



## Brussels Policy Briefing n. 59

### Agroecology for Sustainable Food Systems

Organisers: CTA, ACP Secretariat, European Commission (DG Devco), Concord, IPES-FOOD

**Wednesday 15<sup>th</sup> January 2020, 9h00-13h00**

ACP Secretariat, Avenue Georges Henri 451, 1200 Brussels, Room C

<http://brusselsbriefings.net>

#### BACKGROUND NOTE

##### 1. Context

Today's food and farming systems have succeeded in supplying large volumes of foods to global markets, but are generating negative outcomes on multiple fronts: widespread degradation of land, water and ecosystems; high GHG emissions; biodiversity losses; persistent hunger and micro-nutrient deficiencies alongside the rapid rise of obesity and diet-related diseases; and livelihood stresses for farmers around the world.<sup>1</sup>

Current agricultural practices – and their reliance on chemical fertilizers, pesticides, and preventive use of antibiotics – are undermining ecosystem health and are serving to exacerbate climate change. In other words, agriculture is compromising itself. Already, more frequent and extreme weather events, such as droughts, floods, and unpredictable rainfall, are having a severe impact on the ability of certain regions to feed themselves.<sup>2</sup>

In this context, a growing number of voices are calling for a complete transformation of our agricultural and food systems, and are pointing to a transition to agroecology as a key pathway to tackle the challenges currently facing humankind. To preserve natural resources and adapt to climate change, meet the needs of growing rural and urban communities, and satisfy changing consumer demands, it is vital we learn how to produce differently.<sup>3</sup>

##### 1.1. Definitions and approaches

Agroecology is an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable food and agricultural systems.<sup>4</sup> It seeks to optimize the interactions between plants, animals, humans and the environment while taking into consideration social equity and economic viability to develop fair and sustainable food systems.<sup>5</sup> In a nutshell, agroecology means working with – and not *against* – ecosystems, and using new types of knowledge to design more sustainable food and farming systems.

As a science, agroecology is multidisciplinary. It brings together agronomy, ecology, environmental science, sociology, economics, history and more, while prioritizing participatory and holistic approaches.<sup>6</sup> Agroecological innovations are based on the co-creation of knowledge, combining science with the traditional, practical and local knowledge of producers.<sup>7</sup>

<sup>1</sup> 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.

<sup>2</sup> Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter. General Assembly of the UN. 2010.

<sup>3</sup> La transition agro-écologique des agricultures du Sud. F. Côte, E. Poirier-Magona, S. Perret, P. Roudier, B. Rapidel, M-C. Thirion, scientific eds. Written by more than 50 authors from CIRAD and the AFD. 2018, Quae-CIRAD-AFD co-publication Agricultures et défis du monde collection

<sup>4</sup> Steve Gliessmann. 2007. Agroecology: the ecology of sustainable food systems. CRC Press.

<sup>5</sup> FAO. The ten elements of agroecology. <http://www.fao.org/3/i9037en/i9037EN.pdf>

<sup>6</sup> Conway, Gordon R. 1985. Agroecosystem analysis. Agricultural Administration, 20, 31-55.

<sup>7</sup> Agroecology Europe. 2018. Our understanding of agroecology. <http://www.agroecology-europe.org/our-approach/our-understanding-of-agroecology/>

Agroecology is based on bottom-up and territorial processes, helping to deliver contextualised solutions to local problems.

An agroecological approach to sustainable food production is defined as one that favours the use of natural processes, limits the use of external inputs, promotes closed cycles with minimal negative externalities. Many also recognize the ability of agroecology to diversify livelihoods and build resilience to climate change, support farmers to revive soils, promotes sustainable land management, and build resilient communities, while meeting the nutritional and cultural needs of people.<sup>8</sup>

In guiding countries to transform their food and agricultural systems, to mainstream sustainable agriculture on a large scale, and to achieve Zero Hunger and multiple other SDGs, FAO has identified ten interlinked and interdependent elements of agroecology<sup>9</sup> that include diversification; co-creation and sharing of knowledge; building synergies supporting multiple ecosystem services; efficiency; recycling; resilience of communities and ecosystems; protecting human and social values; supporting culture and food traditions; responsible governance and circular and solidarity economy. Building on these elements, and other key works, the report by The High Level Panel of Experts on Food Security and Nutrition<sup>10</sup> further suggests a consolidated set of 13 agroecological principles organized around the broad categories of improving resource efficiency, strengthening resilience, and securing social equity/responsibility

Growing scientific evidence and local experiences demonstrate how agroecology facilitates and contributes to the transition to food and agricultural systems that are environmentally sustainable, economically viable, and socially equitable.

## **1.2. Towards policy recognition of agroecology**

Agroecology has become the overarching framework under which many social movements and peasant organizations around the world are asserting their collective rights and advocating for a diversity of locally adapted agriculture and food systems. As a result, agroecology has been receiving increased political uptake from the local to the national level.

### **Agroecology and the SDGs**

The 2030 Agenda for Sustainable Development calls for a change in global food and farming systems. In recent years, agroecology has been identified as a key to unlock this transition. Agroecology does not just represent a set of agricultural practices, but provides a cohesive and systemic approach, founded on a set of social, environmental, and economic principles for redesigning food and farming systems.

The UN Decade of Family Farming (2019-2028) offers an important opportunity to raise awareness of, and support for, the inter-linkages between agroecology and family farming and share best agroecological practices for smallholder and family farmers, increased pro-poor investments and implementation of national policies and programmes.

The UN Decade of Action on Nutrition (2016- 2025) provides a unique opportunity to highlight the contribution of agroecology for sustainable food systems that deliver healthy diets and improved nutrition, dietary diversity and the promotion of underutilized traditional crops.

### **Contribution of agroecology to the right to food**

Appropriate public policies can create an enabling environment for sustainable modes of production. These policies include prioritizing the procurement of public goods in public spending rather than solely providing input subsidies; investing in knowledge by reinvesting in agricultural research and extension services; investing in forms of social organization that

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<sup>8</sup> AFSA. A Study of Policies, Frameworks and Mechanisms Related to Agroecology and Sustainable Food Systems in Africa. <https://afsafrica.org/wp-content/uploads/2018/09/agroecology-policy-eng-online-single-pages.pdf>

<sup>9</sup> FAO. The 10 elements of Agroecology guiding the transition to sustainable food and agricultural systems. 2018. <http://www.fao.org/3/i9037en/i9037EN.pdf>

<sup>10</sup> Agroecological and other innovative approaches. A report by The High-Level Panel of Experts on Food Security and Nutrition. July 2019.

encourage partnerships, including farmer field schools and farmers' movements innovation networks; investing in agricultural research and extension systems; empowering women; and creating a macro-economic enabling environment, including connecting sustainable farms to fair markets.<sup>11</sup>

### **European innovation paving the way to more ecological farming**

The European Commission has invested close to €240 million in integrated ecological approaches, organic and mixed farming over the period 2014-2020 under Horizon 2020. This represents 41 transnational projects that will explore issues as varied as crop diversification and rotation, nitrogen-fixing crops, organic farming practices, including breeding, alternatives to chemical use etc. Projects also look into the socio-economics of ecological approaches, value chain approaches and governance arrangements as farmers involved in agroecology need to make a living. Beyond projects directed at ecological approaches, research and innovation activities addressing soils, plant and animal health or resource management challenges in general can also contribute to more ecological practices. Simultaneously, hundreds of more local or regional innovation projects called "operational groups" funded through the Common agricultural policy involve farmers, scientists, advisers and other actors in the search for practical solutions to real problems encountered on the ground.<sup>12</sup>

## **2. A growing recognition of the multifunctionality of agroecology**

A wide array of transitions need to occur in food and farming systems to achieve sustainability.<sup>13</sup> The agroecological transition towards sustainable food systems requires resource efficiency; resilience, and social equity/responsibility.

Initially, agroecological science was understood as focusing on field-level farming practices that use few external inputs but rely on optimizing agrobiodiversity, emphasize recycling and maintenance of soil and animal health, including managing interactions between different species, and economic diversification. The focus has since expanded to include landscape-scale processes, encompassing landscape ecology, and, more recently, social science and political ecology related to the development of equitable and sustainable food systems.

### **What can agroecology offer?**

A growing body of evidence is demonstrating agroecology's ability to address food system challenges in their entirety, namely by succeeding where current systems are failing. Agroecology's multiple advantages over conventional high-external input farming include:

- a multi-functional approach to farming, capable of meeting environmental, economic and social needs;
- greater environmental sustainability and resilience through higher agrobiodiversity, especially in marginalized regions subject to environmental degradation and extreme climatic events;
- the ability to support farmers' sovereignty, reducing their dependence on costly chemical inputs;
- higher overall productivity (at farm rather than crop level) achieved through a diverse range of agricultural products and environmental services.<sup>14</sup>

Territories are a fundamental pillar of agroecology. Peoples and communities are entitled to secure, develop, control, and reconstruct their customary social structures and to administer their lands and territories, including fishing grounds, both politically and socially. This implies the full recognition of their laws, traditions, customs, tenure systems, and institutions, and constitutes the recognition of the self-determination and autonomy of peoples.

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<sup>11</sup> Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter. General Assembly of the UN. 2010.

<sup>12</sup> EIP-AGRI network and the European Commission.

<sup>13</sup> 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. [www.fao.org/cfs/cfs-hlpe](http://www.fao.org/cfs/cfs-hlpe)

<sup>14</sup> Laura Sicili, 2014. Agroecology: What it is and what it has to offer. IIED Issue Paper. IIED. London <https://pubs.iied.org/pdfs/14629IIED.pdf>

Agroecology reinforces community self-governance, and seeks to reshape markets through the principles of solidarity economy and the ethics of responsible production and consumption. It promotes direct and fair short distribution chains, and implies a transparent relationship between producers and consumers.

### **3. Key factors for a wide-scale adoption and application of agroecological practices**

Demonstrating the multiple benefits (economic, environmental, social, cultural, etc.) of agroecology to motivate wide-scale adoption is critical. Farmers will be able to sustain ecological approaches only if their business models properly reward them for the product and the value created. This requires different types of innovation, including social innovation and new ways of organising.

#### **3.1. Challenges for the agroecological transition**

Despite the evidence in its favour, a series of challenges are holding back a wide-scale transition to agroecology, including: (i) lack of awareness of agroecology among policymakers; (ii) insufficient support and incentives for producers during the farm transition period, which requires time; (iii) low support for innovative research and knowledge approaches, including refocusing on multidisciplinary research and education, and insufficient involvement of food producers in creating knowledge; (iv) low promotion of local diversified agroecological markets, which support more accessible, healthy diets and create connections between producers and consumers; (v) lack of coordinated action and collaboration among sectors, disciplines, and actors. Furthermore, policies must be integrated across scales (local, national and international) and sectors (from agriculture, fisheries and forestry to economic, social and environmental sectors) to achieve the comprehensive reforms needed to support food system transition.

Questions may also be raised on the capacity of agroecology to feed a growing population and meet the global demand for food. However, the measurements used to assess the food system performance today can be put into question, in light of the environmental and social externalities unaccounted for in current assessments of food and farming systems.

#### **3.2. Opportunities for the agroecological transition**

A wide panoply of agroecological techniques have been developed and successfully tested around the world.<sup>15</sup> These approaches involve the maintenance or introduction of agricultural biodiversity (diversity of crops, livestock, agroforestry, fish, pollinators, insects, soil biota and other components that occur in and around production systems) to achieve sustainable production.

Agroecological practices harness, maintain, and enhance biological and ecological processes in agricultural production, in order to reduce the use of purchased inputs that include fossil fuels and agrochemicals and to create more diverse, resilient and productive agroecosystems.

Agroecological farming systems value, *inter alia*<sup>16</sup>:

- Conservation tillage: no or minimum tillage improves soil structure and organic matter
- Intercropping and polycultures improve nutrient and input efficiency, pest regulation
- Crop rotation and fallowing: nutrients are conserved from one season to the next
- Cover crops and mulching reduce erosion and enhance biological control of pests
- Crop-livestock integration, aquaculture, for diversification and nutrient recycling and resilience to climate change
- Integrated nutrient management: use of compost, organic manure...
- Biological management of pests, diseases and weeds reduce environmental health hazards
- Efficient water harvesting such as small-scale irrigation

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<sup>15</sup> Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter. General Assembly of the UN. 2010. FAO. [Scaling up agroecology initiative transforming food and agricultural systems in support of the SDGs](#). 2018.

<sup>16</sup> Laura Sicili, 2014. [Agroecology: What it is and what it has to offer](#). IIED Issue Paper. IIED. London.

- Manipulation of vegetation structure and plant associations for biodiversity and water efficient use
- Agroforestry: use of multifunctional trees improves soil fertility
- Use of local resources and renewal energy, composting and waste recycling reduce use of external inputs
- Holistic landscape management

In a number of cases, public policy support has played a key role in the upscaling of agroecology. Scientific knowledge of agroecology is rapidly increasing, and farmers and civil society hold significant knowledge to unlock agroecological innovations.

There is a growing awareness of the links between environmental and social issues including climate change, nutrition and health. Integrated agroecological systems can address this demand, while simultaneously promoting soil health and reducing environmental degradation. Innovative markets are emerging at local and territorial levels in synergy with diversified production systems and diversified healthy diets.

#### **4. The way forward**

High-input, resource-intensive agricultural production systems have increased productivity but continue to generate heavy costs for people and the planet. The food system transformation we need further requires that all people have the agency to lead change. Agroecology offers a much-needed alternative to current food system practices – one in which system redesign and diversification are prerequisites over quick fixes, and changes in knowledge transmission, participation, and power relations are as important as shifts in farming practices. Yet agroecology is still facing challenges to scale up and reach its full potential.<sup>17</sup>

To promote sustainable food systems, we will need to consolidate the evidence base to support agroecology through multi-dimensional analyses, to revisit our understanding of what is efficient and productive, and to promote policy changes supporting the transition to agroecology. These may include innovative tools and approaches such as participatory innovation systems, economic incentives for early adopters, payments for environmental services, and rewards for landscape conservation<sup>18</sup>.

#### **Objectives of the Briefing**

To improve information sharing and promote networking, CTA, the European Commission (DG Devco), the ACP Secretariat and Concord organise since 2007 bimonthly briefings on key issues and challenges for agriculture and rural development in the context of EU/ACP cooperation. The International Panel of Experts on Sustainable Food Systems (IPES-Food) is an independent panel of experts with a mission to promote transition to sustainable food systems around the world. IPES-FOOD will join us as co-organiser for this event which will discuss how agroecology can serve as a leverage point to initiate food system transformation, with contributions from policy-makers, researchers, farmers, and NGOs. It will provide a holistic overview of the policies and practices that need to be put in place to foster agroecology.

#### **Target group**

More than 150 ACP-EU policymakers and representatives of EU Member States, embassies of ACP countries, civil society groups, research networks and development practitioners, and international organisations based in Brussels.

#### **Available material**

Input and comments before, during and after the meetings will be included in the Briefings blog: <http://brusselsbriefings.net/>. A short report and a Reader in printed and electronic format will be available after the meeting.

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<sup>17</sup> IPES-Food, 2016.

<sup>18</sup> Laura Sicili, 2014. Agroecology: What it is and what it has to offer. IIED Issue Paper. IIED. London.



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#### PROGRAMME

09h00-09h15 **Introduction to the Briefing:** *Isolina Boto, Manager, CTA Brussels Office and Coordinator of the Briefings*

**Introductory remarks:** *Viwanou Gnassounou, Assistant Secretary General, ACP Secretariat; Leonard Mizzi, Head of Unit, Devco C1, Food Security, Nutrition, Europeaid, European Commission; Emile Frison, Member, International Panel of Experts on Sustainable Food Systems, IPES-FOOD; Michael Hailu, Director, CTA.*

#### 09h15-11h00 **Panel 1: Agroecological systems to support agricultural transformation**

This panel will discuss concepts, trends and prospects for agroecological approaches and what it implies for the future of the food systems.

##### Panelists:

- From Uniformity to Diversity: A paradigm shift from industrial agriculture to diversified agroecological systems  
*Emile Frison, Member, International Panel of Experts on Sustainable Food Systems*
- Agroecology to meet the SDGs: Scaling-up Agroecology Initiative  
*Ronnie Brathwaite, Senior Agriculture Officer, FAO*
- How local application of agroecological principles can transform food systems  
*Fergus L. Sinclair, Principal Scientist, World Agroforestry (ICRAF), Kenya*
- Agroecology and the Right to Food  
*Alejandra Morena, Right to Food and Nutrition, Capacity-Building Coordinator, FIAN*

#### 11h00-11h15 **Coffee Break**

#### 11h15-13h00 **Panel 2: Agroecology in practice: experiences and lessons learned**

This panel will present some successes and innovative models in agroecology in different parts of the world and the lessons learned for upscaling them.

##### Panelists:

- The farmer's perspective to agroecology: the case of West Africa  
*Ibrahima Coulibaly, President, ROPPA*
- Agroecology in the European agenda of sustainable development: Best practices  
*Paola Migliorini, President, Agroecology Europe*
- Agroecological participatory action research and advisory systems  
*Tibasiima Kahigwa Thaddeo, Farmer Advisor on Agroecology, Uganda*
- Promoting reforestation and agroforestry practices  
*Mansour Ndiaye, Executive Director, APAF, Senegal*
- Supporting climate-resilient agroecology in Malawi  
*Ellen Matupi, President, Coalition of Women Farmers (COWFA)*

#### Closing remarks

#### 13h00 Light Lunch