## Scientists' Support Letter for the International Symposium on Agroecology, 18–19 September, 2014

As scientists and scholars working in sustainable agriculture and food systems, the undersigned praise the Food and Agriculture Organization of the United Nations (FAO) for organizing and convening the International Symposium on Agroecology for Food and Nutrition Security.

This symposium comes at an opportune time as climate change, continued food insecurity and rural poverty present myriad challenges to sustainability. Agroecology, especially when paired with the developing principles of food sovereignty and food justice, offers opportunities to address all of these problems to an extent not matched by other approaches or proposals. This is why agroecology has been endorsed by the former U.N. Special Rapporteur on the Right to Food Olivier De Schutter;¹ the 10,000-member Ecological Society of America;² through the formation and statements of the Latin American Society for Agroecology;³ in the scientific report of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD); by La Vía Campesina, the world's largest organization of peasant farmers; by a growing number of research institutions around the worldand most recently, further endorsed by over 250 scientists and experts.<sup>4</sup>

As the organizers and attendees of the symposium likely already know, these groups—and the undersigned—view agroecology as a well-grounded science, a set of time-tested agronomic practices and, when embedded in sound sociopolitical institutions, the most promising pathway for achieving sustainable food production. Agroecology integrates multiple fields into a unique "trans-discipline," drawing on ecology, agronomy, political economy and sociology, among other fields. It can be considered a science, a set of practices, and a social movement for distributive and procedural justice. In fact, without these elements of justice—which are often lacking in other approaches (for example, "climate-smart agriculture" or "sustainable intensification")—no approach can be scientifically assessed as "sustainable" according to most established definitions of sustainability. The procedural justice element has been associated with the growing conceptualization of and movement for "food sovereignty"—the right for people to design and decide on the shape of their own food system within their own localities, to the maximum extent practicable, with the maximum possible participation.

Based on established research and science, we affirm that:

- (1) No approach can be called sustainable without explicit planning for and realization of procedural AND distributive justice;
- (2) With regards to food and agriculture, this means specifically and substantively addressing issues around who gets access to resources and the processes to determine this access. Empirically established pertinent resources include: education, land, gender equity, infrastructure, credit, market access, affordable inputs and affordable food.<sup>6</sup> Means of "value-adding" and processing must also be available for farmers. (These issues may be thought of in terms of distributive justice.) Procedurally, point (1) may be addressed by ensuring the active and equitable participation of small farmers and the

food insecure in all decisions affecting them. Allowing the sole decision-making at any stage to be undertaken by government officials, development experts, multinational corporations or wealthy donors can interfere with appropriate local processes that Nobel Laureate Elinor Ostrom found could be robustly and sustainably effective in managing resources, given the right facilitating factors.<sup>7</sup>

(3) Agroecology is uniquely positioned to support the realization of these principles and needs.

The evidence for the contributions of agroecology are amply documented, including in the reports and letters mentioned above (e.g., as found in the endnotes of this missive). Highlighted peer-reviewed work has examined the numerous benefits to both social and ecological systems—from ecosystem services, to lowering the amounts of synthetic inputs and reducing run-off, increasing nutrition security and supporting women's empowerment, and improving resilience and mitigation and adaptation to climate change. Agroecological practices can also substantially boost yields in areas where productivity increases may be most needed, and support vital biodiversity and environmental conservation objectives.

Important and productive questions to be addressed by agroecologists include the strong and well-replicated empirical observations of greater per-unit-area productivity or higher land efficiency ratios of smaller farms; total farm and landscape ecosystem service provision and productivity (instead of yield measured for single crops on farms and landscapes producing multiple goods), and the means of promoting and maintaining agroecological models that will support and provide public goods, resilience, food security, and farmer autonomy. Notably, despite the broad promise, none of the areas of agroecology have seen the levels of investment in research, education, and extension seen for input-intensive conventional agriculture. This may be due to the fact that the provision of public goods, avoidance of negative externalities and the lower commercial input needs of agroecological farmers provide ample services to society, but fewer possibilities for private gains to large corporate concerns who supply and buy food and agricultural products.

The idea that simply making more food with less land and other inputs—sustainable intensification—will lead to a smaller overall land use in agriculture has historically not been the case. Theory and empirical observations show that the determinants of land use and land areas under cultivation are far more complex. Proponents of sustainable intensification have themselves acknowledged that intensification without carefully crafted policies will not necessarily lead to lower land-use. However, what has not been emphasized is that carefully crafted policies that promote equitable access to land, credit, markets and inputs, along with environmentally-sound farming methods, are able to preserve nature and provide food security in many, if not most, cases. Focusing on "intensification first," or in the absence of these policies, risks failures in achieving sustainability or alleviating poverty and food insecurity.

We suggest that "climate smart agriculture" and "sustainable intensification" cannot be alternative terms for agroecology as they do not include the transdisciplinary breadth nor the specific experimental and empirical depth of established agroecology. A sound and scientifically supported approach must pursue climate mitigation and adaption strategies as part of a larger approach under the umbrellas of agroecology and food sovereignty. Under these

two concepts, established and innovated methods are used to provide greater farmer security, greater diversity and greater autonomy. They draw on an active but under-supported research agenda and a tradition of strong partnerships and leadership from farmers. In contrast, the exact conditions of "climate-smart agriculture" and "sustainable intensification" are not only vague but also subject to abuse through misleading or incomplete definitions. Agroecology's long history, existing discourse, <sup>21</sup> and better-defined transdisciplinary space<sup>22</sup> help guard against such dangers.

If we are to further the socially responsible goals of sustainable agriculture, food security, and climate change mitigation and adaptation, then logically we must build on these foundations within agroecology. Other approaches cannot similarly count on the science, practices and movements behind agroecology, yet we know that all three, particularly social movements, are as crucial as scientific and technical innovation in sustainably implementing the right to food. Although agroecology **does** increase yields in many important cases, the centrality of procedural and distributive justice as parts of the agroecological tradition might be remembered with this simple phrase: "No intensification without representation." Efforts to realize such representation may be practically seen in examples like Empowered Participatory Governance, the Just Sustainability Paradigm, and many elements of specific approaches like participatory budgeting, deliberative polling, the principles of subsidiarity, and many of the examples elucidated by Ostrom and colleagues.

We therefore call upon FAO member states and the international community to build upon the proceedings of this symposium in order to launch a U.N. system-wide initiative on agroecology as the central strategy for addressing climate change and building resilience in the face of water crises: an initiative centered around social, cultural and food sovereignty issues in agriculture and food systems. We see such an activity as becoming one of the pillars of the future work of the Committee on World Food Security as it develops the Global Strategic Framework on Food Security and Nutrition while making an invaluable contribution to discussions and negotiations about agriculture within the U.N. Framework Convention on Climate Change process and the post-2015 Sustainable Development agenda.

We look forward to seeing a discussion of our proposal at the forthcoming Committee on World Food Security meeting 13–18 October 2014.

## Sincerely,

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<sup>&</sup>lt;sup>1</sup> Olivier De Schutter. 2014. Report of the Special Rapporteur on the Right to Food, Final Report: The Transformative Potential of the Right to Food, Document A/HRC/25/27. (New York: United Nations, 2014).

<sup>&</sup>lt;sup>2</sup> Ecological Society of America (ESA). "Letter to Dr. Catherine Woteki, under Secretary for Research, Education and Economics and Chief Scientist of the United States Department of Agriculture." (Washington, D.C.: ESA, 2013).

<sup>&</sup>lt;sup>3</sup> See <a href="http://agroeco.org/socla/">http://agroeco.org/socla/</a>.

<sup>&</sup>lt;sup>4</sup> Union of Concerned Scientists (UCS). "Scientist Statement of Support for Public Investment in Agroecological Research." (Cambridge, MA: UCS, 2014). http://www.ucsusa.org/food\_and\_agriculture/solutions/strengthen-healthy-farm-policy/agroecology-research-scientist-statement.html.

<sup>&</sup>lt;sup>5</sup> Jacqueline Loos, David J. Abson, M. Jahi Chappell, et al. "Putting Meaning Back into 'Sustainable Intensification'." *Frontiers in Ecology and the Environment* 12 (2014): 356-361.

<sup>&</sup>lt;sup>6</sup> De Schutter, Report of the Special Rapporteur; High Level Panel of Experts on Food Security and Nutrition (HLPE). Investing in Smallholder Agriculture for Food Security: A Report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. (Rome: Committee on World Food Security, 2013); Joern Fischer, David J. Abson, Van Butsic, et al. "Land Sparing Versus Land Sharing: Moving Forward." Conservation Letters 7 (2013): 149–157.

<sup>&</sup>lt;sup>7</sup> Ecological Society of America (ESA). "Elinor Ostrom 1933-2012." Bulletin of the Ecological Society of America 94 (2013): 17-19.

<sup>&</sup>lt;sup>8</sup> Claire Kremen and Albie F. Miles. "Ecosystem Services in Biologically Diversified Versus Conventional Farming Systems: Benefits, Externalities, and Trade-Offs." *Ecology and Society* 17 (2012): 40.

<sup>&</sup>lt;sup>9</sup> Adam S. Davis, Jason D. Hill, Craig A. Chase et al. "Increasing Cropping System Diversity Balances Productivity, Profitability and Environmental Health." *PLoS ONE* 7 (2012): e47149; Jennifer Blesh and Laurie. E. Drinkwater. "The Impact of Nitrogen Source and Crop Rotation on Nitrogen Mass Balances in the Mississippi River Basin." *Ecological Applications* 23 (2013): 1017-1035; Sieglinde S. Snapp, Malcolm J. Blackie, Robert A. Gilbert, et al. "Biodiversity Can Support a Greener Revolution in Africa." *Proceedings of the National Academy of Sciences* 107 (2010): 20840-20845.

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<sup>&</sup>lt;sup>11</sup> Eric Holt-Giménez. "Measuring Farmers' Agroecological Resistance after Hurricane Mitch in Nicaragua: A Case Study in Participatory, Sustainable Land Management Impact Monitoring." *Agriculture Ecosystems & Environment* 93 (2002): 87-105; Nadia El-Hage Scialabba and Maria Müller-Lindenlauf. "Organic Agriculture and Climate Change." *Renewable Agriculture and Food Systems* 25 (2010): 158-169; Brenda B. Lin, M. Jahi Chappell, John Vandermeer, et al. "Effects of Industrial Agriculture on Global Warming and the Mitigation Potential of Small-Scale Agro-Ecological Farms." *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition, and Natural Resources* 6 (2011): 1-18.

<sup>&</sup>lt;sup>12</sup> Jules N. Pretty, Camilla Toulmin and Stella Williams. "Sustainable Intensification in African Agriculture." *International Journal of Agricultural Sustainability* 9, (2011): 5-24; Catherine Badgley, Jeremy K. Moghtader, Eileen Quintero, et al. "Organic Agriculture and the Global Food Supply." *Renewable Agriculture and Food Systems* 22, (2007): 86-108; Snapp et al., "Biodiversity Can Support a Greener Revolution". Although many "before-after" case studies have been dismissed because one cannot control for what factor was "agroecology" *per se* (or "organic" or other related terms) as opposed to effects from confounding factors that may have changed over the same time—including farmer learning, education, etc.—these "before-

- after" cases are instructive in showing the possibilities with the broader dissemination of agroecological principles and practices.
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- <sup>25</sup> Amy R. Poteete, Marco A. Janssen, and Elinor Ostrom. *Working together: collective action, the commons, and multiple methods in practice*. (Princeton University Press, 2010).