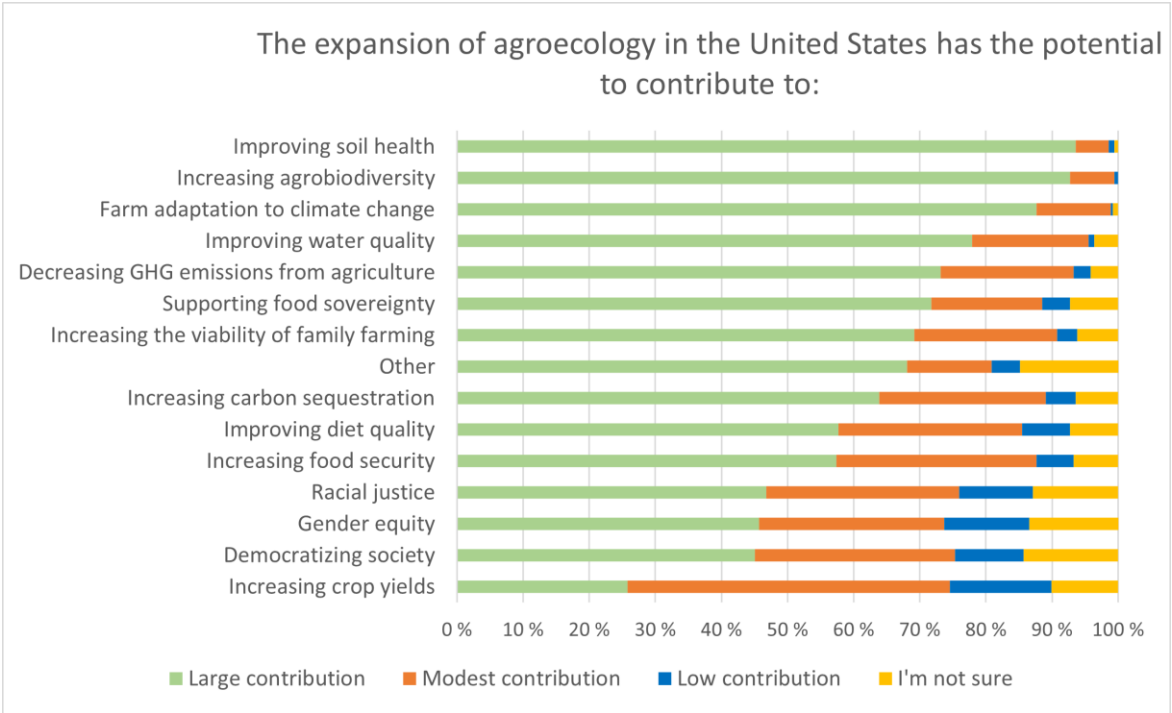

Figure 2 – Participant opinions on the ways that agroecology can contribute to different aspects of the food system.

We also asked respondents about the potential for agroecology to contribute to a range of issues and processes that have been identified as important for addressing social and ecological crises related to food and agriculture in the U.S. (Figure 2).

The top three issues and processes that respondents identified were: improving soil health (94% estimated a large contribution from agroecology), increasing agrobiodiversity (93% estimated a large contribution from agroecology), and farm adaptation to climate change (92% estimated a large contribution from agroecology). Notably, respondents most consistently emphasized the potential for agroecology to support biophysical factors and processes. While there were also strong emphases placed on the potential for agroecology to contribute to social factors and processes, these issues received less consistent agreement relative to assessments of contributions to the biophysical components of agroecosystems. For example, about 70% of respondents felt that agroecology would substantially contribute to supporting food sovereignty or increasing the viability of family farming. Considered collectively, these results indicate widespread belief in the potential for agroecology to address both biophysical and socio-cultural issues related to agriculture and food systems.

However, respondents also identified barriers to scaling agroecology in the U.S. (Figure 3). The top factors identified as limiting the potential of agroecology were: market concentration by agribusiness (86% viewed this as a large barrier), government subsidies for industrial agriculture (81% viewed this as a large barrier), and inequitable access to farmland (77% viewed this as a large barrier).

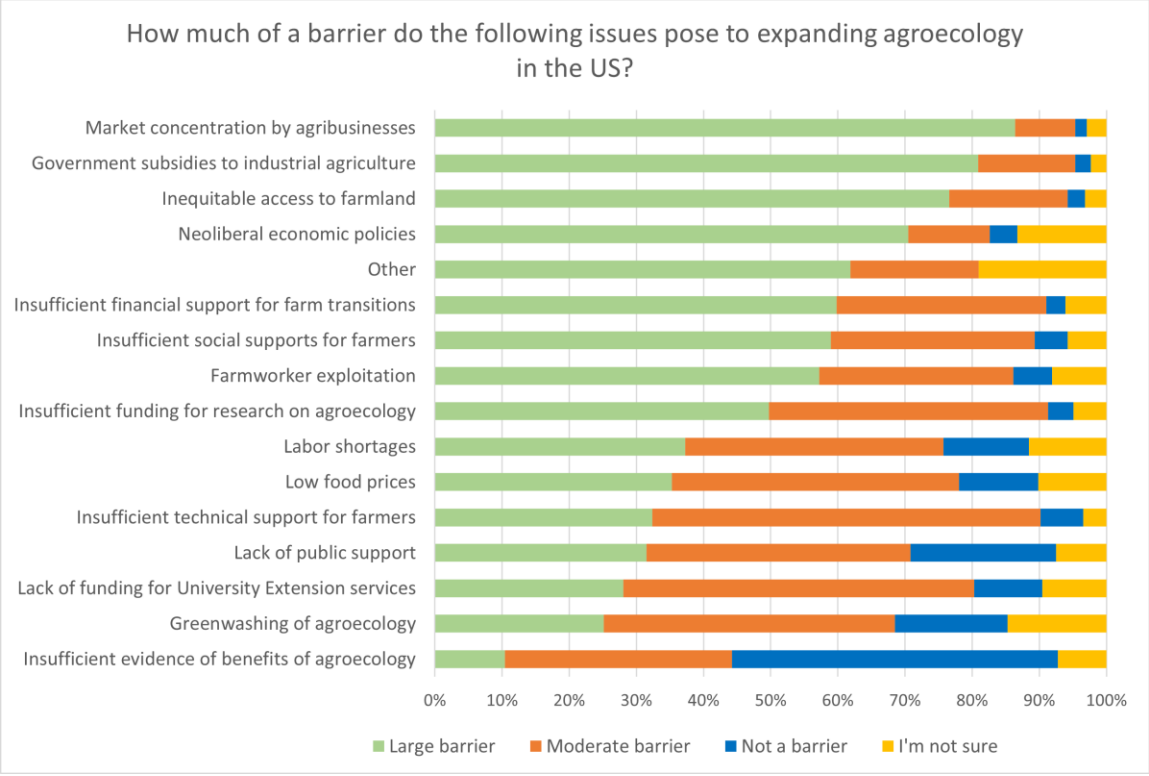

Figure 3 – Barriers to agroecology in the U.S.

Agroecology - Research

Following general questions regarding the potential of agroecology in the U.S., we moved into questions focused specifically on agroecological research. We asked people to rank the three topics that they felt were most important for research to address. The topics that the highest number of respondents ranked as most important for future research to consider were (1) new economic models for food and agriculture, (2) pathways for improving justice and equity in agrifood systems, and (3) processes of farm transitions to agroecology.

We also asked respondents about their perceptions and experiences of barriers to conducting transformative agroecology research, which is to say - research that supports more just and sustainable agrifood systems (Figure 4). The most commonly cited barriers to conducting transformative agroecology research were insufficient funding and related issues, such as short grant timelines and lack of funds to compensate research partners. The need for funding to support transformative agroecology research is further emphasized by the proportion of respondents (68%) who agreed that USDA support programs are important for enabling agroecology research; USDA support programs were identified as more important funding sources for agroecology than federal grants and private philanthropy.

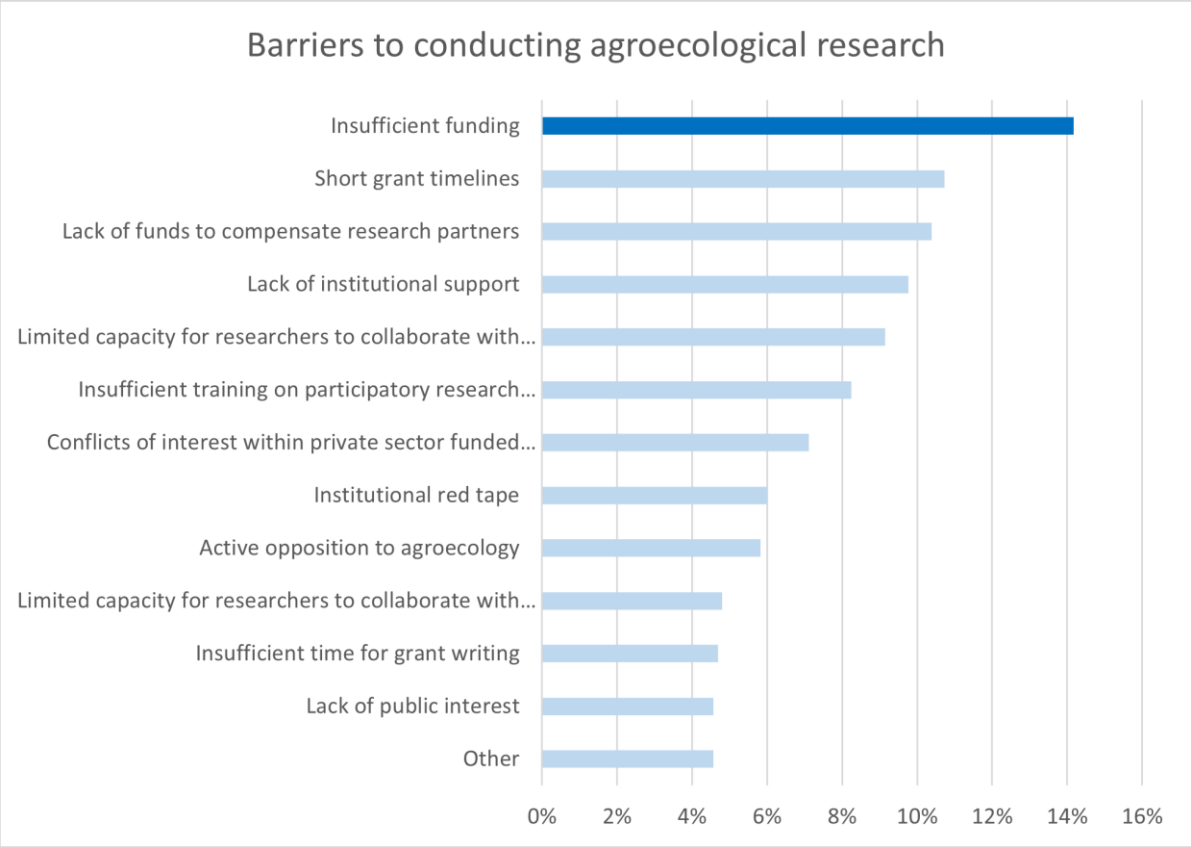

Figure 4 – Barriers to agroecology research

Qualitative Analysis

To gain deeper insight into what is needed to support agroecology in the U.S., we also asked open-ended questions. These questions provided opportunities for respondents to share additional insight and contextualize or expand on their responses to closed-ended questions. Through preliminary qualitative analysis of all open-ended responses, we identified three main themes: the need to reform the political economy of U.S. agriculture, the power of knowledge mobilization processes, and the social foundations of agroecological futures.

Agricultural Political Economy

In responses to open-ended questions, over 75% of respondents mentioned the importance of factors that we collectively identify as political economy. These comments centered on the political and economic systems that privilege industrial agriculture and, in their current form, limit the potential of agroecology in the U.S.

There were 215 references to public policy, many of which focused on the role of the USDA and existing agricultural subsidy and support programs that favor economies of scale. An emblematic comment from one respondent summarizes, "farm bill policies [are] geared toward industrialized farming practices, [with] an emphasis on subsidies for large-scale, monoculture production." The result of decades of Farm Bill policies and subsidies that promote industrial agriculture are "economic structures and policies that don't support small farms."

Respondents identified a strong positive feedback loop between policies and economic incentives that support large-scale, industrial farming practices and the power of agribusinesses to influence politics in a way that maintains or increases corporate power. The result is an agrifood system dominated by "large multinational corporations with strong influence on federal and state policy and with massive market power." The ability of agribusiness to influence policy makers via lobbying was identified as a key mechanism through which corporate power is reified. As one respondent explained, "big ag. and related industries that benefit from current systems of land use and food systems policies and practices invest in lobbyists to advance their interests."

Respondents identified two important consequences of agribusiness lobbying. First, the influence of corporate power in politics is fueling consolidation and concentration in nearly all sectors of agricultural and food supply chains: "land ownership is increasingly concentrated. Market power is as well and the subsidy/policy structure for farms and lack of enforcement of antitrust laws skews the market towards land consolidation even further." Second, processes of consolidation and concentration -along with attendant increases in the market and political power of agribusinesses- fuel active opposition to agroecology at multiple scales. As a result, agroecological research and movements are impeded by "active opposition from private interests who stand to lose market share and political influence to grassroots agroecology expansion."

Due to policies that advantage large-scale, industrial agriculture; political lobbying by agribusiness to maintain this political advantage; and processes of market consolidation and concentration, the political economy of agriculture in the U.S. is defined by path dependencies that privilege the status quo and impede transitions towards agroecology. Many respondents pointed to 'entrenched' policies and power and the challenge this poses for agroecology: "policies and politics are set up to support the existing system. Transitioning to agroecology will mean dismantling and reconstructing the existing system to move away from supporting large enterprise and big ag."

The extent to which current political and economic systems constitute a barrier to agroecology was forcefully emphasized by survey respondents. In discussing the political economy of agrifood systems in the U.S., respondents emphasized the need to shift political power, resources, and support to enable agroecology. Calls for increased funding and government support programs for agroecological transitions were often paired with calls for "disruptive politics" and "the breakdown of path dependency."

Knowledge Mobilization

Education, knowledge sharing, research, and other processes of mobilizing knowledge were identified as key strategies to increase adoption of agroecological practices, garner public support for agroecology, and support agroecological networks and social movements.

Many respondents specifically emphasized the importance of research that is carried out with and for farmers, including participatory research and other collaborative processes for creating, disseminating, and implementing agroecological knowledge. Yet, while the role of research and education was consistently cited as a key strategy for scaling agroecology, respondents also described substantial barriers to conducting participatory research and implementing other collaborative strategies for mobilizing knowledge. Broadly, people noted a lack of institutional support for participatory and collaborative research processes. One respondent summarized that, "University institutions are poorly designed to support sustained, transdisciplinary, participatory action research, which in my opinion is the foundation (at least research-wise) for transformative work."

Under the broad umbrella of institutional constraints, people noted a lack of training in participatory methods and lack of funding for collaborative research. Some emphasized the general impact of "lack of funding and institutional support to partner with farmers" while others focused on the personal capacity of researchers to engage in ethical and collaborative work: "Agroecology researchers do not yet have the capacity to work collaboratively with practitioners, often it is an extractive educational model… that prevents [researchers] from being able to form rapport and long-term relationships with practitioners."

The issues of funding, institutional support, and researcher training all converged in respondents' discussion of how grant funding mechanisms impede agroecological research and scaling. Grant timelines were specifically identified as running counter to agroecology research methods and projects capable of supporting social movements and farm transitions to agroecology. One respondent explained, "long-term relationships required for good research aren't incentivized by short grant and publication timelines." In addition to better training in participatory methods and increased funding for collaborative research, many respondents emphasized the need for revisions

to grant timelines and outcomes to better support relational, embedded research that tracks social and ecological changes over time.

Finally, many respondents linked research, education, farmer transition processes, and public support for agroecology. In general, many respondents emphasized the role of research in providing ongoing evidence of the ecological and economic benefits of agroecology. For example, one respondent noted the role of research in "communicating benefits and tradeoffs of agroecological practices over the long-term," explaining that "producers need to see [the] long term benefits of holistic practices" before taking on the risk of transitioning to agroecology. Others emphasized that such evidence exists and what is needed is "more awareness of the benefits of agroecological practices" which requires more "education and information sharing." Respondents consistently emphasized the crucial role of knowledge mobilization processes that span growers, consumers, activists, and policymakers: "Broad public education is critical for all people to understand their very active role, however far they believe themselves to be from the means of production or political decision making around food." People repeatedly emphasized education as an alternative to agrifood systems transformations that are "forced by climate change and environmental deterioration."

Social Foundations of Agroecology Transitions

The impact of knowledge co-creation processes and mobilizing existing agroecological knowledge point to the power of education and learning in visioning and enacting agroecological transitions. What people know and how people learn influence what they perceive to be possible - what they can imagine. This is to say, how we mobilize knowledge and the identities of the 'we' who are mobilizing have implications for the types of agroecological futures that are possible. This was evident in many survey responses that centered on grassroots movements, social justice, and transformation. One respondent emphasized that, "There are many movements - for housing and climate justice; Indigenous landback; debt cancellation; universal healthcare; labor rights and justice across all sectors; abolition and anti-policing - that agroecology movements could learn with and from."

Connecting agroecology movements to other complementary social movements was identified as a key strategy for building collective power to dismantle disabling political economic conditions. Importantly, respondents emphasized that "these connections can be made across grassroots organizations but also across professors/scholar activists and universities engaged on these issues."

The call for research, scholars, and universities to engage with social movements speaks to an important point around the social foundations of agroecological transitions. Many respondents emphasized that "addressing economic and racial equity and justice issues are essential to achieving these transitions." Without a foundation rooted in justice and equity, transitions towards agroecology were deemed impossible. The issue of equitable land access, which was mentioned nearly 100 times, speaks to this dynamic. For example, one respondent asserted that "the combination of new land tenure models and economic models" are both necessary "to fully achieve a just transition" away from industrial agriculture and towards agroecology.

The emphasis on the social foundations of agroecological transitions was also linked to concerns regarding greenwashing and cooptation. Many warned against "the co-optation of the movement by corporations," a process exemplified by rebranding agroecology as "regenerative agriculture, which excludes socio-economic/racial justice imperatives, and removes the centrality of farmer-to-farmer pedagogy." Other examples of greenwashing and cooptation included "programs like climate smart agriculture, nature-based agriculture, sustainable intensification, and undefined regenerative ag that, in the upper Midwest, keep people distracted to some extent." Connecting this issue back to research and education, one respondent noted that, "outside of universities, there is very little talk about agroecology, but instead the focus is on regenerative ag., which often does not have a social justice or food sovereignty component." Fears of greenwashing and cooptation of agroecology centered on the erasure of the social foundations of agroecology; specifically, commitments to justice and equity that were repeatedly deemed foundational to agroecological transitions.

Finally, there was a strong emphasis on the impact of geographic factors on how agroecological transitions may play out, with implications for the types of collaborations and research that can best support transition processes. Many respondents emphasized the need for "context and locally-relevant processes" that speak to the unique environmental and social factors that define local agrifood systems. While there was an emphasis on the need to re-localize food systems, there was also a strong emphasis on the need for learning and solidarity across local contexts and national borders. One respondent asserted that agroecological transitions will require "collaboration with other international movements (Pan-American, Asian, European, African)," highlighting that "solidarity and collective action are crucial" for building power to achieve transitions that enact just alternatives to the current status quo.

Discussion & Conclusions

In much the same way that agroecology cannot be understood or enacted as only a science, a suite of practices, or a social movement, neither can the themes we identified through preliminary qualitative analysis stand alone. Knowledge mobilization processes are crucial for reforming political economic systems and structures that promote industrial agriculture and constrain agroecology. At the same time, however, existing political economic systems and structures prevent grassroots and participatory knowledge mobilization processes by funneling resources and political support towards research, education, and extension processes that promote the industrial status quo.

This is only a preliminary analysis, and there is more work to do to unearth the richness of the insights shared through this questionnaire. It is clear, however, that there is a need to simultaneously develop agroecological practices, movements, and research to advance the difficult yet necessary work of challenging the status quo through agroecological transitions.

Research that aims to inform on-farm practices and document outcomes remains necessary. To advance agroecology, however, researchers must *also* engage with issues of political economy and link research to the social processes that survey respondents identified as key to building

agroecology. Doing so requires an ongoing commitment to mobilizing knowledge for change. It is from this commitment that researchers –positioned both within academic institutions and beyond them– can best contribute to advancing social justice and fostering sustainability in agrifood systems. The themes we identified in survey responses highlight that to advance agroecology in the U.S., there is a need for deep, long-term collaborations and research that attends to the social and ecological foundations of agroecological transitions.

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Appendix A: additional data

Table 1A. Demographic data

	%	Count
Role within work related to agroecology		
Researcher	46.1	259
Practitioner or farmer	17.3	97
Activist	14.1	79
Other	12.5	70
Civil society organization staff	10.1	57
Institution/Group		
Land Grant University	37.5	141
Non-Profit organization	19.7	74
Public university (non-Land Grant)	12.2	46
Private university or college	7.7	29
Privately owned business	6.1	23
Other	5.9	22
Federal government	4.8	18
Non-Governmental organization	2.7	10
Indigenous Nation	1.3	5
Cooperative	1.1	4
Private industry	0.5	2
Informal group	0.5	2
Community college	0.0	0
State government	0.0	0
Local government	0.0	0
Years of working in fields related to agroecology		
11-20 years	33.2	125
21+ years	27.7	104

5-10 years	26.1	98
1-4 years	13.0	49
Region where work primarily occurs		
Midwest	22.3	84
Pacific coast (includes Alaska)	17.6	66
New England	16.8	63
Southeast	11.2	42
Mid-Atlantic	7.7	29
Mountain West	5.6	21
Other	4.3	16
National	4.0	15
South	3.5	13
Non-US	3.2	12
Southwest	2.4	9
Pacific islands	1.3	5
Atlantic islands	0.3	1
Most relevant dimension of agroecology to one's work		
Scientific research	38.8	146
On-farm practices	25.8	97
Social movements	21.0	79
Other	14.4	54
Gender		
Woman	55.9	210
Man	38.0	143
Non-binary / third gender	2.4	9
Prefer not to say	2.4	9
My own terms	1.3	5
Race and ethnicity		
White or Caucasian	64.1	266
Hispanic or Latinx	10.1	42

My own terms	9.9	41
Prefer not to say	5.1	21
Indigenous or Native American	3.9	16
African American	2.4	10
South Asian	1.7	7
Black	1.2	5
Afro-Caribbean	1.0	4
Native Alaskan	0.5	2
Native Hawaiian or other Pacific Islander	0.2	1
Age range		
21-30	11.7	44
31-40	31.7	119
41-50	23.1	87
51-60	12.5	47
60+	19.4	73
Prefer not to say	1.6	6

Table 2A. Based on your experience, please rank the top 3 most important research topics for advancing agroecology in the US, with 1 being the most important (Question 14)

	1		2		3		
	%	count	%	count	%	count	total count
Best management practices for soil health	45.2	28	30.7	19	24.2	15	62
Pathways for improving justice & equity within agricultural and food systems	46.2	55	24.4	29	29.4	35	119
The role of University Extension services in advancing agroecology	10.3	4	46.2	18	43.6	17	39
Processes of farm transitions to agroecology	33.1	40	32.2	39	34.7	42	121
The impact of agroecological grassroots organizations and networks	14.0	7	44.0	22	42.0	21	50
New models for access to farmland	25.2	26	45.6	47	29.1	30	103
New economic models for food and agriculture	45.1	83	33.7	62	21.2	39	184
Generating evidence of the benefits of agroecology	30.5	25	30.5	25	39.0	32	82
The impact of government support programs	23.0	17	29.7	22	47.3	35	74
Ecological pest management strategies	32.7	17	36.5	19	30.8	16	52
Processes for sharing agroecological knowledge	17.6	13	32.4	24	50.0	37	74

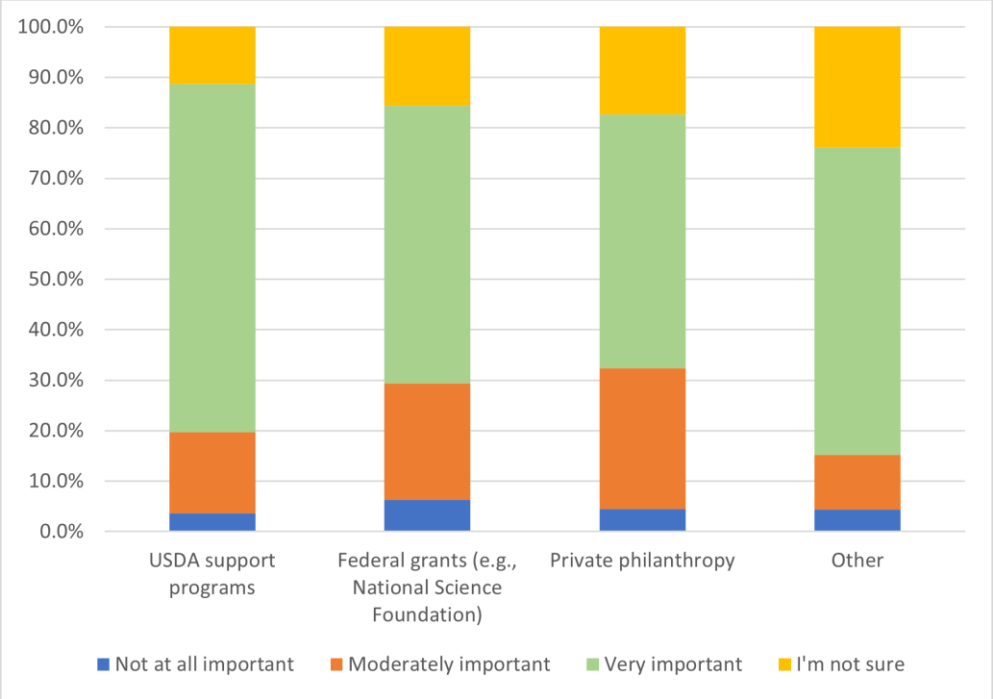

Figure 1A. Based on your experience, how important are the following funding sources for supporting agroecology research in the US? (Question 18)

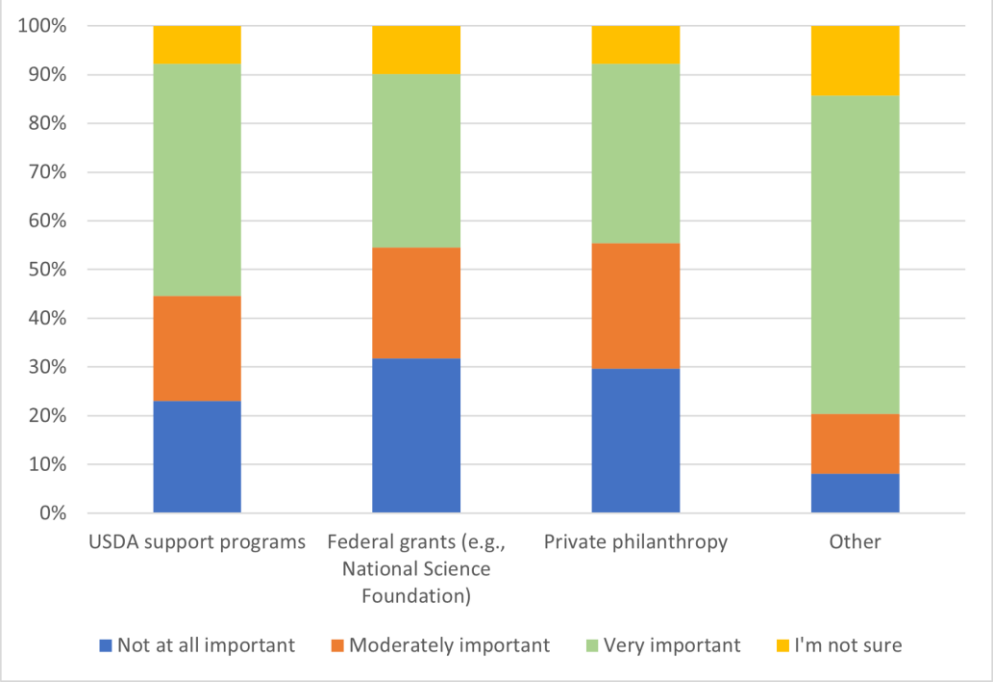

Figure 2A. How important are the following funding sources for you in your work? (Question 19)

Blog post: "The Time for Agroecology is Now: Weaving a Research Agenda to Support Transformative Agroecology in the U.S.A. – Written by the UVM Institute for Agroecology"

Click here to read online.

Written by Institute for Agroecology (IFA) team members: Colin Anderson, Martha Caswell, Katie Horner, Ernesto Méndez and guest Antonio Roman-Alcalá. May, 2023.

This blog shares some reflections from the Institute for Agroecology on the upcoming U.S. Agroecology Summit in Kansas City which focuses on developing a roadmap for agroecology research. In the run up to the conference, there have been some important discussions on how to best advance a research program that can support agroecology transitions. We have been reflecting on these discussions and are sharing some of our thinking here in the run up to the conference.

Social movements in the U.S. are advancing agroecology, along with food sovereignty, food justice and wider movements for just transitions to transform food systems.

When we're out spending time with collaborators in international networks and movements, we are often urged to push for agroecology in the U.S. given its outsized influence on the world stage. They ask, why aren't we doing more to build out agroecology here at home – in the U.S., the so-called "belly of the beast" – and how can we act, from the U.S., to support the growth of agroecology in other places.

It is true that the U.S. lags behind relative to other places in terms of social movements pushing for agroecology. While there are powerful voices making the case for agroecology in the U.S., it is significantly underdeveloped in policy and in practice, and deeply undermined by disabling factors related to our national political economy.

We have been working alongside our peers in an organizing committee to convene an Agroecology Summit taking place in Kansas City from May 22-25. We will bring together 100 agroecologists from

across the country to debate how to advance a research program to support agroecology from within the U.S.

The participants are diverse but have one thing in common: a belief that agroecology provides the most viable pathway for transforming food systems for social justice and sustainability. Recognizing that there are other spaces where different aspects of agroecology (e.g. practice, movement base building, advocacy, etc.) are being developed, this summit focuses on research in particular. It has been organized by committed scholars who believe in a transdisciplinary approach that brings together the knowledge of social movements, practitioners and researchers.

To this end, a back-of-the-envelope tally shows a fairly balanced mix of people, including: a) ~30 civil society leaders and farmers (half of whom were nominated by organizations who were invited to participate); b) ~30 researchers who focus their work within the natural sciences and c) ~30 researchers representing the social sciences.

The Summit includes the participation of researchers, farmers, policy-makers, Indigenous people, funders, students and an intentional spread in geographical representation. Because agroecology values multiple ways of knowing and appreciates that interplay, many participants fit into more than one of the categories listed above.

Ensuring diverse participation was a priority for the Organizing Committee, who are committed to: a) bringing diverse voices and ways of knowing to the table; b) creating an agenda and process for the conference that allows these diverse participants to share their views; and c) guiding the discussions through a participatory design.

Despite these commitments, the conference cannot claim to represent the full diversity of perspectives and interests that engage in agroecological research. This is due in part to the politics of

knowledge that encircle our food system, and is also reflective of the fact that the Organizing Committee convening the summit is composed primarily of researchers. Naming the biases that we carry includes recognizing that this convening may replicate the over- and under-representation of certain types of knowledge. Despite this limitation, we feel excited to be in conversation with the many that will come together in Kansas City.

From our view, initiating conversations about the change needed within research institutions is critically important for transgressing the boundaries that often lock us into static thinking and ineffective sectoral approaches. By doing our best to invite plural perspectives, make space for emergent ideas, and implement a participatory design process, we hope to also be laying the groundwork for an intense and generative process of relationship-building, co-learning, and co-production of knowledge across sectors.

Since these convenings are often planned 'behind the curtain', in the lead up to the conference, we want to share some of the discussions and debates we have had in our planning for the summit and our reflections on issues that have emerged in conversation with our peers, partners, and allies:

- Linking to Food Sovereignty
- Taking an internationalist perspective
- Where is this taking us?

Any hope for agroecology needs to be rooted in the struggle for sovereignty

We know that we desperately need to study, hone and implement farming practices that improve soil health and support agrobiodiversity. These technical and scientific issues are important, yet they are insufficient for realizing socially just and resilient agrifood systems – even if they have been proven effective many times over. Our social movement partners are steadfast in the demand that any summit on agroecology needs to foreground food sovereignty – a concept that has been developed and fought for by peasant, Indigenous and other movements around the world for decades.

Our position at the UVM Institute for Agroecology (IFA) is that for agroecology to be a viable alternative to corporate-industrial agriculture, we must transform the wider political, economic, and cultural context that undermines the food sovereignty of peoples and communities. A precondition for agroecology is that people have the right to define their own food and agriculture systems – among other things this means control over seeds, ceremony and land; each of which are critical components of food sovereignty. That is to say, our efforts to build agroecology must center issues of power and agency.

Agroecology in the U.S.: An internationalist Perspective

In ongoing discussions on the implications of an agroecology summit in the U.S., we have wrestled with the tension of needing to get our own house in order, while also staying connected to international dynamics.

This includes naming how economic, cultural, and political systems of power and control in the United States have long undermined food sovereignty and dismantled agroecological food systems around the world. This continues to be the case as U.S. foreign policy, corporate NGOs (AGRA, CropLife), and development agencies expend massive resources and power to promote industrial agriculture businesses and interests, downplaying the destructive implications of these actions.

We also need to check our hubris. Those who hope to advance agroecology in the U.S. have so much to learn from farmers, peasants, Indigenous communities, and researchers who have long been advancing agroecology in the Global South. We risk neglecting their experience and knowledge if efforts to build agroecology are carried out in national isolation.

This video *highlights the internationalist perspective on agroecology, exemplifying the local approaches to agroecology in different parts of the world. It also chronicles the International Forum on Agroecology which brought together diverse organizations and international movements of small-scale food producers and consumers to build a common platform for agroecology, published in the form of a declaration.*

The Outcomes – Where is This Going?

We come to this summit with an intention to continue this learning journey and national conversation-process. We intend to listen carefully, especially to our grassroots attendees and their views on what is needed from the domain of research in the coming years. We aim to amplify the outcomes of the conference and work with those who share a commitment to transformative agroecology that leads to direct action for addressing these needs.

We will come to the summit with an open mind and heart, in the spirit of humility, mutuality and solidarity. We will arrive prepared to listen, share, learn and be challenged through dialogue with the diversity of voices that are about to converge in Kansas City. Onwards!

Pronunciation of The Seeds, Agroecology, and Biodiversity Collective of La Via Campesina-North American Region

May 22, 2023

For Immediate Release,

The Seeds, Agroecology, and Biodiversity Collective of La Via Campesina- North American Region, are making the following pronunciation ahead of the 2023 Agroecology Summit, which is in part funded by USDA-NIFA.

While the original stated objective of this Summit - "The primary goal of the meeting is to elevate agroecology in the USDA National Institute of Food and Agriculture's (NIFA) portfolio and ultimately increase the quality and quantity of public funding available for agroecology research" - is no longer on the event website, we are very concerned with any involvement of the USDA in Agroecology. The USDA and the US government in general – independently of which party has the current majority- has continuously and repeatedly undermined the efforts to advance Agroecology and Food Sovereignty at the local, national, and international level and to transform our agriculture system. In fact, the global movement for Agroecology and Food Sovereignty is a direct challenge to the policies of the US government and to agribusiness. The USDA will never uplift agroecology in its authentic form given that the political position of agroecology would render the USDA obsolete. Thus, it is not a trustworthy partner in any initiative proposed or funded by this institution. Some examples to emphasize this contradiction include:

- Support in the anti-democratic and corporate controlled process of the UN Food System Summit,
- Support of climate false solutions including climate-smart agriculture,
- Opposition to independent governments in their processes of food sovereignty; in particular, Mexican demand to stop GMO corn imports; India's rice supply management process; Puerto Rican demand to abolish the Jones Act; and the need to stop the Cuban embargo.
- Opposition to the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas, a United Nations resolution adopted in 2018 with 121 member states in support

We of course do not diminish the good intention and dedicated work that many conscious researchers are doing to advance the agroecological processes in the United States, including many who are organizing or participating in the conference, and understand the limitations they face to access public funding for their work. Food sovereignty is not a source of endless capitalistic function. Academics who have embraced agroecology can't finance their important work. While we deeply criticize this engagement, we hope this process generates positive outcomes for our academic partners' continued effort.

As a reminder for the assistants of the summit, we remind them that.

- Millions of people around the world (members and supporters of La Via Campesina, farmers, peasants, fishers, workers, and consumers, even some in the United States) have pinned their hopes and their dreams on the establishment of food sovereignty leading to agroecological systems that honors their contribution to society and affords them respectful livelihoods and the ability to be in harmony with Mother Nature.
- Peasants pursue agroecology on the ground and in their territories as resistance and struggle against the injustices and inequities created by capitalism, imperialism, patriarchy, and neoliberalism. As such, agroecology inspires practical, action-oriented means of countering these injustices because of the social/political component that educates people on the why

and how we have the agriculture system we have today and why it must be eliminated. In order to make a real difference, it must be recognized that we have to establish agroecological systems worldwide. The exploitative, extractive agribusiness system of agriculture will not allow the coexistence with true agroecology and food sovereignty.

- Thus, agroecology must be viewed as a political goal first and foremost. This political aspect must not be erased or ignored as the program of this Summit is doing, but instead, must be the basis of any discussion on agroecology.
- The USDA promotes and funds false solutions to climate change: climate-smart agriculture, carbon markets, CO2 pipelines, and an all-out advancement of genetically engineered plants and animals. Technologies are touted as solutions to problems that were created by corporate technologies, instead of recognizing these are social-political-economic problems.
- Likewise, if the world is to enjoy the benefits of agroecology being the foundation of its agriculture, there must be laws ensuring economic justice for farmers and peasants. As long as prices are determined by supply and demand in a global market, this will not be the case. Instead, democratic governance must include programs to support the prices of what farmers and peasants produce, and not let these prices be diminished by inflation. Such a parity program will include actual price supports (not government subsidies), food security reserves accumulated when crops are abundant and released when crops are short, supply management to avoid wasteful overproduction, and import controls. We cannot rely on individual farmers to change their practices or establish sound crop rotations without these protections. With this economic foundation, further reforms like land reform and reparations can be realized.
- Agroecology and food sovereignty advocates embrace scientific research that respects and reinforces their struggle against exploitative, extractive industrial agriculture.

We hope that the influence of NIFA funding would not condition, influence, or weaken the agroecology movement in North America by co-opting our principals or those of the Summit participants.

In Solidarity,

Seed, Agroecology, and Biodiversity Collective of La Via Campesina - North

America -

Co-facilitator: Mollie Wills (NFFC) and Antonio Tovar (FWAF)

Agroecology Summit Detailed Program

Monday May 22

5:00 **Welcome to the conference** – Deb Neher

5:15 **Opening Session**
Keynote: Ricardo Salvador
Panelists:
Deb Neher
Raj Patel
Molly Andersson
Steve Gliessman

6:15 **Dinner**

7:00 **An announcement and a toast to the new Institute for Agroecology** – Ernesto Méndez and Colin Andersson

7:15 **Table Discussions about the panel themes**

7:45 **Wrap up discussions, report-backs from the tables**

Tuesday May 23

8:30 **Brief welcome to the day, outline the agenda**

8:35 **Presenting the survey data & discussion about the use of the information shared at the conference** – Katie Horner and Antonio Roman-Alcalá

8:50 **Session 1: Configuring Research Institutions and Approaches to Advance Agroecology in the USA**
Keynote: Tim Crews
Panelists:
Nick Jordan
Andrew Berardy
Ivette Perfecto
Annie Shattuck

9:50 **Stand Up and Stretch Break**

9:55 **Table Discussions about the panel themes**

10:15 **Report-backs from the tables**

11:00 **Break-out session #1**

11:50 **Wrap up as a larger breakout group**

12:15 **Lunch**

1:20 **Session 2: Centering Diversity, Equity and Inclusion in US Agroecology**
Keynote: Devon Peña
Panelists:
Jennifer Taylor
Antonio Roman-Alcalá
Hannah Duff

2:25 **Table Discussions**

2:55 **Report-backs from small Group discussions at tables**

3:25 **Consolidate Themes & Announce Break-out Sessions #2**

3:45 **Breakout session #2**

4:35 **Report-backs from the groups**

5:00 **Free time**

6:30 **Dinner**

7:00 **Conscious Closing**

7:30 **Informal Meetings or Relaxation**

Wednesday May 24

8:30 **Brief welcome to the day, outline the agenda**

8:40 **Session 3: Translating Research and Agroecological Knowledge into Practice**
Panelists:
Liz Carlisle
Tim Bowles
Garrett Graddy-Lovelace
Hektor Calderon
Ernesto Méndez

9:30 **Open space sessions**

12:00 **Lunch**

1:00 **Session 4:** Harnessing Resources, Redirecting Policy and Addressing Structural Barriers to Advance Agroecology Research in the USA
Keynote: Andrea Basche
Panelists:
Jordan Treakle
Claire Lamine
Michael Happ
Jonny BearCub Stiffarm

2:00 **Open Space sessions**

6:30 **Dinner and a video screening**

Thursday May 25

7:30 **Closing Ceremony**

8:30 **Breakfast**

9:30 **Report-backs from Open Space sessions**

10:30 **Open Space sessions**

11:45 **Conscious Closing**

12:30 **Departure**