

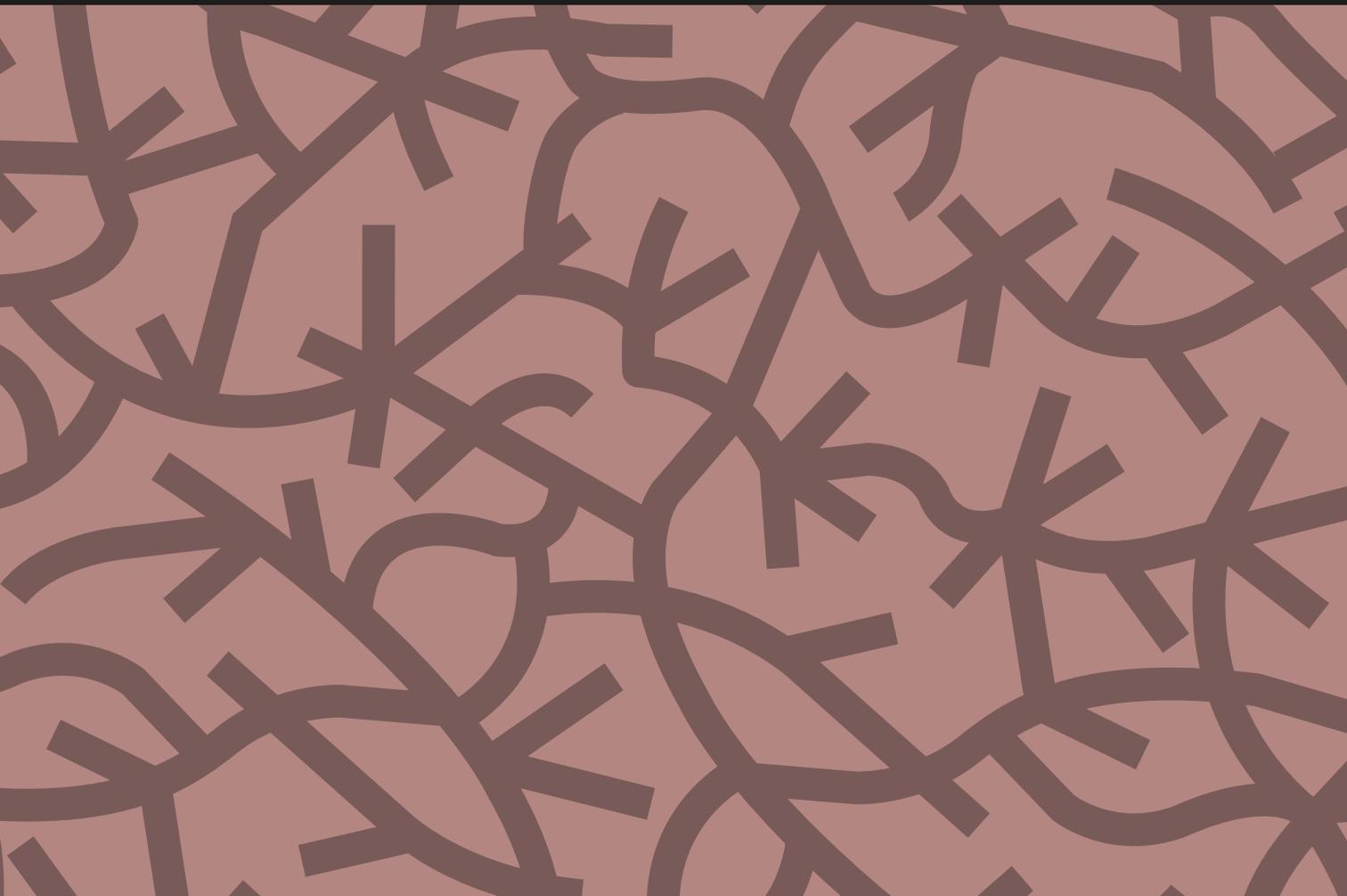


Food and Agriculture
Organization of the
United Nations

CATALYSING DIALOGUE AND COOPERATION TO SCALE UP AGROECOLOGY:

OUTCOMES OF THE FAO REGIONAL SEMINARS ON AGROECOLOGY

SUMMARY



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CHAPTER 1

AGROECOLOGY: TRANSITION TO SUSTAINABLE FOOD SYSTEMS

Agroecology is rapidly gaining interest worldwide among a wide range of actors as a holistic response to the multiple and interrelated challenges faced by food systems – including continued poverty and hunger in the context of degrading natural resources, loss of biodiversity and climate change. A growing number of family farmers, researchers, consumers, NGOs and local and national governments are calling for greater support for the systemic approach offered by agroecology.

In response to the growing interest in agroecology, FAO organized an International Symposium on Agroecology for Food Security and Nutrition in Rome in September 2014. The objective was to assess the extent and impact of agroecological practices, identify constraints and develop common priorities going forward to support the further implementation and scaling up of agroecological approaches. The need to understand the specific local needs and realities of agroecology led to a series of regional multistakeholder seminars coorganized by FAO in Latin America and the Caribbean, sub-Saharan Africa, Asia and the Pacific, China, Europe and Central Asia, and the Near East and North Africa from 2015 to 2017 (see Table 1).

This document is a summary of the global report, *Catalysing dialogue and cooperation to scale up agroecology: outcomes of the FAO regional seminars on agroecology*, which presents the main lessons learned from the regional seminars and then proposes a framework for action to support the development of agroecology in the coming years. This is a direct contribution to the Second International Symposium on Agroecology, “Scaling up Agroecology to Achieve the SDGs”.

Table 1 Regional FAO multistakeholder seminars on agroecology

LATIN AMERICA AND THE CARIBBEAN	SUB-SAHARAN AFRICA	ASIA AND THE PACIFIC	EUROPE AND CENTRAL ASIA	NEAR EAST AND NORTH AFRICA
Brasilia Brazil June 2015	Dakar Senegal October 2015	Bangkok Thailand November 2015	Budapest Hungary November 2016	Tunis Tunisia November 2017
La Paz Bolivia (Plurinational State of) September 2016		Kunming China August 2016		

The FAO regional seminars on agroecology took place in a context in which some 815 million people still suffer from hunger, while food loss and waste accounts for nearly 30 percent of agricultural production. Of the 815 million hungry people in the world (FAO, 2017), paradoxically, 70 percent are farmers who make their living from agriculture, fisheries and forestry.

Agroecology offers a holistic approach to transforming food systems. The explicit focus on the social and economic dimensions of food systems is a specific characteristic of agroecology compared with other approaches to sustainable agriculture. Agroecology takes a human rights-based approach, with a strong focus on equity and the rights of women, youth, and indigenous peoples, while prioritizing support for small-scale and family farmers.

FAO’s engagement with agroecology has catalysed an even wider level of interest by taking the dialogue to regions where agroecology is less known, and by bringing together actors who had been working separately – sometimes following different visions of agroecology. As an intergovernmental organization, FAO provided the space for focused exchanges on the role of public policies in supporting agroecology. More than 1 400 participants from 170 countries came together through one international symposium and seven regional seminars on agroecology, co-organized by FAO and local partners. Keeping with one of the central tenets of agroecology, FAO ensured a focus on the knowledge of family farmers, including through their involvement in the programming of the regional seminars. The seminars captured a wide range of experiences, practices, initiatives and policies from all stakeholders and regions.

Agroecology as an evolving concept

Since the 1920s, scientists and researchers have used the term agroecology to refer to the application of ecological principles to agriculture. Agroecology has been defined as “the application of ecological science to the study, design and management of sustainable agriculture” (Altieri, 1995) and has since been broadened to cover “the ecology of the food system” (Francis *et al.*, 2003), reflecting the systemic approach of agroecology. In keeping with this broader

interpretation, participants in the FAO regional seminars on agroecology consistently stressed the social dimension of agroecology and the increasing role played by civil society in spreading this approach, which is illustrated by the description of agroecology as a “science, a social movement and a practice” (Wezel *et al.*, 2009). The High Level Panel of Experts on Food Security and Nutrition (HLPE) of the Committee on World Food Security specified for the first time that food security and nutrition are the ultimate aims of agroecology (FAO, 2016).

It was recalled that agroecology goes beyond technical solutions and innovations based on incremental changes and can drive genuine transformative change in food and agricultural systems by moving towards socioecological systems that place people (farmers and consumers) at the centre of food systems. Agroecology takes a systems approach to agriculture, because the root causes of unsustainable practices in food production often lie outside farms – for instance, in market regulations that favour long value chains for commodity crops, in policies that do not support diversification, and in innovation systems that are not adapted to agroecology and create structural barriers to alternatives to intensive systems.

Agroecology aims to create diversified agroecosystems, mimicking natural systems as closely as possible to enhance sustainable production and self-reliance. Furthermore, it aims to address the problems of unequal access to natural resources and knowledge as among the root causes of poverty, in addition to marginalization and insecurity, and to re-territorialize food systems for healthy and diversified diets. The full range of benefits become visible in the long term, provided that sufficient support is made available, particularly through public policy implementation.

The discussions showed that agroecology is a living concept, subject to multiple, partly overlapping interpretations and adaptation by various actors. The cooperation of all the actors through the regional seminars showed that agroecology can be a catalyst for unifying different approaches and for moving forward together on a demanding but progressive path towards greater sustainability. Despite the diversity of situations observed in the regions, successful initiatives in agroecology share a number of common points:

- » Diversification of production systems and products in space and time. This diversification favours ecosystem services, boosting efficiency in the use of natural resources (soil, air, sun, and water) through the synergy of components and natural recycling, leading to greater resilience of agroecosystems.
- » Contextualization of approaches valuing local food heritage and culture and an emphasis on respect for human and social values.
- » Co-innovation between farmers and researchers through, *inter alia*, participatory research systems that enable the production of knowledge adapted to farmers’ real needs and contexts.
- » Importance of knowledge sharing among farmers with particular attention to the role of women, which allows for greater autonomy and adaptive capacity of farmers.
- » Territorial and decentralized approach favouring cooperation between actors, innovative markets for the creation of added value and employment at the local level, and the creation of integrated territorial approaches leading to circular and solidarity economies and food systems.
- » Responsible and equitable governance to guarantee availability of natural resources for producers and to ensure their sustainable use, and thus achieve long-term food security.

Agroecology as a transition process driven by actors

Agroecology requires context-specific practices and policies that require time to achieve their full potential, bringing to the fore the need to plan transition processes. The seminars showed that agroecological transition involves a diversity of pathways that must be built with stakeholders with due consideration to local contexts and with varying rates of implementation.

Isolated initiatives by farmers cannot be effective in achieving the transition and therefore change should be sought at a territorial level. Often the bottom-up work of social movements plays an important role in territorial approaches

It was highlighted in all regions that the transition calls for profound changes in the organization and governance of food systems; this requires a robust commitment from all actors and can sometimes upset the established order or specific interests.

Social mobilization is a key factor in facilitating the transformative potential of agroecology, since it is the sum of local transformations and innovations that will lead to a global transformation.

Researchers have always played an important role in the development of agroecology and a growing number of scientists are committed to supporting the transition to agroecology.

The engagement of all actors, especially economic actors, is essential to complete the transition. The private sector has an important role to play, for example in providing biofertilizers in small packages appropriate for small-scale family farms, in developing and commercializing biological pesticides, and in creating markets for agroecological products.

The role of governments is fundamental for transitions. Observations on the public policies implemented in three countries in three different regions (Brazil, France and China) showed how agroecology's comprehensive approach allows multiple issues to be taken into account. The main features of public policies for agroecology are their comprehensive nature, participatory and context-specific approaches, interdisciplinarity and transformative intent. Transitions must take place in all countries through a global process and therefore stakeholders emphasized the role of FAO in facilitating this process.

Networks of actors and experience-sharing platforms are emerging in all regions in various formats, and the participants of all seminars unanimously called for such networks to be created on a larger scale, i.e. at national, subregional or regional level, to boost their prominence and effectiveness. Although these networks may be sectoral, as in the case of networks of researchers, there is a trend towards ensuring a global vision and multistakeholder exchanges to foster innovation and co-creation by setting up thematic networks of farmers, researchers and citizens. These networks or platforms can be either physical or virtual. New technologies, in particular mobile exchange applications, allow for significantly more direct exchanges between producers and enable horizontal training.

Some structural obstacles make the system difficult to transform. For example, participants in all regions often stated that agricultural and agrifood advisory, research and innovation systems were not adapted to agroecology; they expressed regret that the systems did not participate globally in producing agroecological benchmarks and even opposed structural resistance. Methodologies, research themes, training content, and top-down dissemination methods were often seen as not adapted to agroecology, implying a change not only in the content of knowledge but also in the acquisition, production and innovation of knowledge.

Participants highlighted the fact that international trade regulations are not adapted to the challenges faced by countries regarding food security and the specificity of food products that are linked to a territory and a socioecological system. In parallel with the production of agricultural goods, agricultural activities generate negative (social costs) or positive (amenities) externalities that the market does not take into account. Reduced negative externalities and increased positive externalities represent an asset for the community.

The way that performance is measured in agriculture was seen as a key obstacle to the agroecological transition. Success should not be measured solely in terms of annual yield with no regard for the wide range of impacts of agricultural models focused on productivity or economic margins. It is important to take into account the long-term effects and internalize the environmental and social costs incurred. In addition to yield, performance assessment of a system should include environmental, economic and social dimensions.

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CHAPTER 2

AGROECOLOGY FOR FOOD SECURITY AND NUTRITION: KEY ISSUES FROM THE SEMINARS

Natural resource base: Declining productivity is contributing to the vulnerability and impoverishment of rural societies and a rural exodus, while increasing conflict-related social tensions over access to natural resources and fertile land. Regarding the depletion and renewal of the basic resources needed for agricultural production, agroecology diminishes the damaging environmental impacts of agriculture by reducing and eliminating synthetic industrial inputs and industrially processed feed, restoring degraded agroecosystems, conserving biodiversity, and helping to mitigate and adapt to climate change. Agroecology therefore offers relevant options and solutions for reaching the objectives of the Paris Agreement on Climate Change, the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD).

Access to natural resources (land, water, fisheries, forests and genetic resources): Food producers' unequal access to natural resources endangers their food security. Access to natural resources was presented as crucial for the development of agroecology. If communities have control over what they produce, they are able and willing to invest in agroecology, harmonize practices with the natural ecosystem, and create economic dynamics that support women and mitigate the rural exodus of youth.

Climate change and resilience: The threat of climate change is one of the biggest challenges currently faced by producers and it was highlighted in all regions. Climate change increases the vulnerability of producers who are already struggling to cope with degradation and are competing for natural resources. Enhancing ecosystem services with diversification at farm and landscape levels (mixed or intercropping, crop rotation, agroforestry, crop–livestock integration, aquaculture, hedgerows, corridors etc.) contributes to the creation of more stable, resilient and productive agroecosystems, ensuring yield stability in the midst of climatic variability. Soil management (cover cropping, green manure, mulching, manure and compost application, conservation agriculture) and soil conservation practices (contour farming, living barriers, terracing etc.) combined with diversification, contribute to the enhancement of soil fertility, soil water-holding capacity, carbon sequestration and protection from erosion. Agroecology also strengthens farmers' adaptive capacity to climate change through knowledge and capacity building.

Balancing power throughout the food system: The agroecological model is based on shifting power in the food system towards the territory and the local actors managing the commons. Unless underlying efforts are made to reduce inequalities in the access to factors of production, knowledge, markets and subsidies, production increases will not necessarily lead to a reduction in hunger. Rural areas need to receive their fair share of appropriate public goods (infrastructure, health, education etc.). Strengthening accountability in governance, and bringing control of food systems to the local level is a priority for many supporters of agroecology. To counterbalance these situations, it is necessary to improve governance, including through more inclusive social participation and empowerment, with states playing a leading role in ensuring human rights, including the Right to Food in the context of national food security.

Territorial approaches for sustainable food systems: The seminar participants insisted that the approach should not be compartmentalized by value chain but rather integrated, taking into account the territory and related issues in order to more closely meet local needs. Understanding a territory and how it works and optimizing the human and natural resources are the key to balanced development as proposed by agroecology. To transition towards sustainable food systems, agroecology must move beyond individual farms or projects. Isolated initiatives by farmers cannot be effective in achieving agroecological transition – what is needed is an integrated, territorial approach. Territorial approaches raise questions related to governance since all relevant stakeholders within the territory need to be engaged, taking action based on coordinated policies and programmes. In sub-Saharan Africa and the Near East, it was pointed out that at territorial level local communities would be better equipped to ensure accountability in public policies due to their proximity to decision makers.

Capacity building and knowledge systems: Given the high level of heterogeneity in smallholder farming systems, agroecology must try to develop options for diverse contexts. For this reason, agroecology values farmers' situation-specific knowledge and innovations, as they can enable development in unpredictable and changing circumstances. Innovations for agroecology are developed and strengthened through a range of initiatives that can be described as farmer-led, scientist-led and participatory. Producer capacity building via exchange networks of farmers (horizontal training) and participatory research are at the heart of the transition to agroecology. Many examples demonstrate how innovations can be strengthened with the support of researchers through the co-creation of knowledge. Innovation is more than the invention of new technologies or products: it facilitates processes that can stimulate new ideas, technologies and practices. State disinvestment in some regions, particularly as a result of structural adjustment policies in previous decades, has led to a lack of support for farmers in the field, as is the case in sub-Saharan Africa. For many family farmers, especially smallholders,¹ support is still either too weak or lacking altogether. Much traditional agricultural knowledge has been lost from one generation to the next due to the introduction of the Green Revolution's turnkey techniques, which in some cases replaced traditional approaches.

Gender equity: Globally, women comprise almost half the agricultural workforce. They also play a vital role in household food security, dietary diversity and health, as well as in the conservation and sustainable use of biological diversity. In spite of this, women remain economically marginalized and vulnerable to violations of their rights and well-being, and their contributions remain invisible and unrecognized. Agroecology can help rural women in family farming agriculture to develop higher levels of autonomy through knowledge, collective action and some levels of commercialization. Agroecology can provide scope for women to become more autonomous and can empower them at household and community level and beyond, through, for example, participation in farmer and producer groups. Moreover, empirical analysis shows that women's participation is essential for agroecology and its expansion, and that women are often the leaders of agroecology projects.

Producing more where it is needed: Boosting production is a requirement, but is not sufficient to tackle hunger, since availability is only one of the four pillars needed to achieve food security; the other three are access, utilization and stability. In the seminars, it was considered a priority to increase the quantity and quality of production where needed and to generate decent employment and incomes in rural areas. Increasing worldwide production without a differentiated approach often leads to negative consequences: more waste, more power for those already holding power, and a detrimental effect on the image of food products. Thus,

¹ As stated in the 2013 HLPE report, *Investing in smallholder agriculture for food security*: "We consider a smallholding to be an agricultural holding run by a family using mostly (or only) their own labour and deriving from that work a large but variable share of its income, in kind or in cash. The family relies on its agricultural activities for at least part of the food consumed – be it through self-provision, non-monetary exchanges or market exchanges. The family members also engage in activities other than farming, locally or through migration. The holding relies on family labour with limited reliance on temporary hired labour, but may be engaged in labour exchanges within the neighbourhood or a wider kinship framework. Reciprocal relationships are important here for product or productive factor exchanges."

the source of the problem is galvanized rather than solved. The development of agroecology is expected to increase production in those countries and areas where it is most needed. Many civil society and research organizations are increasingly highlighting ways in which agroecology can simultaneously improve sustainability and production.

Nutrition and health: Nutrition and health were identified in all regions as important benefits of agroecology. The standardization and industrialization of food products has also led to public health concerns in all regions regarding reduced nutritional value, the health impacts of pesticide and antibiotic residues, the effects of additives, sugar, salt and fat in processed food products, and the growing risks of antimicrobial resistance due to intensive farming practices. Paradoxically, together with the scourge of hunger, overweightness and obesity are on the rise. There is growing evidence to suggest that agroecology, implying diversified farming systems, facilitates diverse diets among producers, households and consumers through increased consumption of a range of important nutritional elements that are often lacking in diets based on staple cereal crops. Agroecological systems including livestock are characterized by reduced use of antibiotics and an emphasis on local feeding systems and value chains. Amid concerns about food quality and in part due to the rise of social media, all regions have seen increased consumer awareness of these challenges and a demand for healthier, more ethical and environmentally friendly food. Hence, an opportunity is provided for agroecological products. In all regions, participants agreed on the importance of harnessing the power of consumers to drive transformational change towards healthy food systems based on agroecology.

Income-earning opportunities in rural areas, particularly for young people: The growing disengagement of young people from farming systems is a major challenge witnessed in all regions. Rural youth rarely see agriculture as a way out of poverty. Reverting farmers' loss and erosion of income was presented as a serious challenge for food security and rural livelihoods. In all regions, family farming and agroecology were considered a realistic and effective way forward, through, for example, reduction of heavy manual labour, promotion of innovative agroecological production and processing technologies, and endorsement of a positive image of agriculture. Agroecology could contribute to the creation of jobs for the thousands of young people joining the labour market and for whom urban centres offer no employment opportunities. It can galvanize initiatives to support entrepreneurship in the fields of agricultural production, processing and sales, mechanization adapted to the local context and training, in particular strengthening agroecology training centres.



CHAPTER 3

COMMON RECOMMENDATIONS FROM THE SEMINARS ON AGROECOLOGICAL TRANSITIONS

It was highlighted in all regions that transition calls for profound changes in the organization and governance of food systems. This in turn requires a solid commitment from all actors and can sometimes upset the established order or specific interests. There are many successful examples of agroecology at local and national level. Some have been reinforced by public policies, knowledge exchange networks, strengthened rural institutions and improved market access. The participants made recommendations regarding all stakeholders: public organizations, academia, civil society actors and even the private sector, whose collective mobilization was deemed essential to carry out the transformation. The numerous recommendations may also be sources of inspiration for decision makers wishing to develop new public policies or to structure existing ones. Based on the results of the FAO seminars, this chapter describes the recommendations adopted by the stakeholders during the seminars. They are grouped into the four thematic areas most commonly covered during the seminars. The recommendations form the basis for the proposal to scale up agroecology presented in Chapter 4.

Based on a review and synthesis of the 160 recommendations made during the regional seminars, general priority orientations emerged representing lines of action to support agroecology transitions:

1. STRENGTHEN THE CENTRAL ROLE OF PRODUCERS AND THEIR ORGANIZATIONS IN SAFEGUARDING, UTILIZING AND ACCESSING NATURAL RESOURCES

Recognizing, preserving and utilizing traditional knowledge and culture: The use of a very limited base for plant, tree, animal and aquatic genetic resources in food systems jeopardizes their resilience. All regions recalled the central role of farmers in preserving and improving this heritage. They called for an acknowledgement of the multifunctional role played by small-scale agroecological producers in preserving soil, water and biodiversity, and in promoting rural development. The value of the natural, historical, cultural and local food heritage, and respect for human and social values were recognized as key to develop contextualized approaches. In a globalized world with a high level of standardization, the diversity of local history and traditions was considered an important and valuable asset.

Promoting the dynamic management of biodiversity and use of local and traditional crops and livestock breeds: All regions recognized the need to strengthen support for community-based seed and species management, on-farm selection, and revival of underutilized crops and breeds. The effectiveness of agroecological initiatives depends on the development and often the rediscovery of genetic heritage in terms of crops, plants, animals and trees. These elements concern both the practical and technical aspects of itemizing, collecting, developing and managing local genetic heritage, as well as genetic protection, and rights of access to and exchange of these resources, which often come up against political or trade regulation problems.

Supporting product diversification and integration of cropping, livestock, aquaculture and forestry: Diversification in space and time at farm and territory level is a key factor in restoring ecosystem services. Together with soil conservation and restoration measures, agroecology has huge potential to inject more life into soils, ecosystems and the countryside.

Restoring and enhancing soil quality and fertility: Tackling erosion and the degradation of soil quality and fertility as well as soil restoration are systematically presented as key issues for agriculture. In this regard, agroecology provides clear benefits: on-farm diversification; soil management and conservation measures, incorporating organic matter and entailing anti-erosion interventions; and reduced use of mineral fertilizers and heavy mechanization.

Guaranteeing access and use of productive natural resources for small-scale producers (land, water, forests, fisheries and genetic resources): Governance of natural resources was a key factor in all regions. Guaranteeing rights to natural resources was cited as a prerequisite for developing agroecology, with particular emphasis on women, youth and indigenous peoples. Access and land tenure has always been presented as vital for the survival of populations: long-term tenure must be secured together with the conditions for producers to improve their land through soil management, production diversification, and integration of crop, animal and forest production.

2. FOSTER EXPERIENCE AND KNOWLEDGE SHARING, COLLABORATIVE RESEARCH AND INNOVATIONS

Developing farmer-led and participatory research and co-innovation: Agroecology is local and context-based; it is, therefore, essential to invest in observation and analysis on the ground. The way forward no longer requires a predefined system or a technological package provided through unilateral top-down knowledge transfer. On the contrary, it is important to work with local actors to analyse the local context and its potential, in order to build the most productive and environmentally friendly solution. Co-innovation through recognition of farmers' traditional knowledge, experimentation and participatory research were presented in all regions as a priority for the development of agroecological research. Participatory research has many advantages: the topic of research reflects farmers' real needs, which increases the likelihood of it being adopted; and participation results in more varied innovations as well as training and capacity building for both producers and researchers.

Developing interdisciplinary and transdisciplinary research and filling research gaps: Agroecological research is complex, because it is integrated and requires use of a model to conceptualize all the interactions between the various components of the agroecosystem. It also factors in the long term, providing an understanding of the interactions between each dimension and how systems can be restructured. This paves the way for a new research paradigm that is steadily gathering pace with increased investment on the ground and in dialogue. Agroecological research requires extensive knowledge of ecosystem services, soil life, biogeochemical cycles, and all complex interactions related to these systems. In all regions, emphasis was placed on basic research with an increased focus on interdisciplinary and transdisciplinary aspects and on ecosystem services. The need for specific public funds was highlighted, because limited private funding is available for these areas of research.

Promoting technical, social and institutional innovations for agroecology: In all regions, the vital role of innovation in the broadest sense was highlighted. Participants stated that producers required not only technical innovations, but also social and institutional, and conceptual and methodological innovations. Similarly, in line with the participatory research approach of agroecology, the importance of the ongoing innovation and experimentation process undertaken for generations by small-scale producers was emphasized.

Setting up multistakeholder cooperation platforms: There are numerous agroecological approaches and their impact is clear at local level. However, it is crucial to share success stories in order to inspire and guide others, not only in the field, but also through public authorities, to show that another way is both possible and effective. The challenge lies in the dissemination of information not only for motivational purposes: information is also needed for awareness raising, training, capitalization and advocacy. Networks of actors and experience-sharing platforms are emerging in all regions in various formats, and there was a unanimous call from all seminar participants for such networks to be created on a larger scale, i.e. at national, subregional or regional level, to boost their prominence and effectiveness. Although some networks are sectoral, such as researcher networks, there is a trend towards ensuring a global

vision and multistakeholder exchanges to foster innovation and co-creation by establishing thematic networks of farmers, researchers and citizens. These networks or platforms can be either physical or virtual. New technologies, in particular mobile exchange applications, allow for significantly more direct exchanges between producers and enable horizontal training. Another important vector for international innovation creation and sharing is South–South and triangular cooperation. This was highlighted in all regions, and although agroecology is a highly contextualized approach, innovations or success stories in certain regions can be a valuable resource for others, as borne out recently by the joint work between Latin America and Africa on biological control of the fall armyworm.

Investing in capacity development, including support for agroecology training initiatives among grassroots organizations: The need for capacity development among producers and their organizations to create their own training schools and processes capitalizing on their dynamism, potential for adaptation and innovation was also evident. In all regions, horizontal training systems – such as the farmer field schools (FFS) and farmer-to-farmer networks successfully implemented in Cuba and elsewhere in Latin America – were widely recognized as a very effective means of developing agroecology. In addition, training agricultural managers was flagged as a priority. For this reason, and to increase consumer awareness, it was recommended to include agroecology in study programmes in primary, secondary and higher education.

3. PROMOTE MARKETS FOR AGROECOLOGY-BASED PRODUCTS AND SERVICES

Supporting short food supply chains and innovative markets such as public procurement schemes: Food distribution, sales, marketing and market supply chain relationships are major drivers of farmers' decisions and actions. Short value chains and innovative markets were identified as market factors facilitating the broader adoption of agroecological practices. Bringing together farmers and consumers is a key step in building more sustainable food systems. Improved understanding and increased knowledge of mutual expectations enables this connection and often results in more virtuous practices for the environment and in solidarity between consumers and farmers. In addition, it enables sales in local communities, with a positive impact on social cohesion, the economic vitality of territories, and the carbon footprint of systems. Direct sales and direct producer–consumer contacts are becoming more popular across countries. In all regions, participants recommended supporting short food supply chains through public policies facilitating physical infrastructures designed to promote local sales (markets, fairs, festivals) or through public procurement of agroecological products, considered one of the most promising models for promoting local production and consumption.

Raising consumer awareness of the benefits of agroecological products, including nutritional quality and health: Nutrition is gaining attention in the agroecology community. The simplification of diets contributes to increased micronutrient deficiencies; in contrast, biodiversity in production systems leads to diverse diets and greater micronutrient intake. Agroecology brings nutritional benefits, as micronutrient intake increases with the integration

of biodiversity in production systems and the provision of nutrient-rich wild foods growing on agroecological landscapes. In addition, initiatives to revive traditional foods often serve to promote agroecological approaches. Traditional foods are prepared using local biodiversity and require food preparation techniques that are beneficial to health, such as fermentation.

Developing solidarity-based economies and private sector engagement: Engaging all actors, especially economic actors, is essential to complete the transition. The transfer of agroecological products from producer to consumer involves a host of economic actors: input suppliers, traders, wholesalers, processors, retailers, caterers and chefs, distributors, financiers, shippers etc. To make the transition towards agroecological food systems, participants recommended rethinking the role of the private sector, with a focus on reciprocity, equity and inclusivity. By highlighting solidarity between members of the food system, consumers, producers and intermediaries can receive fair prices and additional value from the trade of agroecological products.

Promoting territorial approaches and the transition to circular food systems: Developing territorial approaches, in line with the need for an integrated approach in agroecology, is a priority in all regions. The territorial approach supplies a common natural and cultural heritage, provides coherence in creating and managing agroecosystems and food systems, fosters synergies in training, supply and marketing actions, and finally, creates social linkages, making it a pillar for the development of agroecology. It also contributes to decompartmentalizing sectors, fostering a global approach to situations and management of agreements. Governance on a smaller scale also has the advantage of proximity to the decision-making level, which facilitates responsiveness. This demand for reinforced territorial governance is increasingly reflected in a more organized or institutional fashion by upstream strategic analysis and the implementation of territorial projects whose food component is often a point of entry extended to all economic, energy and social activities in the territory via circular economies.

4. REVIEW INSTITUTIONAL POLICY, LEGAL AND FINANCIAL FRAMEWORKS TO PROMOTE AGROECOLOGICAL TRANSITIONS FOR SUSTAINABLE FOOD SYSTEMS

Analysing the success of the many initiatives presented sheds a light on their innovative nature and the way in which the actors were able to seize existing opportunities and develop them further. However, it was unanimously noted that many barriers stand in the way of project leaders taking an alternative approach to a dominant system. Participants' requests concerned two aspects: a framework to facilitate farmers' actions, and financial support for organizations and producers. The following actions were set out in the recommendations:

Developing public policies and initiatives with appropriate funding to foster agroecological transitions: Public policies have been widely discussed because they do not support and may even hinder small-scale producers by discouraging on-farm diversification initiatives and failing to facilitate comprehensive, long-term and integrated approaches such as agroecology. This results in increased costs and risk-taking by farmers, who are decisive for the commons and general good (for example, through the ecosystem services). All regions mentioned the

need to include agroecology in national and subregional policies and programmes, such as the Comprehensive African Agriculture Development Programme (CAADP), the Common Agricultural Policy (CAP) and the Community of Latin American and Caribbean States (CELAC), and the importance of factoring in all sectors, including fisheries, aquaculture, forestry and livestock husbandry. With regard to support for farmers, financial aid for the transition to agroecology is essential to initiate the transition process on a larger scale. Specific funding must be earmarked for the implementation of public policies and programmes for two reasons: to support farmers and to send out a positive signal. To this end, a proposal was specifically made in Africa for a regional agroecology fund to enable donors to support any efforts made at government level. Support for the transition of practices towards diversification, using local seeds and animal feed to restore productive ecosystems, limit nutrient waste and thereby boost productivity and resilience, reducing inputs such as fertilizers and synthetic pesticides, imported industrially processed feed, medication and fossil fuels, was highlighted through the implementation of related policies. The promotion of decentralized interventions on food systems with territorial and collective action is also a priority. All regions are keen to see support for territorial, local and decentralized policies. Support may be in the form of farmers' organization initiatives and local agroecology schools and training centres, which play a key role in capacity building for an agroecological transition. In line with the above-mentioned role of agroecological research, strengthening support for public research was flagged as paramount and classed as a priority in all regions to uphold the potential of research and innovation and to ensure that research is geared towards the public good and general interest.

Considering the specific needs of family farmers, including women and youth, by including them in policy development: The need to give priority support to small-scale producers and family farms was underscored in all regions, while also recalling the importance of encouraging other types of farm, since a successful transition requires the contribution of all. Support for family farms is essential, because they account for the lion's share of basic food production. With a workforce of around 500 million holdings, this type of farm creates most jobs and has absorbed the majority of the 350 million new agricultural workers in the last 30 years (Bélières *et al.* 2015).

Implementing integrated food policies and guidelines with greater coherence and long-term thinking: It was requested that agroecology be considered comprehensively, taking into account its multiple dimensions from production to food, particularly in Europe, where there is a call for integrated food policies promoting dialogue and health, nutrition, ecology, trade and agriculture. The coherence of public policies was at the heart of the debate. Furthermore, the issues of aid, regulatory mechanisms, taxes and trade agreements, which hamper the transition to agroecology, were raised in all regions, resulting in participants suggesting a review of the policies in question to improve the effectiveness of public action in supporting agroecology. Beyond the coherence of public policies lies the question of redirecting subsidies to encourage virtuous practices and to deter practices that have an adverse effect on public goods. Similarly, it was stressed that public policies should take into account the long-term effects on agriculture when measuring policy impact. Although impacts on climate change or the provision of ecosystem services are difficult to quantify, they must guide public policymaking.

Considering the externalities of agriculture and drawing up multi-criteria indicators to measure the long-term performance of agroecological systems:

Governments may be motivated to redirect aid policies and programmes towards agroecological approaches for social and environmental factors, but it is also important that their decisions are evidence-based. Cost internalization calculations of intensive agriculture can highlight the real costs of water pollution, loss of biodiversity, soil degradation, health problems, loss of employment in rural areas and so forth. The way that performance is measured was seen as a key obstacle to agroecological transition. Performance is multifaceted; however, traditional indicators do not account for externalities, and furthermore they fail to measure certain aspects that are essential in the contribution of agricultural models to the Sustainable Development Goals at environmental, economic and social level. It was recommended to move beyond the measurement of immediate performance and to incorporate the long-term effects and virtuous circles generated by agroecology. Designing an indicator grid emerged as a priority, as did the gathering of data to reflect the range of agroecological amenities at economic, social and environmental level, including the effects on different spatial scales (farm, territory, state) and times (especially the long term). While research is paramount, civil society participation in this process was also recommended.

REFERENCE

Bélières, J.F., Bonnal, P., Bosc, P.M., Losch, B., Marzin, J. & Sourisseau, J.M. 2015. *Family farming around the world: definitions, contributions and public policies*. Montpellier, CIRAD.



CHAPTER 4

MOVING FORWARD: SCALING UP AGROECOLOGY

The regional seminars called on FAO to continue to play a role in bringing together a wide range of actors to learn from each other's experiences, to exchange on policy lessons, and to collaborate in moving forward together to further support and scale up agroecology. Given the not always converging understandings of agroecology, the issue for FAO is to propose a path towards the agroecological transition which will bring on board all actors who want to progress towards more sustainable food systems without diluting the transformational potential of agroecology, especially in a context where world leaders stress the need for transformative approaches. The SDGs provide a framework for this.

At the Fortieth Session of the FAO Conference, member countries requested the inclusion of agroecology in the Medium-Term Plan and Programme of Work and Budget for 2018–19, thereby pushing forward FAO's standard setting and scientific work on agroecology as part of Strategic Objective 2 (Make agriculture, forestry and fisheries more productive and sustainable) and Strategic Objective 3 (Reduce rural poverty).

Sustainable food and agriculture: FAO has developed a common vision for sustainable food and agriculture.² It is a vision of a world in which food is nutritious and accessible for everyone and natural resources are managed in a way that maintain ecosystem functions to support current as well as future human needs. In this vision, farmers, pastoralists, fishers, foresters and other rural dwellers have the opportunity to actively participate in and benefit from economic development, have decent employment conditions and work in a fair price environment. Rural men, women and communities live in security, and have control over their livelihoods and equitable access to resources, which they use efficiently.

The 10 Elements of Agroecology: Through the regional seminars, 10 Elements of Agroecology were developed, representing the essential components of agroecology. They guide transition processes and are a pathway to achieve FAO's common vision on sustainable food and agriculture. The 10 Elements consider major environmental, social and economic processes and enabling-environment factors – and their interactions – typical of diversified agricultural systems that are guided by agroecological principles and practices. They also recognize the great potential of collective action processes to foster knowledge sharing, and to deepen understanding, enabling behavioural changes in food systems that are required for sustainable agriculture to become a reality. These are: diversity, co-creation and sharing of knowledge, synergies, efficiency, recycling, resilience, human and social values, culture and food traditions, responsible governance, circular and solidarity economy.

FAO instruments and activities and experiences that are relevant for scaling up agroecology: FAO as both a normative and operational body offers a broad range of activities, instruments and experiences that are relevant for scaling up agroecology. The Organization's normative resources are continuously fed back into its work, ensuring the quality of FAO's activities in the field. Likewise, FAO's normative work is constantly reinforced by lessons learned in the field. Indeed, it is this combination of normative and operational activities that explains the unique value added that FAO is able to provide to its Members. The normative guidelines are translated into concrete activities and guidance at the national level under the five FAO Strategic Objectives: (1) Help eliminate hunger, food insecurity and malnutrition; (2) Make agriculture, forestry and fisheries more productive and sustainable; (3) Reduce rural poverty; (4) Enable inclusive and efficient agricultural and food systems; and (5) Increase the resilience of livelihoods to threats and crises. Within the frame of these Strategic Objectives, FAO has a number of activities and areas of work that are very relevant to agroecology. These activities include: Integrated Pest Management (IPM); Farmer Field Schools (FFS); support to Members and partners in the design and implementation of gender-equitable laws, policies and programmes and of policies and practices to improve nutrition through agriculture and food systems; the Forest and Farm Facility (FFF); the Global Soil Partnership; the Ecosystem Approach to Fisheries; the International Initiative for the Conservation and Sustainable Use of Pollinators; the Pastoralist Knowledge Hub; work with Civil Society Organizations (CSOs); indigenous peoples' food systems; work on

² Five FAO principles for Sustainable Food and Agriculture: 1) improving efficiency in the use of resources; 2) conserving, protecting and enhancing natural ecosystems; 3) protecting and improving rural livelihoods, equity and social well-being; 4) enhancing the resilience of people, communities and ecosystems; 5) promoting good governance of both natural and human systems.

strengthening markets for sustainable markets and for the benefit of smallholders; the FAO Organic Agriculture Programme; awareness-raising activities; advocacy strategy and consultative policy dialogue process on family farming; and the Agroecology Knowledge Hub.³

Agroecology and the SDGs: The 2030 Agenda for Sustainable Development calls for a transformation in food and agricultural systems. The Agenda is a framework for achieving integrated sustainable development in its three dimensions: environmental, social and economic. It calls for all people to be critical agents of change in the process. The agroecological transition can be seen as key for the transformation of food and agricultural systems. Growing scientific evidence and local experiences demonstrate how agroecology facilitates and contributes to transitions to food and agricultural systems that are environmentally sustainable, economically fair and viable and socially equitable, embracing the spirit of the 2030 Agenda. Rural people make up nearly 80 percent of the extreme poor, and number 3.5 billion. To eradicate extreme poverty, reduce the greatest inequalities, and foster inclusive growth, a rural transformation that empowers rural people as critical agents of change must be promoted. Policies and programmes improving the livelihoods and resilience of smallholder farmers, foresters, fishers, pastoralists, and labourers, with particular focus on rural women, indigenous peoples and youth – including through agroecology – can make or break achievement of the SDGs in most countries.

Towards the Scaling up Agroecology Initiative, an international and grounded mobilization for an agroecological transition building on common recommendations from regional seminars: FAO's multistakeholder dialogues at international and regional levels have brought together more than 1 400 participants representing 170 Members and nearly 500 organizations at local, national, regional and international levels. The need to take agriculture towards sustainability was clear, and the FAO seminars revealed the number and diversity of existing approaches and demonstrated the growing interest in agroecology worldwide. They revealed the high expectations for an urgent change to the present model in order to address the many current challenges. The need to scale up agroecology was emphasized in every seminar, with the premise that different situations call for different practices. Given the transformational nature of agroecology and the fact that farmers at grassroots level, civil society and a growing proportion of the scientific community are applying this approach, it can be a powerful tool for achieving the SDGs. FAO is launching the next phase of the global dialogue on agroecology by galvanizing efforts to scale up agroecology. Elements from the recommendations of the regional seminars are brought together to feed an agenda for action. FAO has also led the creation of an international agroecology partnership initiative, the Scaling up Agroecology Initiative, which will be launched at the Second International Symposium on Agroecology. This initiative will be launched with the support of its partners in the United Nations system as well as all actors who have been increasing the momentum of agroecology on the ground for several decades. The participants of the regional seminars made recommendations regarding all stakeholders (public organizations, academia, civil society actors and the private sector) for the development of agroecology. These recommendations can give insight for priority activities to be undertaken to scale up agroecology.

³ <http://www.fao.org/agroecology/en>

Building alliances to scale up agroecology: UN agencies and bodies, governments and non-state actors must come together in a collaborative spirit if the potential of agroecology is to be achieved. Each has their specific roles and responsibilities, and each is indispensable. UN agencies and bodies can enhance synergies with ongoing UN efforts – mainly the 2030 Agenda, but also the UN Decade of Family Farming, the Global Initiative on Decent Jobs for Youth, the Rome-Based Agencies collaboration on Home Grown School Meals and the Sustainable Food Systems Programme of the 10-Year Framework for Programmes on Sustainable Consumption and Production Patterns. FAO, which has both normative and operational functions, has a rich range of activities, instruments and experiences that are relevant for scaling up agroecology. Governments advise FAO and its partners on priorities and strategies and can partner to implement specific activities. There are opportunities for cooperation with regional bodies such as the Community of Latin American and Caribbean States to support regional cooperation on agroecology. It will also seek cooperation with relevant targeted initiatives, such as the G20 Initiative for Rural Youth Employment. Non-state actors, including farmers’ organizations, civil society, research institutions and the private sector, collaborate to implement specific activities on an ad hoc basis. Non-state actors have played a vital role in developing, implementing and advocating for agroecology. Family farmers have developed the knowledge, capacities and networks that must be at the core of creating sustainable food systems. National, regional and international research institutions are pioneering transdisciplinary research to tackle complex problems facing food and agricultural systems. NGOs raise public awareness, engage in research, and often support marginalized groups, including family farmers. Consumers and the private sector create the demand and also opportunities for inclusive and equitable food systems.

Agroecology for Zero Hunger: FAO stands for the belief that we can reach Zero Hunger if we work together. Ending poverty and hunger by 2030 is feasible – if we tackle root causes by bringing real transformative change to how we produce, distribute and consume food. Speaking at the Regional Meeting on Agroecology in sub-Saharan Africa, the FAO Director-General, José Graziano da Silva, stated that the SDGs renew global commitment to tackle the major challenges of ending hunger, achieving food security and improving nutrition, and promoting sustainable agriculture. To achieve this by 2030, an urgent shift to sustainable food systems that produce more with fewer environmental costs is needed. “Agroecology offers a promising and innovative solution,” he added. He also underlined the central role of millions of smallholder and family farmers: “They produce most of our food. But with climate change, farmers need even more the support of public policies to continue playing this essential role.” Working together through the Scaling up Agroecology Initiative can have a catalytic impact, enabling and empowering Members, communities and family farmers to scale up agroecology and achieve the transformative vision of the 2030 Agenda: A world composed of sustainable and inclusive food and agricultural systems, where the health of both people and planet thrives; where food security and nutrition is assured for all present and future generations; where the scourge of poverty is eliminated; where the fundamental contributions of women are valued and respected; and where core human values of dignity, freedom, equity and human rights are upheld. Agroecology provides pathways to help achieve this bold and transformative vision.

Agroecology has been gaining interest in recent years among governments, research and civil society organizations worldwide and many actors present it as a strategic pathway to transition to sustainable food and agriculture systems for achieving food security and nutrition. Following the First International Symposium on Agroecology for Food Security and Nutrition, held in Rome in 2014, FAO organized a series of regional multistakeholder seminars in Latin America and the Caribbean, sub-Saharan Africa, Asia and the Pacific, China, Europe and Central Asia, and the Near East and North Africa from 2015 to 2017. These seminars provided many opportunities for exchange and debate and revealed that while the scientific framework for agroecology dates back to the last century, it is a living concept that can be interpreted differently by different actors. The participants' testimonies showed not only the wealth of existing initiatives but also their high expectations about supporting agroecological transitions on a larger scale. This document is a summary of the global report, *Catalysing dialogue and cooperation to scale up agroecology: outcome of the FAO regional seminars on agroecology*, which presents the main lessons learned from the regional seminars and proposes a framework for action to support the development of agroecology in the coming years. This is a direct contribution to the *Second International Symposium on Agroecology: "Scaling up Agroecology to achieve the SDGs"*.

To read the full report, please scan this code or visit this URL:
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