

Call for action for agroecological transition of agri-food systems¹

This is a call for action for agricultural research organizations and researchers to play a leadership role in the global movement to bring about sustainability, health, equity and food security transitions in agri-food systems. We are convinced that agroecological research is essential for this transition, but it remains significantly under-represented in agricultural research strategies and plans and under-resourced. We call for stronger priority to be given to agroecological transitions in response to global challenges.

Why change is needed

There are multiple and urgent challenges facing agri-food systems today: biodiversity loss, adapting to and mitigating climate change, water scarcity, land and soil degradation, and the triple burden of undernutrition, malnutrition and nutrition inequality, among others. Development pathways for sustainable agriculture must focus on changes that transform agri-food systems to increase the synergies and minimize the trade-offs among SDGs².

Agriculture is often seen as a principal driver of ecosystem degradation. Yet, food production is also primarily dependant on ecosystems and the services they provide. Ultimately, agriculture is therefore the primary source of solutions for reconciling food security, health, and sustainability. Instead of depleting these services, food production is best placed to enhance them. Agriculture is humanity's best bet at food security, landscape restoration, climate mitigation, and in meeting additional objectives for sustainable, climate-resilient and equitable development. This requires a transition from agricultural practices that work against nature, to practices that work with nature. It is not enough to look at how agriculture can be practiced in a manner that minimises harm to the environment; we must rather shift to agriculture that maximizes restoration of the environment. Key to this is an agroecological approach to agriculture that applies ecological principles while addressing the need for socially equitable food systems.

There are multiple narratives and possible pathways for agroecological transition. Fundamentally, these must be created collectively. Science has an essential role in providing the evidence base for refining and adapting pathways to achieving multiple targets (e.g. productivity, profitability, sustainability, health, equity). Accelerating climate change means that everywhere, the ability to adapt pathways will become more important than gross yields.

The nature of the change

In many parts of the world, there is strong need and growing demand for agroecological transitions in a wide range of contrasting situations, for example the transition from intensive, mono-cropped agricultural systems to multi-functional agro-ecosystems that reduce use of inputs and stop resource degradation, or intensification of low-input traditional systems through enhanced ecosystem services, without increasing technical or financial dependency. Achieving these transitions will require overcoming multiple barriers beyond technical constraints, including social, power and values dimensions. Global agreement on how to prioritise among multiple objectives does not exist. Consistent use of existing and new measurement and valuation tools across socio-agro-ecological contexts will be required. Globally, agroecological transitions are needed that are locally constructed and that prioritize human and planetary wellbeing will set a course for large-scale change.

¹ This call comes from a 2-day meeting of 40 CGIAR and French institutions researchers and funders held in Montpellier in June 2019.

² Including SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-being), SDG 5 (Gender Equality), SDG 6 (Clean Water for All), SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action) SDG 14 (Life below Water) and SDG 15 (Life on Land)

Change is multifaceted and contextual – but it can be guided by generic frameworks, which are robust but flexible, and can be adapted to local needs, priorities and starting points along the transition. Local knowledge and capacities will play an important role in agroecological transitions, alongside scientific knowledge and technology. A radical and new approach to the performance of agriculture is needed, encompassing ecosystem services and restoration.

Agroecological transitions build on several definitions of agroecology, but these converge around common principles. For example: FAO's 10 interlinked and interdependent elements³ of diversity, synergies, efficiency, resilience, recycling, knowledge co-creation and sharing, human and social values, culture and food traditions, responsible governance, circular and solidarity economy. Or the 13 principles synthesized by HLPE⁴ of recycling, input reduction, soil health, animal health, biodiversity, synergy, economic diversification, co-creation of knowledge, social values and diets, fairness, connectivity, land and natural resources governance, and participation.

What it means for researchers and research organisations

Research contributes to agroecological transitions through three pathways. First, through developing specific technologies that are adopted and used. Second, through building knowledge and capacities for use and application in systems change across networks at multiple levels, including farmers and policy makers. Third, by providing a wide variety of knowledge to feed into public debate and support and guide policies and regulations. Traditionally, agricultural research has favoured the first and the third pathways.

The need for agroecological transitions will change **how we typically measure the performance of agricultural systems**, and request a wider use of indicators based on agroecological principles. Context-specific indicators can be adapted to local scales, but should be embedded in a global, generic framework of indicators supporting the SDGs.

There will be changes on **how we typically think of agroecological transitions**. These include embracing complexity in theories of change, and a better recognition of interactions between field, farm, and landscape scales. We have to work iteratively to revisit pathways of change that brings together technologies, increased capacity building and support for policy change and implementation. We must focus on collaboration with key stakeholders to develop and test agroecological transition pathways.

There will be changes in **how we typically work**; we have to be more inclusive, be in problem-solving mode, acknowledging and harnessing complexity and uncertainties. There will be wider and more balanced partnerships with diverse stakeholders, and better engagement in co-creation of knowledge and innovation with practitioners and stakeholders of production and value chains. Researchers and research organisations need to change mindsets, culture and methodologies; institutions need to support and foster these changes that amount to a new professionalism. Researchers are part of the system and therefore they need to be reflexive on their place and role in the transformation of food systems.

There will be **changes in how research is typically evaluated**; evaluation should become more transdisciplinary, system-based with multi-temporal and spatial scales, and should assess how research contributes to systems transformation processes and on progress, along with interactions among the three pathways, not only evaluating the production and dissemination of technology.

³ FAO 2018. 10 elements of agroecology that can guide us toward sustainable food systems (FAO)

⁴ HLPE. 2019. Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2019. Full report forthcoming at www.fao.org/cfs/cfs-hlpe.

Way forward

We call for agricultural research for development organizations, including CGIAR, CIRAD, INRA and IRD, to make long-term and substantial commitments to an agroecological research agenda as the main response to the multiple threats facing agri-food systems as well as to the rapidly expanding demand on agri-food systems to contribute to solutions for sustainable, equitable, profitable, climate-resilient development.

We must promote dialogue as well as development and resourcing of action on agroecological transition in the French research institutions, the CGIAR and beyond (including international organisations, governments, the civil society, and the private sector). We call on institutions to take these points into account in new ways of prioritizing, programming and evaluating research.

As next steps we call on research institutions and researchers to:

- Engage in multi-stakeholder networks to jointly define innovative and transformative options;
- Learn from previous attempts to mainstream integrated approaches of agricultural research for development and in development;
- Document and share case studies and evidence of successful and unsuccessful agroecological transitions across policy and practitioner networks;
- Develop theories of change and indicators that describe and track how agroecological transitions can happen and be transformative;
- Support policy makers to increase the research budget allocated to agroecological transition, develop policies to incentivize local innovation systems and support changes in the wider socio-ecological landscape;
- Support funding options that allow for longer-term research projects and outcomes in line with the time scales that agroecological interventions operate on.

**Workshop France – CGIAR: Stepping Up to the Challenge of Agro-ecological Transition
Through Agricultural Research for Development**

Montpellier – June 19th and 20th

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