

CONCORD Policy Brief

Agro-ecology to strengthen resilience

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As highlighted in Goal 2 of the 2030 Agenda for Sustainable Development, all 193 Member States of the United Nations made ending hunger, achieving food security, improving nutrition and promoting sustainable agriculture a major global priority. Goal 2 is intimately linked to other goals, such as SDG 1 (end poverty), SDG 10 (reduce inequality), SDG 12 (responsible consumption and production), SDG 15 (sustainable management of land and natural resources), SDG 5 (gender equality) and SDG 13 (climate change). However, current food systems are still failing to provide healthy and sustainable food for everyone. Small-scale food producers already often struggle to grow, catch, or buy enough nutritious food because of small land plots, depleted fish stocks and soils, water scarcity, insecure land tenure, and lack of access to financial and extension services, and to climate and market information. These challenges are greater for women small-scale food producers who have even less access to these resources and who are often not viewed as equal players in farming or in households.

Additionally, while the dominant model of industrial food and agriculture supplies large amounts of foods to global markets, it contributes to the degradation of ecosystems, biodiversity losses, and high greenhouse gas emissions which accelerate climate change. It also drives competition for natural resources between food production for local use and export commodities, including for non-food crops. Moreover, it reduces the autonomy and control of both consumers and small-scale food producers on how food is being produced, processed, distributed and consumed. Industrial agriculture's tendency toward larger, more mechanized farms leads to loss of employment and livelihoods, and deterioration of rural communities.

Market concentration is growing in the global food system with a small number of multinational corporations dominating production, processing, retail and financing. Whereas obesity and diet-related diseases are increasing rapidly, hunger and micro-nutrient malnutrition persist. Smallholders who produce more than half of the world's food supply are among those who suffer most from hunger and malnutrition, and at the same time are hit hardest by the effects of climate change.¹

To meet the food and nutritional needs of a growing population within our planetary boundaries and to truly achieve the SDGs including Goal 2, we need a fundamental shift in food production towards a highly adaptive, low carbon, resource-preserving type of agriculture and in-country value addition that benefits also the poorest farmers through higher incomes and improved access to safe, diverse and nutritious food.

Agro-ecology as an alternative

Agro-ecology is the science of applying ecological concepts and principles to the design and management of sustainable agriculture. It provides a feasible alternative towards more socially just,

¹ IPES-Food. 2016. From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. International Panel of Experts on Sustainable Food Systems; Global Panel on Agriculture and Food Systems for Nutrition. 2016. Food systems and diets: Facing the challenges of the 21st century. London, UK.

economically viable, and environmentally sustainable agriculture and food systems that improve the livelihoods and build the resilience of smallholder farmers. It is a holistic approach to integrated agriculture, based on ecological principles, as well as food and nutrition security, food sovereignty and food justice.²

The main principles include recycling nutrients and energy on the farm, rather than relying on external inputs, promoting diversity by integrating diverse crops and livestock; minimizing losses of solar radiation, water, and nutrients; diversifying species and genetic resources in agro-ecosystems; and focusing on interactions and productivity across the agricultural system, rather than focusing on individual species.³

Agro-ecology is highly knowledge-intensive and context specific, and is based on techniques that are not delivered top-down but are co-constructed by farmers and researchers based on farmers' local knowledge and experimentation in diverse local ecological contexts.

Social, economic and environmental benefits of agro-ecology

Recent research⁴ shows that agro-ecological agriculture:

- **Increases land productivity**, particularly under environmental stress and in subsistence settings where a raise in productivity is needed;
- **Improves nutrition security** through the increased availability of nutrient-rich diverse foods throughout the year;
- **Increases climate resilience** by using crop varieties which are adapted for local conditions and techniques which improve water retention and soil fertility, rehabilitate degraded lands, and increase biodiversity and reduce the risk of crop failures or loss of livestock;
- **Mitigates climate change** by acting as a carbon sink and reducing dependence on fossil fuels and other energy requirements, especially the use of synthetic fertilizers and agrochemicals;
- **Reduces rural poverty** by increasing gradually the productivity per worker and creating much needed employment opportunities in rural areas;
- **Sustains sovereignty and autonomy of farmers** through own preservation and reproduction of local seed varieties and other genetic resources, while increasing the control of consumers on how they feed themselves;
- **Empowers small-scale producers, women and youth** by building on their knowledge and experience, creating spaces for challenging barriers, like patriarchal values, and recognizing people's right to food.

² *Food sovereignty* is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. (Declaration of the Forum for Food Sovereignty, Nyéléni 2007); *Food justice* represents "a transformation of the current food system, including but not limited to eliminating disparities and inequities" (Gottlieb, R. and A. Joshi. 2010. Food justice. Cambridge, p. ix).

³ Altieri, M. 2002. Agroecology: the science of natural resource management for poor farmers in marginal environments. *Agriculture, Ecosystems and Environment* 1971, 1-24 (2002).

⁴ ActionAid. 2012. Fed up. Now's the time to invest in agroecology; FAO. 2015. Final Report for the International Symposium on Agroecology for Food Security and Nutrition. 18 and 19 September 2014, Rome, Italy; IAASTD. 2008. Agriculture at a crossroads, International Assessment of Agriculture, Knowledge, Science and Technology for Development, Washington DC: IAASTD; IPES-Food. 2016. From uniformity to diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. International Panel of Experts on Sustainable Food systems. Oxfam-Solidarity. 2014. Scaling-up agroecological approaches: what, why and how?; Reganold, John P. and Jonathan M. Wachter (2016): Organic agriculture in the twenty-first century; *Nature Plants* 2016/02/03/online; <http://go.nature.com/2qQH9KI>

Recommendations

The enormous potential of agro-ecology to respond to climate change, malnutrition, and rural poverty is still not sufficiently promoted and exploited. With the adoption of the new European Consensus on Development in May 2017, the EU and its Member States have committed to support agro-ecological practices.⁵ We make the following recommendations to translate this commitment into action, both at the global and domestic levels. The EU and its Member States should:

- **Significantly increase funding for agro-ecological practices** – notably in the next Multiannual Financial Framework (MFF) – including small-scale focused gender sensitive extension services, training in agro-ecological technologies, financial services and rural infrastructure in support of the diversified agro-ecological production, transformation and marketing of agro-ecological products.
- **Support efforts by civil society** to conduct a meaningful and effective policy convergence process on agro-ecology in the Committee on World Food Security now that it has been agreed to instruct the High Level Panel of Experts to prepare a report on this topic.
- **Promote a participatory and inclusive research agenda** on agro-ecology and climate resilience that strengthens farmer- and citizen-led innovation, puts special emphasis on women and young farmers and local knowledge systems, and permits democratic control of the research cycle.
- **Support the Nationally Determined Contributions** of developing countries under the Paris Agreement (UNFCCC). In particular many of the NDCs in the agricultural sector pay attention to biodiversity, water use and land degradation.⁶
- **Replace the current CAP system** of (unconditional) direct payments by payments contingent on the fulfillment of specific sustainability criteria, e.g. payments for the preservation of ecosystems and increase the percentage of farmland which has to be created as ecological compensation conservation area (greening).
- **Phase out input subsidy schemes for agro-chemicals** (such as fertilizers and pesticides) in favor of subsidies to promote ecological agriculture.
- **Develop public incentives to promote agro-ecological practices** (e.g. prioritise agro-ecological products in public food procurement schemes for schools, hospitals, etc.).
- **Improve access to finance** for agro-ecological production, processing and marketing to support farmers, including women and youth, in the transition towards agro-ecological systems.
- **Build and strengthen decentralized extension and education services** for agroecological technologies.
- **Promote certification**, including alternative certification mechanisms that rely on peer review, and other tools to improve awareness and marketing of agro-ecological products.
- **Regulate food and agricultural markets and curb the concentrated market power of multinational food and agribusiness corporations.** This can be done by reassessing the definition of dominant market positions considering maximum market shares, and by mandating that mergers be tested for their impact on sustainability, including their impacts on workers and producers in the Global South. In addition, environmental and social “externalities” (or costs) of agricultural production systems should be reflected in national and international market prices.

⁵ Council of the European Union, Brussels, 19 May 2017, 9459/17 DEVGEN 110 ACP 54 RELEX 438, § 56.

⁶ FAO. 2016. *The Agriculture Sectors in the Intended Nationally Determined Contributions: Analysis*, <http://www.fao.org/publications/card/en/c/7b020094-a986-4c93-8fa7-7e222b2cd649/>

