

**Subject:** Comments on Zero Draft Policy Recommendations on Agroecological and Other Innovative Approaches

Dear Ambassador Emadi and Colleagues of the U.N. Committee on Food Security:

Writing as North America-based scientists who work in food systems from a variety of social and natural science disciplines, we would like to again convey our appreciation to the CFS for producing the HLPE Report on “Agroecological and other innovative approaches for sustainable food systems that enhance food security and nutrition.” This report is a valuable appraisal of how agroecology performs in contrast to other innovations in making transitions to sustainable food systems that will meet the SDG2 goals of ending hunger and stanching the social and environmental crises linked to industrial agriculture.

Before we turn to our comments on the Zero draft recommendations, we want to discuss our understanding of agroecology. We do not see agroecology as simply “traditional agriculture” used primarily in poor countries or poorer parts of wealthy countries. Agroecology combines contemporary scientific knowledge, millennia of accumulated farmer expertise, and practical applications by farmers in real-world situations of today. It is a robust science that integrates multiple fields into a unique “trans-discipline,” drawing on ecology, agronomy, entomology, political economy, geography, and sociology, among others to design and sustainably manage food and farming systems. Smallholder farmers worldwide – in many geographical and cultural settings – have played leading roles in continuing to develop agroecology as a 21<sup>st</sup> century farming model that can provide a range of climate, soil health, biodiversity, water conservation, and social benefits that other models of agriculture are much less able to sustain, on the available scientific evidence. These dimensions are a key reason that agroecology is gaining traction in global and local policy circles for achieving food security and nutrition.

In both industrialized and non-industrialized countries, a growing body of peer-reviewed scientific research has studied agroecological farming methods and their ecological, agronomical, and economic effects. In the United States, for example, recent agroecological research includes that of Liebman and colleagues, which showed that diversified agroecological systems increased productivity and maintained profits, while decreasing agriculture-related ecotoxicity by two orders of magnitude ([Davis et al. 2012](#)). Blesh and Drinkwater ([2013](#)) found that legume-based N and complex crop rotations generated nearly 90% less nitrogen run-off and loss than synthetic fertilizer-based corn-soybean systems. And by synthesizing ~350 site years of data, a team led by scientists at UC Berkeley and the USDA has just shown that diversifying cropping systems in North America provides resilience to adverse weather conditions ([Bowles et al. 2020](#)). In the global South, meanwhile, evidence of agroecology’s efficacy is also strong. A decade of data collected by Snapp, Blackie, and colleagues ([2010](#)) found that diversified legume-based systems in Malawi could halve fertilizer application, maintain yields, and in some cases double profitability – all leading to enhanced environmental and food security. These are just some of the many studies underway that demonstrate agroecology as an empirically validated agricultural approach.

Technologies can be and already are a part of contemporary agroecology. For example, small-scale farmers in Salinas, California have been using mapping technologies to expose the trends of land availability in the region as well as the policy environment that constrains access. Similarly, agroecology researchers at the University of British Columbia are developing an open-source web app to advance sustainability science and help farmers improve their financial and environmental management. Technological innovations that meet agroecological criteria of justice and sustainability — i.e., those that are scale-appropriate as well as inclusively developed and governed by small-scale farmers — can enhance knowledge-sharing and alleviate difficult or repetitive labor without substituting humans for machines. It is important to recognize that farmer-made technologies of many kinds have long been used as part of agroecology. In 21<sup>st</sup> century agroecology, farmers continue to help design, choose, and implement those technologies according to their actual needs, agroecosystems, and sovereignty.

We now provide some feedback on the recommendations.

## 1. Transforming Food Systems

The Zero Draft does not truly address the needed transformation of food systems.

- **The final preamble and recommendations must express a clear emphasis on policies for food system *transformation* to attain food security and nutrition.** The urgency of transformative change is now widely recognized by the scientific community, and has been written into the frameworks of numerous national and intergovernmental bodies and programs including the CFS and the Sustainable Development Agenda 2030. Here, we find a disconnect between the HLPE Report and the draft recommendations. The HLPE Report builds from the premise that a transformation of the current food system is urgently needed due to multiple dysfunctions of industrial agriculture that have led to increased hunger and depletion of natural resources. Only a transformation based on participation, localness, fairness, and justice can increase food security, which technological innovations alone will not accomplish. The draft recommendations do not explicitly call on countries to begin moving towards sustainable food systems.
- **Ecological Footprint and Agency must be re-incorporated into the final policy recommendations.** The HLPE Report recommends (1) that the “ecological footprint” be adopted as a “fourth operational principle” for sustainable food systems and (2) that

“agency” be included as a fifth pillar of food security and nutrition. Yet these principles are largely missing from the preamble and recommendations. These two principles must be reinstated if policymakers are to have foundational principles upon which to transform current food and farming systems towards food security, equity, and sustainability.

- **The final policy recommendations must provide *practical guidance on the pathways that will lead to food systems transitions*.** The current text does not discuss, for example, policies that countries could use to redirect support away from unsustainable food systems to sustainable food systems. The Zero Draft recommendations mostly address research, training, monitoring, and evaluation. Other practical recommendations in the draft suggest, for example, an array of policies to support consumer education, food labelling, and markets for small and medium enterprises (paragraphs 24-29). In contrast, the HLPE Report contains extensive, evidence-based analysis of policies in terms of whether and how these may support transitions. These policies include regulation, subsidy reforms, economic incentives, and fair competition rules. They should be integrated into the policy recommendations.
- **The final preamble should avoid reference to a continuum of food systems that includes three food systems (traditional, mixed, and modern).** This continuum was not proposed in the Agroecology HLPE Report (#14) itself and instead was made in the context of nutrition and food systems. The previous HLPE Report (#12) focused mostly on the food consumption side of food systems and thus the concept of a continuum is not relevant to a report that examines the entire food system. It is also much too broad-brush conceptually to be capable of encompassing diverse food systems worldwide. This statement should be removed from the final preamble.
- **The final policy recommendations must call for the adoption of policy measures to reduce or eliminate dependency on agrochemicals and to strengthen the establishment of agroecological approaches to pest, soil, and crop management, as part of making a transition to a healthy and sustainable food system.** Paragraph 20 in the Zero Draft suggests, incorrectly, that agrochemicals may feature in sustainable food systems, so long as efforts to "optimize" their use and "reduce over-usage" are encouraged. In contrast, the HLPE report has presented the flaws of a "use efficiency" approach that ignores broader environmental, health and social harms. Indeed, there is ample scientific evidence of the extensive harms that chemical pesticides in particular cause around the world, including under conditions of use subject to existing regulations (see for example numerous scientific publications available through the UC Berkeley [CHAMACOS](#) study website; references within the [UNEP POPs](#) website). The HLPE report's presentation of key principles shaping transitions towards SFSs for FSN provides explicit guidance to policymakers to "reduce or eliminate dependency on purchased inputs," remove subsidies for synthetic inputs, and redirect those investments and incentives to design and implement innovative agroecological approaches. These HLPE guidances should be clearly formulated in the final policy recommendation.

## 2. Prioritizing Agroecology

The Zero Draft does not separate agroecology from “other innovations” but instead conflates a variety of dissimilar and even antagonistic approaches together.

- **The final preamble and policy recommendations must place agroecology at the core of sustainable food systems.** The HLPE Report finds that agroecology provides a holistic systems approach to the many crises of industrial agriculture. Instead, the Zero Draft recommendations simply cite “agroecology and other innovations” without providing any substantive definitions or distinguishing characteristics. They refer to a vague set of innovations, while ignoring the important, scientifically based findings of the HLPE Report with regards to agroecology. Again, there appears to be a great disconnect between the HLPE report and the draft recommendations.
- **The final preamble and recommendations must clearly differentiate agroecology from other types of innovative approaches, as the HLPE Report did** (see Table 4). A full section of the Report is dedicated to appraising multiple types of systems that can loosely be categorized as “Agroecological and related approaches” (Agroecology, Organic agriculture, Agroforestry, Permaculture, Food Sovereignty) from those classed as “Sustainable Intensification and related approaches” (Sustainable Intensification, Climate Smart Agriculture, Nutrition Sensitive Agricultural). These differences matter.

The Report affirms: “Sustainable intensification and related approaches are viewed as contributing most strongly to FSN by improving availability and stability, as well as to the operational principles of resource efficiency and resilience. In contrast, agroecological and related approaches are viewed as contributing substantively to the access and utilization dimensions of FSN and to the third principle of social equity/responsibility. Participation and empowerment are central in these approaches” (emphases added). Given mounting scientific evidence that access, utilization, decision-making power, and the underlying socioeconomic inequalities that shape these elements are frequently more important determinants than mere availability of food calories when it comes to persistent hunger and malnutrition worldwide (SOFI 2019; Chappell 2019; Wise 2019), we cannot underscore enough how much these “approach” distinctions matter.

Moreover, as the HLPE Report states: “A key reason for distinguishing ecological footprint from resource efficiency, as operational principles, lies at the heart of the differences between agroecological and sustainable intensification approaches to

transitions to SFS, because it is possible to have high resource use efficiency at the same time as having a negative ecological footprint.” (p. 19) Again, our concern here is that the failure to meaningfully distinguish amongst disparate approaches, combined with the dropping of “ecological footprint,” has resulted in a Zero Draft that will not enable policymakers to discern crucial differences among proposed pathways to transformative food systems change.

- **The final policy recommendations must clearly advance a framework for assessing how various approaches, once piloted or deployed, can be subjected to empirical scrutiny and evaluation** (see also #4 below). Guidelines based on research to date have provided a starting point; per our comments above, the differences among Agroecological and Sustainable Intensification approaches must be preserved in the policy recommendations. Yet in addition, systems must be put into place to follow and gather empirical data about the efficacy of interventions across different geographies and over time. They must also incorporate the understanding, from the HLPE Report, that innovation for sustainable food systems requires (i) inclusive and participatory forms of innovation governance; (ii) information and knowledge co-production and sharing among communities and networks; and (iii) responsible innovation that steers innovation towards addressing social issues. At present, we are concerned that the Zero Draft does not provide for or encourage a robust framework for evaluating innovations once implemented.

### 3. Right-Based Approaches

The Zero Draft does not focus consistently on the world’s most vulnerable populations and how food systems must be transformed to work with and on their behalf.

- **The final policy recommendations must foreground the “right to food” already recognized as a cornerstone of CFS policy and practice.** The current preamble says the right to food can serve to guide efforts to achieve food security and nutrition for all (paragraph 8). But the *recommendations* do not carry through this idea and they do not explicitly underline the potential of agroecology to help meet the right to food for those marginalized and vulnerable groups who are most at risk of food insecurity and malnutrition.
- More generally, **the final preamble and recommendations should begin with rights-based frameworks including the right to food, right to water, right to a healthy and sustainable environment, right to safe and healthy working conditions, rights of Indigenous peoples, peasant rights, and food sovereignty.** These frameworks can

**help anchor agroecology in the political, environmental, and ethical commitments needed to transform the food system.**

- **The final preamble and recommendations must affirm and set out policies that will help realize the ability of peasant, indigenous, family farmers and other smallholder food producers, to fully exercise their sovereignty over making transitions to sustainable food systems.** The draft recommendations *do* recognize the need to support inclusive and democratic decision-making mechanisms at all levels in food systems (paragraph 47). They also mention the role of smallholder, peasant, indigenous, and family farmers, including women and youth, as central agents in transitions to sustainable food systems (paragraph 48). But the draft preamble does not integrate inclusive and democratic decision-making mechanisms, and the agency of smallholder, peasant, indigenous, and family farmers as fundamental to making such transitions.
- **The final policy recommendations must address in detail the role and participation of grassroots and community-based movements in the policy dialogue moving forward.** In the context of the upcoming Convention on Biological Diversity in December 2020, the Zero Draft calls for “a high level dialogue on the contributions of biodiversity to sustainable food systems as a contribution to the UN Food Systems Summit; invite the cooperation of FAO and specifically its Commission on Genetic Resources for Food and Agriculture, the International Treaty on Plant Genetic Resources for Food and Agriculture, the FAO Technical Committees and the Convention on Biological Diversity” (p. 8). Yet social movements representing the world’s most precarious and vulnerable populations are not explicitly mentioned as comprising the stakeholder groups. As scientists, we recognize that movements such as La Via Campesina are at the forefront of agroecology practice and must be included in these proposed dialogues.
- **The final draft must emphasize the peasant farmers, Indigenous peoples, and rural communities whose contributions to agroecology and sustainable food systems are paramount,** yet whose survival is at risk – in particular their health, social and physical environments, food and livelihood security and even their lives. Key policy measures to sustain these communities include ensuring secure access to land, water and seeds; revitalizing farmers’ rights to save, exchange, sell and breed seeds; supporting farmer and worker cooperatives; and guaranteeing fair wages and safe working conditions for food and agricultural workers. The recommendations should clearly call on countries to adopt for these measures.

#### **4. Assessment Criteria**

The Zero Draft itself does not use the criteria that the HLPE Report developed to assess the capacity of agroecology and other innovative approaches to support transitions to sustainable food systems.

- **The final recommendations must use the HLPE Report’s substantive, scientifically grounded criteria (resilience, ecological footprint, resource efficiency and social equity/responsibility, and agency) to assess innovations.** The Zero Draft seems to ask for a *new* system of assessment. In fact, paragraphs 30-33 and 64-67 appear to call on FAO and governments to simply repeat the very work that the HLPE panel has just completed. To us, this presages “paralysis by analysis” – a familiar phenomenon in policy work where real progress in achieving sustainability is stymied by endless analysis and re-development of criteria for measuring advances. Instead, the final recommendations should firmly call on countries to begin next steps for implementing the measures and policies needed to transition to sustainable food systems.
- **The final preamble must also clearly specify that any decision, innovation, policy, research, fora or initiative proposed as an action towards building sustainable food systems be evaluated in the light of its effect on the HLPE operational principles of food systems** (resource efficiency, resilience, social equity/responsibility, ecological footprint, and agency).

## 5. Digitalization

The Zero Draft gives too much prominence to digitalization without affirming what the HLPE Report expresses on this topic.

- **The final policy recommendations must take the careful and nuanced approach of the HLPE report with respect to digitalization.** Paragraph #6 in the Zero Draft preamble calls for digitalization alongside agroecology, as if it were an innovative approach in itself. The HLPE report does not treat digitalization as such; it briefly considers whether and how digitalization might support transitions toward sustainable food systems, and points to numerous potential challenges to harness that digitalization for food security (Section 3.3.4). Emphasizing digitalization without following the HLPE Report is not appropriate here. Much more analysis is required before conclusions and policies can be proposed as part of transitions to sustainable food systems. Also, developing a strong regulatory framework for digitalization in agriculture is well beyond the remit of the CFS and actually gets much more into the realm of regulating internet companies and intellectual property, which has proven very difficult to accomplish in

recent years. Surely digitalization is an emerging issue, but needs far more consideration than the disjointed mentions in this document.

Respectfully,

Maywa Montenegro, PhD, MS

Department of Human Ecology, University of California, Davis, CA, USA

Marcia Ishii-Eiteman, PhD

Senior Scientist, Pesticide Action Network North America, Berkeley, USA

Chair, PAN International Workgroup on Agroecology

Alastair Iles, PhD

Department of Environmental Science, Policy and Management, University of California, Berkeley, CA, USA

Matthew Canfield, PhD

Department of Law, Politics, and Society, Drake University, Des Moines, Iowa, USA

Shiney Varghese

Senior Policy Analyst, Institute for Agriculture and Trade Policy, Minneapolis, MN, USA

M. Jahi Chappell, PhD

Executive Director, Food First, Oakland, CA, USA

Annie Shattuck, PhD

Department of Geography, Indiana University, Bloomington, IN, USA

Antonio Roman Alcalá, PhD Candidate

International Institute for Social Studies, The Hague, Netherlands

Molly Anderson, PhD

William R. Kenan Jr. Professor of Food Studies

Middlebury College, Middlebury, VT, USA

Christopher M. Bacon, PhD

Associate Professor of Environmental Studies

Santa Clara University

Kathryn G. Anderson, PhD

Department of Environmental Science, Policy and Management, University of California,  
Berkeley, CA, USA

David Meek, PhD

Department of Global Studies, University of Oregon

Eugene, OR, USA

Michelle Miller, MS

Associate Director, Center for Integrated Agricultural Systems, University of Wisconsin

Madison, WI, USA

Colin Anderson, PhD

Centre for Agroecology, Water and Resilience, Coventry University. Visiting Professor at the University of Oregon.

V. Ernesto Méndez, PhD

Department of Plant and Soil Science & Environmental Program, University of Vermont

Burlington, VT, USA

Hannah Wittman, PhD

Director, Centre for Sustainable Food Systems, University of British Columbia

Vancouver, BC, Canada

Rebecca Tarlau, PhD

College of Education, The Pennsylvania State University

University Park, PA USA

Annette Desmarais, PhD

CRC in Human Rights, Social Justice and Food Sovereignty

Department of Sociology and Criminology

University of Manitoba, Winnipeg, Manitoba

Martha Caswell, MPP

Department of Plant and Soil Science, University of Vermont

Burlington, VT, USA

Joshua Sbicca, PhD

Department of Sociology, Colorado State University

Fort Collins, CO, USA

Nicholas A. Jackson, PhD

Centre for Agroecology, Water and Resilience, Coventry University

Jennifer Taylor, PhD

Sustainable Development, FAMU StateWide Small Farm Program

Florida Agricultural and Mechanical University

Tallahassee, Florida, USA

Catherine Badgley, PhD

Department of Ecology and Evolutionary Biology, University of Michigan

Ann Arbor, MI, USA

Ivette Perfecto, PhD

George W. Pack Professor of Environment and Sustainability

School for Environment and Sustainability,

University of Michigan

Ann Arbor, MI, USA

Liz Carlisle, PhD

Environmental Studies Program  
University of California, Santa Barbara  
Santa Barbara, CA, USA

Raj Patel, PhD  
Research Professor  
Lyndon B Johnson School of Public Affairs  
University of Texas at Austin, USA

Ryan E. Galt, PhD  
Professor, Department of Human Ecology  
University of California, Davis, CA, USA

Madeleine Fairbairn, PhD  
Department of Environmental Studies  
University of California, Santa Cruz, USA

Stacy Philpott, PhD  
Department of Environmental Studies  
University of California, Santa Cruz, USA

Bruce G. Ferguson, PhD  
Department of Agriculture, Society, and the Environment  
El Colegio de la Frontera Sur, San Cristóbal de Las Casas, Mexico

Gustavo de L. T. Oliveira, PhD

Department of Global and International Studies

University of California, Irvine, CA

Rachel Bezner Kerr, PhD

Department of Global Development

Cornell University, Ithaca, NY

Christina M. Schiavoni, PhD

Agrifood systems researcher

Doug Gurian-Sherman, PhD

Honorary Research Fellow, Centre for Agroecology, Water and Resilience

Coventry University, UK

Timothy M Bowles, PhD

Department of Environmental Science, Policy, and Management

University of California Berkeley, CA, USA