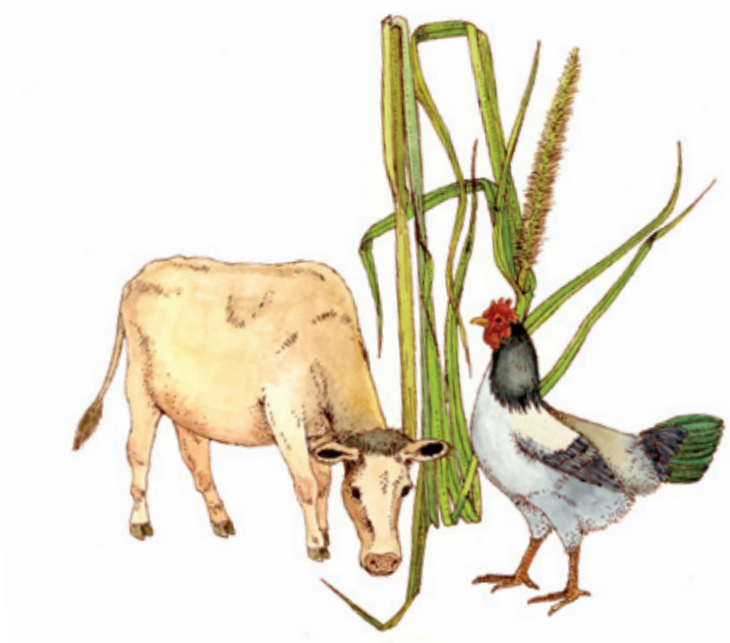




Food and Agriculture
Organization of the
United Nations



FINAL REPORT *for the* International Symposium on Agroecology *for Food Security and Nutrition*

18 and 19 September 2014, Rome, Italy



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INTRODUCTION

FAO held, with the support of France, the Swiss Development Cooperation and the Foreign Office of Agriculture of Switzerland, the International Symposium on Agroecology for Food Security and Nutrition at its headquarters in Rome on 18 and 19 September 2014 and a side-event on the Symposium during COAG on 30 September 2014. The Symposium was of a scientific and technical nature with a High Level Segment in the afternoon of the second day. Overall the Symposium can be considered a very successful event, during which FAO took the responsibility of providing a neutral forum for discussion.

The Secretariat estimates that approximately 400 people from 61 different countries (including Permanent Representatives and staff members of representations, FAO / IFAD / WFP staff members, their guests and external participants) attended the event and an additional 186 people followed the Symposium through live streaming. In addition 94 posters were prepared by numerous research institutions, Civil Society Representatives and FAO's partners and were displayed in the FAO Atrium during the Symposium. General information and resources (posters, u-tube videos and presentations) were also made available to the public on website: <http://www.fao.org/about/meetings/afns/en>.

This report provides an overview of the Symposium and the COAG side-event.

Interactions in AGROECOLOGY Virtuous Cycles and Ecosystem Services that Underpin Agricultural Production

POLLINATION
Most flowering plants only produce seeds if animal pollinators move pollen from the anthers to the stigma of their flowers. Pollination is a factor in food production and security but has been little understood and appreciated, in part because it has been provided up until now as a "free service" by nature. As pollination services have faced several threats, there is a great interest in understanding key interactions and helping nature provide these pollination services, through greater diversity on farms and reduction or elimination of pesticides.

NATURAL PEST CONTROL
Agroecological approaches to natural pest control strategies go beyond eliminating problem pests, and rather seek to reinforce the interactions of pests and natural enemies in natural ecosystems, maintaining a functional balance with low pest populations. This can be done through understanding and reinforcing the full complexity of inherent plant defense, plant resistance, healthy soils and crops to fend off attacks, natural enemies, and other components of the system, in a web of feedback loops.

CROP-LIVESTOCK INTEGRATION
Integrating crop-livestock systems involve linking crop and livestock production together to generate positive economic and environmental outcomes. Integration is done to recycle resources efficiently, whereby products or by-products of one component serve as a resource for the other – i.e. manure goes to the crops and crop residues feed animals. The actual relationship between crops and livestock can vary in these systems. It may range from relatively intimate, within-farm integration of crops and livestock (e.g. grazing crop residues after grain harvest) to more indirect relationships (e.g. shared manure application among crop farms within a region).

SOIL BIODIVERSITY
The creatures living in the soil are vital to soil health. They influence soil structure and thus soil erosion and water availability. If healthy and numerous, they can protect crops from pests and diseases. They are central to decomposition and nutrient cycling and therefore affect plant growth and amounts of nutrients in the ecosystem.

NITROGEN FIXATION
The growth of all organisms depends on the availability of mineral nutrients, and none is more important than nitrogen, which is required in large amounts as an essential component of proteins. There is an abundant supply of nitrogen in the earth's atmosphere – nearly 79 percent in the form of N₂ gas. However, atmospheric N₂ is unavailable for use by most organisms and is often the limiting factor for growth and biomass production. Microorganisms such as bacteria have a central role in almost all aspects of nitrogen availability and thus for life support on earth. They can convert N₂ into ammonia by the process termed nitrogen fixation. These bacteria are often functioning in form symbiotic associations with plants or other organisms (e.g. legumes, potatoes).

DROUGHT RESISTANCE
In the face of climate change, many older crops such as pearl millet and sorghum, are gaining attention. Such crops have multiple attributes: they are inherently drought tolerant, and provide food, fuel and – in the case of millet – fuel and construction materials, with no added conditions. However, agroecological approaches to drought resistance go further, to focus on the diversification of production systems, including polycultures, agroforestry and integration of crops and livestock, along with enhancing biological interactions in the soil and farm.

AGROFORESTRY
Agroforestry is a dynamic, ecologically based, natural resource management system that, through integration of trees on farms and in the agricultural landscape, diversifies and sustains production and builds social institutions. The adoption of agroforestry – a broad suite of ecologically and socially adapted practices – is helping to restore productivity and resilience of landscapes as well as contributing to improving the food, nutrition and income security of smallholders and, especially, other vulnerable groups of society. Agroforestry is based on a sound understanding of agroecology and an improving understanding of the social and economic systems of the people who inhabit these landscapes.

AGROECOLOGY
is the integrative study of the ecology of the entire food system, encompassing ecological, economic and social dimensions. It focuses on working with and understanding the interactions between plants, animals, humans and the environment within agricultural systems. By bringing ecological principles to bear in agroecosystems, through ecological intensification, novel management approaches can be identified, building on key interactions and strengthening virtuous cycles in agricultural production that would not otherwise be considered.

WATER MANAGEMENT
The ways and means of capturing and holding water that might otherwise runoff from agricultural lands is an integral part of agroecology. An agroecological approach calls for intensive management of water throughout the agroecosystem, through an integrated network of surface impoundments, contour ditches, small-scale terracing, and basins. Redundancy in water storage systems is emphasized with the priority placed first on soil storage, then surface water impoundments, followed by tank storage. Water catchment ponds, used as reservoirs during dry spells can also be used for aquaculture and by water birds such as ducks.

AQUACULTURE, PONDS AND WETLANDS ON-FARM
Wetlands have high levels of biological productivity and resource potentiality, and can provide multiple services in agroecosystems. They can be used for agriculture, animal husbandry, and fisheries. Wetlands have also been reclaimed into rice paddies, pastures, forest land and food production bases. Ecologically, wetlands can not only play a role in flood control, water storage and climate regulation, but can also purify water, improve soil, and increase the species and number of wild animals.

COVER CROPS AND ROTATION
Planting cover crops in rotation between cash crops is widely agreed to be ecologically beneficial, providing multiple ecosystem services. Benefits include increased carbon and nitrogen in soils, erosion prevention, more mycorrhizal colonization – beneficial soil fungi that help plants absorb nutrients – and weed suppression. Crop rotation, cover crops and reduced tillage through simple machines such as two-wheeled tractors are three of the basic practices of conservation agriculture.

PERENNIAL CULTIVATION
Scientists are working to breed perennial versions of wheat, rice, sorghum, other grains and other annual crops. Perennials shed some portion of their biomass every year thus replicating the biomass recycling that occurs in natural systems. Best systems of perennial crops are deep and massive, compared to annual cultivated grains, and a diversity of soil organisms can flourish. The goals are crops that tap the main advantage of perennials – the deep, dense root systems that fuel the plants' growth each spring and that make them so resilient and resource efficient – without sacrificing too much of the grain yield that millennia of selection have bred into annuals.
From <http://www.nature.com/nature/2014/04/04/140401a>

WILDLIFE
Wildlife that eat insects such as birds and bats may have remarkable impacts on insect populations. For example, each year in the spring, millions of Brazilian free-tailed bats migrate northwest from Mexico to form enormous colonies in limestone caves and bridges throughout the northeastern United States. Their primary food source is moths including devastating agricultural pests such as the corn earworm or cotton bollworm moths and the tobacco budworm moths and they are key to effective control of these pests that also migrate from Mexico to Texas at this same time. The benefits conferred by agriculture by consumption of these moths by bats may not be limited to their local foraging areas (e.g. in Texas and New Mexico) but may extend to agricultural landscapes hundreds of kilometers away.
From <http://www.pnas.org/content/111/11/4041>

ENERGY
Making more efficient use of energy has always been a focal point of agroecological practices, and still is for any design of sustainable food systems. In agroecology, the energy efficiency is tightly related with multiple stress management systems and crop-livestock integrated managements which are able to face high species richness. Diversified, integrated and self-sufficient agroecological farm systems that employ low levels of external inputs, demonstrate efficiency in the use of water, nutrients and energy while also crop environmentally, economically and technically feasible, and socially desired.
From <http://www.nature.com/nature/2014/04/04/140401a>

BUILDING COMMUNITIES
Agroecological approaches have strong elements of community building, recognizing that it is the interactions among people that are central to agricultural sustainability and resiliency. Agroecology seeks to build the autonomy of rural communities over management of natural resources and food systems, and their resilience in the face of climate change. The success of many communities in applying agroecological approaches is linked to their social organization and farmer to farmer networks.

Produced as a contribution to the **International Symposium on Agroecology for Food Security and Nutrition**



SYMPOSIUM CONTENT

The following is an overview of all the relevant sessions of the Symposium and outlines the key points raised in each. This is only a cursory overview as the scientific proceedings on the Symposium are still being written.

Opening Plenary Scientific Knowledge

The Symposium was opened on September 18, 2014 by **Maria Helena Semedo, Deputy Director General, Coordinator for Natural Resources, FAO**, who noted that healthy ecosystems are essential to ensure the basis for food production. A primary emphasis should be placed on ways that respect natural capital, in the context of climate change, urban growth and biodiversity. Principles and approaches underlying Agroecology can contribute to overcome challenges to support sustainable food systems and FAO will assist to provide a framework for international dialogue on Agroecology in the future.

The opening plenary was chaired by **Stephen R. Gliessman, University of California, Santa Cruz**. Mr Gliessman noted that the focus of Agroecology was originally at the local systems level, but has gradually increased to entire food systems and is now understood as a participatory action and research process that leads to sustainability and resilience, as a movement of change and justice. Keynote speakers (**Pablo Tittonell, Wageningen University; Etienne Hainzelin, CIRAD; Irene Cardoso, University of Viçosa** and **Paul Mapfumo, University of Zimbabwe**) highlighted the following aspects during their presentations:

Problems within the current food system: More than 800 million people are hungry in the world while the problem of obesity and overweight exist worldwide; 30 to 50 percent of food waste yield gaps, aging farmers, greenhouse gas emissions from agriculture and social unrest are all issues which need to and can be addressed through Agroecology. In sub-Saharan Africa, prevailing issues of high food insecurity and climate change are evident, however, there are also less obvious problems such as those linked to soil nutrient mining, soil erosion, soil organic matter and carbon depletion. Therefore, a key issue is to break these vicious cycles and turn them into “virtuous” cycles and create positive synergies.

Systems approaches: systems need to suit the reality of smallholders and family farmers, reduce dependence on fossil fuels and negative impacts on society and the environment by imitating nature and learning from local agroecological knowledge. “Performance” in agriculture requires new definitions. The local context should be awarded greater importance: a shift from “ready-to-use” to “custom-made” cropping systems places the producers at the centre of local innovation systems, to combine technologies and traditional knowledge.



Up scaling of agroecological approaches should not be carried out by aggregation but by enhancing interactions and the multiple functions of agriculture using ecosystem services aboveground and belowground to enhance functional biodiversity.

Enabling conditions: there is a need for enabling environments supportive of Agroecology, for transitional policies for family agriculture, payments for environmental services, reducing agricultural waste and for the protection of biodiversity. Agrobiodiversity, a key component of resilience, must remain accessible to small farmers at no cost, as capital for future adaptation. In-situ conservation of agrobiodiversity must be supported as a complement of ex-situ conservation; ownership of land and autonomy to manage seeds and biodiversity are also key elements of a transition.

Ecological Approaches Scientific Knowledge

The “**Ecological Approaches**” component was chaired by **Alexander Wezel** (ISARA) and **Foday Bojang** (FAO) and included the following speakers: **Eric Malézieux** (CIRAD), **Mark Sutton** (Centre for Hydrology and Ecology), **Andre Leu** (IFOAM), **Len Wade** (Charles Sturt University), **Edmundo Barrios** (ICRAF), **Muo Kasina** (Kenya Agricultural and Livestock Research Organization) and **Fabrice DeClerck** (Bioversity International).

Session topics discussed were: “Conception and Engineering of Cropping Systems”, “Closing the Nitrogen Cycle”, “Alternative to External Inputs”, “Agroecological Approaches to Breeding”, “Soil Health”, “Entomological Diversity including Pollinators” and “Aboveground and Belowground Agrobiodiversity”. Key points raised included:

- » Through Agroecology it is possible to achieve a greater quality and quantity of production by transitioning from a reliance on chemical inputs to a holistic integrated approach based on ecosystem management.
- » This is implemented by re-introducing biological complexity (particularly increasing plant diversity, perennial cover, functional redundancies and presence of trees).
- » Agroecological systems are complex and knowledge intensive (requiring a transition phase); family farmers need to be supported and informed to enable them to accept risks associated with innovation and technical changes must reflect local resource needs and constraints.
- » “Closing the nitrogen cycle” can improve the efficiency of food production and provide a number of environmental co-benefits, including reducing waste and pollution at landscape level and increasing economic efficiency at farm level.
- » Reduction of input use and input-substitution are good first steps, however, wider system redesign, to fully adopt an agroecological outlook, is a more difficult step forward and requires re-design of policies and programmes to sustain this transition.



- » Farming is not seen as a viable career path for young people around the world. Farming needs to be more profitable and the social status of farmers in particular for what concerns young people and women needs to improve, through agroecological approaches this could be achieved.
- » The appropriate selection of crops and traits is essential to enhance ecosystem function, resource efficiency and address climate change resilience.
- » Healthy soil is essential to sustainable agroecosystems; agroecological approaches promote soil biological activity and soil-based ecosystem services.
- » Pests can be managed in agroecosystems by optimizing biological interactions.
- » Caring for the environment should be a means to achieve other goals (not an afterthought). There are win-win opportunities, which can close both yield and environmental gaps.

Building Synergies Scientific Knowledge

The “Building Synergies” component was chaired by Danielle Nierenberg (Food Tank: The Food Think Tank) and Clayton Campanhola (FAO) and included the following speakers: **Clara Nicholls** (University of California, Berkeley), **Fu-Suo Zhang** (China Agricultural University), **Ephraim Nkonya** (IFPRI), **Fernando Funes Monzote** (Sociedad Científica LatinoAmerica de Agroecología), **Ravi Prabhu** (ICRAF), **Jean-François Soussana** (INRA) and **Lori Ann Thrupp** (Berkeley Food Institute). Session topics discussed: “Resilience and Agroecology”, “Participatory Research/ Agroecological Models of Extension”, “An Ecological Approach to Water Scarcity”, “Agroecology





and Energy”, “Agroforestry”, “Integration with Livestock” and “Food Chains and Systems”. Key points included:

- » Farmers that have adopted agroecological systems are more resilient to climate change and recover more rapidly when faced with impacts.
- » Farmer participation is necessary to eliminate production constraints.
- » Integrated soil-fertility management practices have the highest profitability among the options to improve yields, however, they also have the lowest adoption rate. Therefore, market-related and logistical constraints need to be addressed to enhance the uptake of integrated soil fertility practices.
- » In order to achieve resilience, Agroecology needs to take into consideration not only food sovereignty but also energy and technological sovereignty.
- » Fruit tree diversity can contribute to addressing nutrition deficits and increasing incomes, while also integrating gender considerations in agriculture.
- » Agroforestry systems contribute to perennializing agricultural systems, stabilizing income, increasing adaptation and mitigation to climate change and to maintaining biodiversity in agricultural landscapes, however, they require more complex practices and technologies.
- » The five goals of Agroecology for livestock systems are:
 1. integrated animal health management;
 2. recoupling the C, N, P cycles;
 3. increasing systems diversity and resilience;
 4. preserving and using biodiversity;
 5. reducing the use of external inputs.





- » The food system is very complex and consists of a vast range of activities. It is necessary to expand the involvement of diverse groups in food social programmes (alliances, wider coalitions, partnerships).

People and Economics Scientific Knowledge

The “People and Economics” component was chaired by **Rachel Bezner-Kerr** (Cornell University) and **Moujahed Achouri** (FAO) and included the following speakers: **Salman Hussain** (UNEP), **Luigi Troiani** (Autogrill), **Gaetan Vanloqueren** (University of Louvain), **Daphne Miller** (University of California, San Francisco), **Peter Rosset** (El Colegio de la Frontera Sur), **Miguel Altieri** (University of California, Berkeley) and **Maria Noel Salgado** (Movimiento Agroecológico de América Latina y el Caribe). Session topics discussed were: “Building Natural Capital through Agroecology (Longer Term Perspective)”, “Building Markets to Support Agroecology”, “Agroecology and Employment”, “Diverse Farming System, Diverse Diets”, “Building Social Capital through Agroecology”, “Local Knowledge and Learning Processes” and “Gender and Agroecology”. Key points raised included:

- » Need for agricultural and environmental conservation scientific communities to develop a strong base in environmental economics.
- » Also need for the following:
 - » markets and consumers to support a demand for agroecological production;
 - » to promote the concept of Agroecology itself across diverse stakeholders;
 - » to define whether Agroecology will remain a niche approach to production or if it will be up scaled.
- » Although quantitative data on the effect of Agroecology on employment are lacking, existing case studies suggest that Agroecology creates job opportunities because it is labour intensive and improves the productivity of labour.
- » Agroecology has a positive effect on farmers’ livelihoods.
- » Need for a greater link between producers and the scientific community.
- » Smallholder farmers have a broad view of nature in a complex matrix which scientists are just beginning to grasp.
- » Need for information and data on the importance of crop diversity for health benefits (phytonutrients and protective bacteria).
- » Increase scientific evidence and awareness creation campaigns on chronic health issues due to loss of traditional diets and farming practices.
- » Increase data and policy evidence on the consequences of conventional farming on the environment including air, water and soil, as well as on social issues including health, jobs, rural development, justice and security.
- » Scaling up and scaling out of Agroecology remains a challenge and requires increased policies, investments, producers-consumers’ alliances.



- » Horizontal (farmer to farmer) communication and exchange is a powerful mechanism and collaboration and networks on agroecological practices among different countries and continents can also be enhanced through FAO programmes.
- » Land ownership is predominantly male and there are major challenges to the empowerment of women in agriculture.
- » Need to have better linkages between academia, governance mechanisms and women's groups.
- » Local knowledge of biodiversity and women's knowledge is as important as that of men and emphasis should be put on the knowledge generated and maintained by women.

Agroecology in Practice

Thirteen farmers and farmers' associations related to over 20 countries and various ecologies presented their agroecological experiences and the best practices they had identified. Experiences presented will also be reported in the proceedings.

Country Examples from Latin America and Europe

- » The family is the unit at which results need to be achieved. Central to this process is building social cohesion and involving civil society and youth (*Example: in Mexico, an exchange programme allows young farmers to be trained as researchers while still participating in family farming operations*).
- » Agroecological approaches – while working with farms of very small sizes - have led to improved diets, livelihoods and income, through soil restoration, water conservation, water harvesting, diverse crops (staple grains and vegetables), organic inputs and improved seeds (*Example: in Colombia, silvo-pastoral systems with agroecological approach have been used as an effective tool for rehabilitating degraded lands, through intensive biomass production, nitrogen fixation and enhanced soil biological activity*).
- » Integrated agroecological and biodynamic farms can successfully improve health, livelihood and food security in areas with high risks (fluctuating markets, climate change and rural poverty). (*Example: in Argentina, the application of integrated agroecological and biodynamic practices to a 200 hectare farm has brought about environmental, social and economic benefits at all levels, from production to manufacturing and commercialization*).
- » Smallholder agroecological approaches and solidarity can be successful in addressing the multiple challenges of small land area, water scarcity and limited access to credit. (*Example: in the arid zones of Brazil, agroecological practices helped to restore water sources through the recovery of soils and vegetation cover*).
- » The scale of action cannot be individual, it needs to be collective and act at landscape level, to increase economic returns and efficiency and enhance resilience to climate change and market fluctuations (*Example: as shown in the example from France, in order to reintegrate livestock in the system*). Innovations by agroecological farmers are in response to technological



constraints/failures in relation to issues of weed resistance, loss of soil fertility, and pesticide-related health problems. Often extension services have not developed agroecological expertise and farmers have had to work collectively to find appropriate solutions.

- » While the main agricultural producers are women, they remain invisible in the community; agroecological projects can put women at the centre of ongoing efforts and reinforce gender equity and women's rights, livelihoods and income (*Example: experience of Action Aid projects in Nepal and Ghana*).
- » Agroecology can play an effective role in urban and peri-urban agriculture (*Example: in Cuba, over 27 years of support by the national association has led to rapid expansion of intensive organic gardens on small plots of land in urban areas for family consumption of fresh vegetables and fruit by those not previously involved in agriculture, including youth*).

Country Examples from Africa and Asia

- » A transition to Agroecology is not optional. It is rather a context-dependent way forward with regards to sustainable agricultural production intensification and resilience to climate change. (*Example: emission of greenhouse gases from paddy rice has been reduced in India by reintegrating in farming systems some species which oxygenize rice fields. Those species disappeared from rice systems due to prior intensification efforts*).
- » Enhancing farmer-to-farmer knowledge, information and experience sharing must be at the centre of agroecological approaches. Farmers from different economic, social and environmental conditions learned from respective experience and technologies and pointed out the importance of FAO and other organizations to promote this exchange of knowledge (*Example: in Kenya, a programme aimed at communicating the importance of pollinators and their services has successfully managed to raise awareness on the issue by encouraging the sharing of knowledge among farmers and by involving both extension staff and policy makers*).
- » Indigenous knowledge, traditions and religious practices are an important part of Agroecology (*Example: indigenous microorganisms used by Songhai Centre to improve degraded soils are retrieved from sacred forests undisturbed and preserved by local traditions*).
- » Farmers' priority is to address food and nutrition security, therefore, the link of this priority to Agroecology should be emphasized. It is important to raise awareness that long term food security will depend on adaptation to climate change and adoption of Agroecology (*Example: in the Nilgiris mountains of Southern India, where food security is highly dependent on rainfall patterns, agroecological practices such as soil conservation, integrated management of pests and micro-irrigation have contributed to reducing dependency of the farming system on weather events*).
- » Farmer Field Schools (FFS) have added value to existing extension services especially by providing a platform for experimentation. FFS are a platform used for adaptation to climate change and have also prompted policy makers' decision making with regard to the use of external inputs in a number of countries. (*Example: over 25 years of experience with community-based FFS in 90 countries throughout the world has brought about higher rates of*



adoption of locally-adapted practices, an important step towards increasing the resilience of the local farming systems).

- » It is important to move from the existing notion of *Extension Systems* to the concept of *Extension Space*. An *Extension Space* entails participatory, two-way communication and taking risks together with farmers and allowing farmers to practice as well as introducing dialogue in order to improve their practices. (Example: in India, collaboration between farmers, scientists and public and private organizations through **participatory** on-farm research is leading to the adoption of best practices for pest management, breeding of seed varieties and management of nutrients).
- » There is scope to continue to promote discussion and awareness and possibly create a flexible and evidence-based practices repository, which could start with the practices presented during this Agroecology Symposium.

Dialogue on the Challenges of Implementing Agroecology

Ecological Processes

The dialogue session on *Ecological Processes* was chaired by **Danielle Nierenberg** (Food Tank: The Food Think Tank) and panelists included **Marion Guillou** (Agreenium), **Fu-Suo Zhang** (China Agricultural University), **Maryam Rahmanian** (Steering Committee of the High Level Panel of Experts on Food Security and Nutrition), **Ibrahim Adam Ahmed El-Dukheri** (Agricultural Research Corporation of the Sudan), **Eva Reinhard** (Swiss Federal Office for Agriculture), and **Lukás Visek** (European Commission).

The key points raised during this session were:

- » Reinforcing farmer-to-farmer discussions is important, in addition to allowing farmers to have access to technical and financial resources (platform, networks, potential role of FAO at regional level etc.). In order to inform more people, including raising the awareness of consumers, we need to show results on the ground and improve advocacy for Agroecology. To implement Agroecology, donors need to change their target beneficiaries - more farmer groups and family farmers focused - as well as their results and grant timelines. Investments in evolutionary practices need to allow for a trail and errors process. All the weight of natural resource management should not be the farmers' responsibility, but rather be a shared responsibility between the farmer, state and non-governmental organizations for the greater societal benefit. It is important to promote the socio-economic benefits of Agroecology together with the ecological benefits. In order to measure these benefits there is a need to agree on new tools at the collective level, as one farmer cannot measure all the benefits in his/her own farm. Agroecological practices are one way to answer the combined crisis



of natural resource degradation, climate change and food security. Agroecology preserves biodiversity and, therefore, directly influences the diversity of diets and has a positive effect on nutrition quality. The consumer is the driver of the food quality and ultimately of the agricultural practices applied. Industries may be driven to Agroecology through the need to improve corporate image and in reply to consumer demand. The first step is to encourage, inform and support the farmers to implement the change in their agricultural practices. However, the question remains of which public policies (such as: agricultural credits, training opportunities, market opportunities, social rewarding schemes, new creative economic opportunities, removal of noxious subsidies) should be set up to support farmers to cope with the transition and buffer risks. Another remaining question was whether Agroecology takes the best out of all the practices and minimizes the negative effects of conventional agriculture. Agroecology can attract more young people returning them to their role as the knowledge centre and as the basis for a new rural development era.

Health and Nutrition

The dialogue session on *Health and Nutrition* was chaired by **Peter Kenmore** (FAO) and panelists included **Marukami Shimpei** (AFA), **Esther Penunia** (FAO Special IYFF Ambassador for Asia Pacific), **Iracema Ferreira de Moura** (Comissão Nacional de Agroecologia e Produção Orgânica), **Andreas Gransee** (K&S Kali), **Jomo Sundaram** (FAO), **Tom Wakeford** (All-Party Parliamentary Group on Agroecology), **Daphne Miller** (University of California San Francisco) and **Juliane Friedrich** (IFAD).

The key points raised during this session were:

- » Quality aspects - not just calories but also proteins and fatty acids - and changing environmental conditions - soils with low pH, low organic and mineral content, saline conditions, drought stresses - are also linked to nutrients, nutrient management and should be part of the soil management discussion. Food security, malnutrition and sustainable agriculture are common goals under Rio+20 and in this regard, Agroecology has a great deal to contribute. Consumer demand has a large influence on production systems and there is a subtle food revolution underway in the United States. In little towns, where people may be poor and living at subsistence levels, there is a trend away from processed food towards “slow food”. The question of bio-fortifiers was controversially discussed without reaching a consensus. Women are vital to solutions for better nutrition, in their role as both the primary producers of food and the primary caretakers of children.



Reporting

Steve Gliessman and Pablo Tittone reported the key findings and emerging themes of the first one and half days to the plenary. The main findings were:

“By the final wrap up session, it was clear that the ecological foundation and food system focus of Agroecology provides an action-oriented approach for simultaneously developing alternative food systems, while transforming the current industrial model. FAO is in a unique position to help build a global agroecological network. The Symposium emphatically demonstrated that the stakeholders represented have everything necessary to make this transformation happen. It only requires action, vision, responsibility towards future generations and above all courage.”

High-level Segment on Agroecology

The High-level Segment on Agroecology was chaired by **Marcela Villarreal** (FAO). The speakers were **José Graziano da Silva** (Director-General of FAO), **H.E. Stéphane Le Foll** (Minister for Agriculture, Agrifood and Forestry, France), **H.E. Papa Abdoulaye Seck** (Minister for Agriculture and Rural Equipment, Senegal), **H.E. Abdelwahad Nouri** (Minister for Agriculture and Rural Development, Algeria), **H.E. Luis Felipe Arauz-Cavallini** (Minister for Agriculture and Livestock, Costa Rica), **H.E. Hidemichi Sato** (Parliamentary Vice Minister for Agriculture, Forestry and Fisheries, Japan). **H.E. Laudemir André Müller** (Minister for Agrarian Development, Federative Republic of Brazil) and **H.E. Dacian Cioloș** (EU Commissioner for Agriculture and Rural Development) participated to the Symposium via video messages.

All speakers emphasized the importance of agroecological approaches in their individual fields and provided examples of how Agroecology is applied in their countries' specific contexts.

Key areas mentioned by several speakers were:

- » The importance of Agroecology for climate change adaptation and resilience.
- » Agroecology offers synergies which are beneficial to all involved and is extremely cost-effective.
- » Agroecology simultaneously addresses food production and security and provision of ecosystem services and maintenance of natural resource base.
- » Challenges to mainstream Agroecology remain, however, all speakers appeared ready to strengthen Agroecology for sustainable production of food and services.
- » The need for FAO to lead the way forward and to provide technical and knowledge-based input to FAO members.



Further key points for the way forward were made by the Director-General:

- » FAO will organize three regional workshops in 2015 in: Latin America, Africa and Asia (Brazil had offered to host the Latin America dialogue in collaboration with RLAC).
- » The Director-General will propose to the United Nations Secretary General to “launch a United Nations system-wide initiative on Agroecology”

Following are the key points of each speaker:

Director-General of FAO:

- » Agroecology offers win-win solutions, to increase productivity, improve resilience and make more efficient use of natural resources.
- » Agroecology has been proven to deliver sustainable livelihoods to smallholders. The Symposium has provided an opportunity to share these experiences.
- » Agroecology is a concept that continues to grow as a set of practices, science and policies. There is a growing awareness of Agroecology. However, significant challenges remain which have to be addressed at national and regional levels. It is important to emphasize that no one solution will suit all contexts.
- » We face great challenges; however, we also have great possibilities and the commitment to overcome them.

Director-General of FAO (closing remarks):

- » The Symposium has opened an alternative window within the FAO Headquarters, the ‘Cathedral of the Green Revolution’; today, the paradigm of the Green Revolution is showing weaknesses and for this reason, we are seeking new alternatives.
- » Agroecology represents a promising option and is one possibility among others (such as GMOs and reducing the use of chemicals). FAO will incorporate the knowledge that has been gained into our strategic framework and field work to help demonstrate new opportunities to countries.
- » We need to forge ahead in our quest for solutions. The day-to-day experiences and knowledge of family farmers is the basis for our survival. We must walk together for a more sustainable future.

H.E. Minister Le Foll (France):

- » We are facing three main challenges: feeding the world, ensuring sustainability and combating climate change.
- » The transition towards agroecological systems, which are knowledge-intensive systems, should be based on a bottom-up approach and closely associate farmers and producers at every step of the process.
- » The International Symposium has been a milestone; building on last year’s “Colloque on Agroecology”, the Symposium has extended the debate on Agroecology, resulting in real reflection and progress. The Symposium is important because it is leading to **regional meetings to continue and extend this work. The challenge now is to disseminate the results and make further progress.**



H.E. Minister Seck (Senegal):

- » **In Senegal our aim is to build agriculture that is productive and sustainable**, based on three main objectives:
 - » Maintaining the stability of domestic markets, in 2008 we were strongly affected by upheavals in international trade.
 - » Finding the right position to benefit from international markets.
 - » Ensuring that agriculture will leave a quality environmental legacy for future generations.
- » **Supporting an Agroecology that is co-built, co-managed and co-evaluated to ensure ownership among actors. Agroecology cannot be decreed, the method must be determined by the grassroots.**

H.E. Minister Arauz-Cavallini (Costa Rica):

- » Legislation has helped to promote sustainable agriculture, including Agroecology. For example, Payments for Ecosystem Services schemes have been implemented for practices such as agroforestry. Criteria has been developed to certify coffee growers that are carbon neutral. The legal/policy approach has benefited, however, **Agroecology needs to be up-scaled and extended further.**
- » **Agroecological approaches will be essential to achieve the goal of carbon neutrality.**
- » Agroecology offers synergies such as lowering the cost of inputs while mitigating greenhouse gas emissions. We can reduce environmental problems without compromising productivity, while also ensuring food and nutrition security.
- » Economic logic and free trade have hindered Agroecology. We need to seek new paradigms that allow for local control of seeds, trade rules that help to internalise the environmental costs of agriculture and restructuring official government agencies, research and extension services.
- » **Agroecology is an extremely cost-effective solution. Funding for agroecological approaches need to match the funding for intensive agriculture.**

H.E. Minister Nouri (Algeria):

- » There are real limitations of production based on the current model. ***We need to move towards alternative solutions that restore the environment and make more efficient use of natural resources***, especially in drylands, marginal areas, rural territories, mountains, the Sahel and Sahara.
- » In Algeria, ancestral agricultural practices in oases provide multiple benefits and are perfectly ***adapted to local conditions***. These agroecosystems have been balanced, sustainable and resilient over centuries. These approaches are built on ***local knowledge*** and utilize ancient crops and varieties as well as techniques of variety selection, composting and the systematic application of organic pesticides. They provide ***proof of concept for agroecological approaches***.
- » In arid areas, Algeria is conducting pilot programmes of Conservation Agriculture, to combat erosion and enhance soil quality. ***Successful techniques in fragile environments can be scaled-up in other water-stressed areas.***
- » We will conserve and enhance these agroecological practices in parallel to our efforts to improve the modernization of agriculture.



- » ***There is a consensus that adaptation must be at the centre of our collective response to climate change.***
- » New alternatives must also be sustainable from an economic perspective.
- » Training, awareness and extension services to farmers' organizations must be a key part of this transformation. ***We need support from FAO and the United Nations to share knowledge among partners.***

H.E. Vice-Minister Sato (Japan):

- » Agriculture must be managed within the capacity of the natural environment.
- » Japan supports sustainable agricultural practices through a framework of national policies.
- » The framework of national policies supporting sustainable agriculture has achieved significant results in reducing greenhouse gas emissions from agriculture, reducing external inputs, and promoting good environmental practices through self-monitoring and certification.

H.E. Minister Müller (Brazil):

- » **Family farming is a pillar of rural development and has contributed to successful poverty alleviation in Brazil.** Through targeted public policies and institutions, the foundations are in place to transition to a more sustainable mode of production based on family farming and Agroecology.
- » To stimulate this transition, **the National Plan for Agroecology and Organic Production (PLANAPO)** was launched to promote Agroecology as a model of production, cooperative farming and economic organization. This plan was conceived with the broad participation of civil society, social movements and unions.
- » Brazil is convinced that Agroecology is the best model for family farming, rural development and the production of healthier food. Through initiatives such as the International Symposium on Agroecology for Food Security and Nutrition, **Brazil is committed to replicating the model of family farming and Agroecology** in the regions of South America, Central America and the Caribbean.

H.E. EU Commissioner Ciolos:

- » Agroecology addresses the environmental, economic and social dimensions of sustainability.
- » To address these challenges, technical, economic and social innovation will be important. This will require collaboration between different stakeholders to combine their knowledge and experiences.
- » The EC will provide financial resources and experiences from Common Agriculture Policy and capacity development to support agroecological projects in all areas of the world.
- » The EC is committed to Agroecology and will ensure Agroecology is central to agricultural policies that reflect all dimensions of sustainability.
- » An organization like FAO should lead a global process in Agroecology.



COLLABORATIVE SUPPORT

The preparation and organization of the Symposium was greatly facilitated by support from the government of France and Switzerland. Representatives of CIRAD and INRA served actively on the Scientific Committee to advise on the organization of the Symposium, its topics and presenters. Support for the participation of many scientists was made possible by their contribution. France's direct financial support for the Symposium was \$62 000 in 2014, and an additional \$25 000 committed for the regional follow-up; together with the in-kind support of French scientists' participation this amounts to financial support of over 100 000 euros. Swiss Development Cooperation's kind support of \$20 000 towards travel expenses facilitated the participation of civil society representatives to the Symposium. Furthermore the Swiss Federal Office of Agriculture (FOAG) contributed 5 000 Euros to a reception and poster exhibition during the Symposium.



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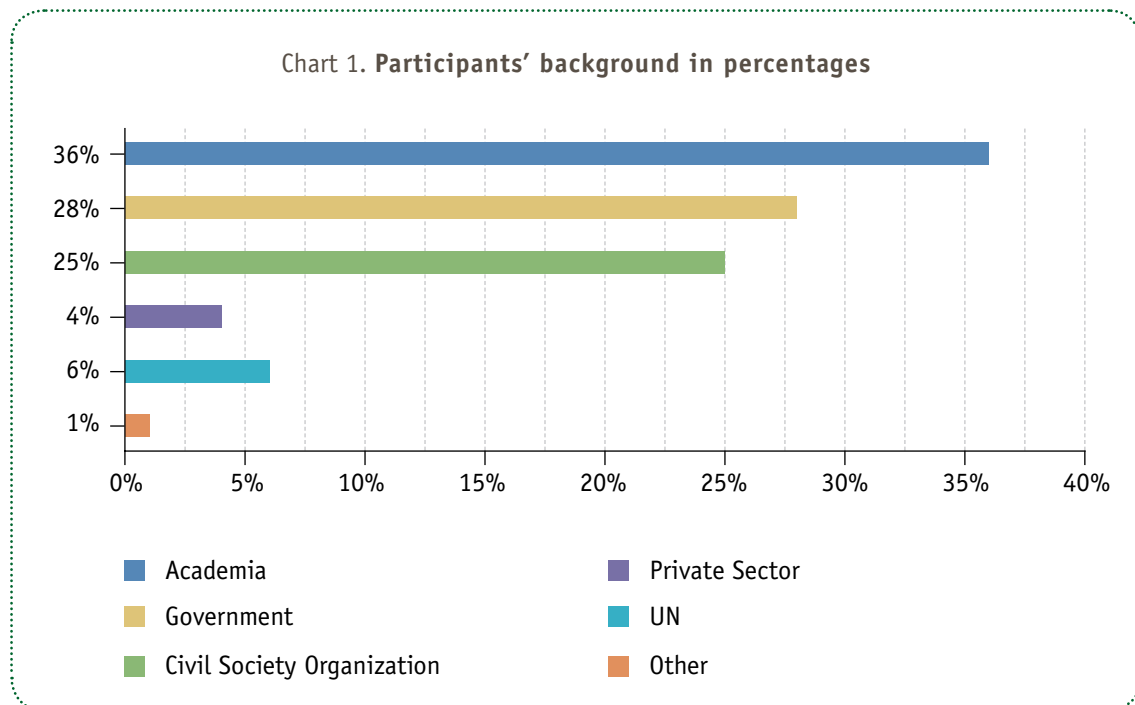


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PARTICIPATION

An analysis of building passes indicates that 266 external participants from 61 countries and all of FAO's regions, including the 74 speakers and at least 80 representatives from 32 FAO members attended the event. As the Permanent Representatives and the staff members from Permanent Representations have FAO building passes, they did not need to formally register and the Secretariat only counted the Permanent Representatives and staff members of representations who registered. The Secretariat estimates that in total, approximately 400 people attended the event. In addition, 186 persons followed the Symposium through live streaming. The Secretariat received a total of 417 requests to attend the Symposium out of which 377 were accepted and cleared under the guidance of OCP. The stakeholders who participated are represented in the Chart below.



This chart clearly indicates the representation of all important stakeholders and leads to the conclusion that the event achieved its goal of being open to all stakeholders in order to allow for dialogue among the major actors (more details are provided in Annex 1).

In regards to the COAG side-event, it was attended by approximately 50 participants, including governments, civil society and NGOs.



Posters

FAO received 81 external posters and units within FAO produced 13 additional posters. All the posters were exhibited in FAO Atrium, while all roll-up posters were also exhibited in the Aventino room during the reception sponsored by the Swiss government on the evening of the 18 September 2014.

POLLINATION SERVICES FOR CROP PRODUCTION

Managing ecosystem services for productive and healthy agroecosystems

Pollination is crucial for plant reproduction, and animal pollination (particularly bees) is responsible for 75 percent of the world's crop production. In agro-ecosystems, pollination is essential for ensuring horticultural and forage production, as well as the production of seed for many root and fibre crops.

MAINTAIN AND ENHANCE ECOSYSTEMS in order to conserve and enhance the soil in and around the agroecosystem - comprehensive crop practices.

MANAGEMENT PRACTICES have been identified and tested by farmers, to conserve and enhance wild pollinator populations. These practices not only benefit pollination ecosystem services, but contribute to crop diversity (biodiversity), soil health and reduced pesticide use to ensure flow.

EXAMPLES OF POLLINATION MANAGEMENT PRACTICES:

- Maintaining hedgerows and flood diversity:** Hedgerows provide habitat and forage resources for bees, and by diversifying the food resources, insect populations are encouraged to remain on-site year to the following year. This also contributes to biodiversity conservation. Farmers in Ghana use diverse plants as hedgerows around their crop production. In a field, these plants pollinate, but in the forest on highly structured and pollination to the field has attracted other native species.
- Hedgerow pesticide use:** Bees are sensitive to insecticides. This management that reduce insecticide use or restricts the use of pesticides. At the same time, this greatly benefits pollinators, which may be heavily impacted by pesticides.
- Pollinating flowering resources:** Pollination management should be considered when planning an annual crop rotation or when there are other crops in the field, such as when to plant flowering strips, planting "living hedges" (hedges in hedgerows) to attract and support pollinators, or when to plant pollinators in agro-ecosystems. Farmers can also use economic crop pollinators to help attract pollinator populations and ensure the pollination service.

FARMER FIELD SCHOOLS

Community based, experiential learning in Africa for sustainable intensification and climate change adaptation

"We must learn from farmer experience. Pragmatic, field-based and farmer-centric education can and must play a key role in making agriculture stronger and more sustainable. At the end of the day, sustainable intensification will be the result of the collective action of millions of small farmers, who through their daily decisions determine the trajectory of agricultural development across the world."

Dr. Gervase de Silva, Director-General, IAD, February 2014

EXPERIENTIAL LEARNING: Farmer Field Schools (FFS) are farmer-led learning institutions that have been shown to be effective in increasing the resilience of farmers and their communities. FFS are based on the principle of "learning by doing" and are designed to be self-sustaining and self-financing. FFS are based on the principle of "learning by doing" and are designed to be self-sustaining and self-financing.

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INTEGRATING CLIMATE RESILIENCE

into Sustainable Production Systems in sub-Saharan Africa

A significant number of sub-Saharan countries are particularly vulnerable to climate change due to their high levels of poverty, low technological resources, reliance on rain-dependent and/or finite natural resources, lack of infrastructure and high population growth rates.

FAO works in synergy with a number of partners to generate projects aimed at helping the resilience of farmers and their communities to adapt to safe-guard their way of life, generate their local indigenous knowledge and improve the livelihoods of their communities.

CLIMATE SMART PRACTICES: Climate Smart Agriculture (CSA) is an approach that promotes sustainable agricultural practices that are resilient to climate change, increase productivity and improve the livelihoods of farmers. CSA is an approach that promotes sustainable agricultural practices that are resilient to climate change, increase productivity and improve the livelihoods of farmers.

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PERENNIAL CROPS AND CROPPING SYSTEMS

Landscape Resilience for the Future

Perennial agriculture, including perennial grains, oil seeds, and legumes as well as forages and trees can take sustainable intensification to the next level and achieve productivity goals as well as social benefits and functioning ecosystem processes and services.

INVEST IN RESEARCH: Today we have many technologies available to accelerate innovation. Investments can be made through public and private sector partnerships to carry out research, maintain perennial agriculture and cropping systems in the present and establish a concrete policy environment.

GET ON THE GRASS: Get on the grass with the support of farmer networks, providing training and programs, training availability of locally adapted perennial grasses and adaptation to local systems.

PERENNIAL AGRICULTURE: To ensure sustainable and resilient agriculture and food systems.

Benefits of Perennial Agriculture:

- Reduce species loss, erosion, and improve soil health and contribute to produce organic matter, build soil, and increase carbon sequestration.
- Building perennial crop agriculture systems is the foundation of resilient crop, in diverse farming systems, including crop-livestock systems.
- Make farming more financially resilient and diversified.
- Contribute to the overall well-being of farmers, the soil, water, and food systems.
- Enhance diversity and productivity of farm and landscape level.
- Improve soil health and increase crop yield and reduce erosion.
- Reduce amount of energy for agricultural operations and.
- Less need for external knowledge and operationalizable sustainable intensification.

Ecological farming in seven principles

Ecological farming ensures healthy farmers and healthy food for today and tomorrow. By protecting soil, water and climate, practitioners also ensure that our planet can sustain the environment and chemical inputs or genetic engineering.

- 1 Food sovereignty:** Ecological farming is a way of life that respects the rights of all people to have access to healthy and nutritious food.
- 2 Rewarding rural livelihoods:** Ecological farming is a way of life that respects the rights of all people to have access to healthy and nutritious food.
- 3 Smaller food production and yields:** Ecological farming is a way of life that respects the rights of all people to have access to healthy and nutritious food.
- 4 Biodiversity:** Ecological farming is a way of life that respects the rights of all people to have access to healthy and nutritious food.
- 5 Sustainable soil health:** Ecological farming is a way of life that respects the rights of all people to have access to healthy and nutritious food.
- 6 Ecological pest protection:** Ecological farming is a way of life that respects the rights of all people to have access to healthy and nutritious food.
- 7 Resilient food systems:** Ecological farming is a way of life that respects the rights of all people to have access to healthy and nutritious food.

As you begin to learn more about these principles, please get in touch. We value your feedback. www.greenpeace.org

Trócaire

Going wider than farm towards greater sustainability

Authors: Ronan Hegarty and Tom Conboy, Trócaire, Ireland

Abstract: Trócaire has identified that low-input local systems are best suited to the most vulnerable households which are the most directly dependent on national resources. Systems which increase small farmer and pastoralist independence of aid and inputs fit Trócaire's transformative approach and response to Climate Change. This poster presents Trócaire's framework for applying agro-ecological principles and a landscape approach to our heretofore individual farm targeting strategy to promote transformation.

Framing of agricultural paradigms

Figure 1: Characteristics of the two paradigms

Business as usual	Sustainable Intensification
High external inputs	High external inputs
Highly mechanized	Highly mechanized
Specialization for large-scale markets	Specialization for large-scale markets
Production only	Production only
Very few species (based on varieties)	Very few species (based on varieties)
High external inputs	High external inputs
Highly mechanized	Highly mechanized
Specialization for large-scale markets	Specialization for large-scale markets
Production only	Production only
Very few species (based on varieties)	Very few species (based on varieties)

Going beyond "On-Farm" to "Wider than Farm" Measures

Trócaire's new frame has the headings:

SOIL CARE - WATER CARE - CROP DIVERSIFICATION - LIVESTOCK MANAGEMENT - OTHER

The new frame includes both "On-farm" and "Wider than farm" interventions.

www.trocaire.org
T: +353 1 6293333

Agroecology in Action: Climate Change Mitigation and Plant Diversity Conservation in Tropical Homegardens

Authors: Ronan Hegarty and Tom Conboy, Trócaire, Ireland

Abstract: Homegardens are a form of agroecology that is highly resilient to climate change. They are a form of agroecology that is highly resilient to climate change. They are a form of agroecology that is highly resilient to climate change.

Methodology: Homegardens were surveyed in the tropics. Homegardens were surveyed in the tropics. Homegardens were surveyed in the tropics.

Results: Homegardens were found to be highly resilient to climate change. Homegardens were found to be highly resilient to climate change. Homegardens were found to be highly resilient to climate change.

Conclusions: Homegardens are a form of agroecology that is highly resilient to climate change. Homegardens are a form of agroecology that is highly resilient to climate change. Homegardens are a form of agroecology that is highly resilient to climate change.

Learning in agroecology: the experience of ISSAE

Authors: Ronan Hegarty and Tom Conboy, Trócaire, Ireland

Abstract: The ISSAE (International Symposium on Agroecology for Food Security and Nutrition) is a platform for learning in agroecology. The ISSAE is a platform for learning in agroecology. The ISSAE is a platform for learning in agroecology.

1/ Main objectives (of the ISSAE)

- 1/ Main objectives (of the ISSAE)
- 2/ Target groups
- 3/ Focus
- 4/ Organisation
- 5/ Achievements
- 6/ Perspectives

2/ Target groups: Students MSc & PhD levels, interested in transdisciplinary approaches in agroecology. Professionals involved in the development of agroecology or sustainable agriculture (c.20% of the 30+ international).

3/ Focus: Alternatives to the dominant models of agriculture, innovation and food systems. Systems thinking and practice. Problem Based Learning (PBL).

4/ Organisation: One-week session in English, mid-July, Toulouse (Fr). Combination of field visits, conferences, & case studies.

5/ Achievements: An educational method that favours learning of complex issues, places learners at the centre of the stage and considers their needs and objectives. Transition into transdisciplinary approaches. Case studies open to various farming situations and ways of envisioning transitions to agroecology. Attendees become part of a network of academics, researchers, and practitioners. This is an opportunity to develop their professional projects.

6/ Perspectives: Extending the network of participant countries and institutions, with a library of case studies. Creating a community of professional agroecologists, with specific degree and organisation. Enabling ISSAE plan annual funding through a project supported by agencies.

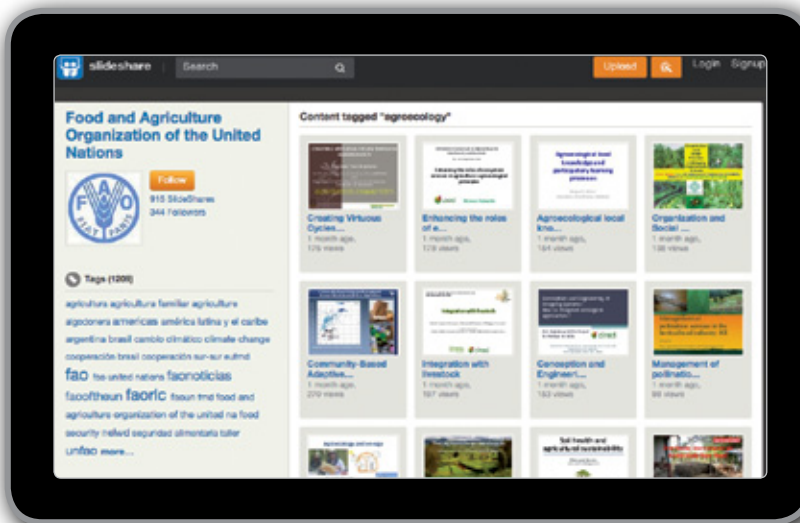
Website: <http://issae.eu.fr/>



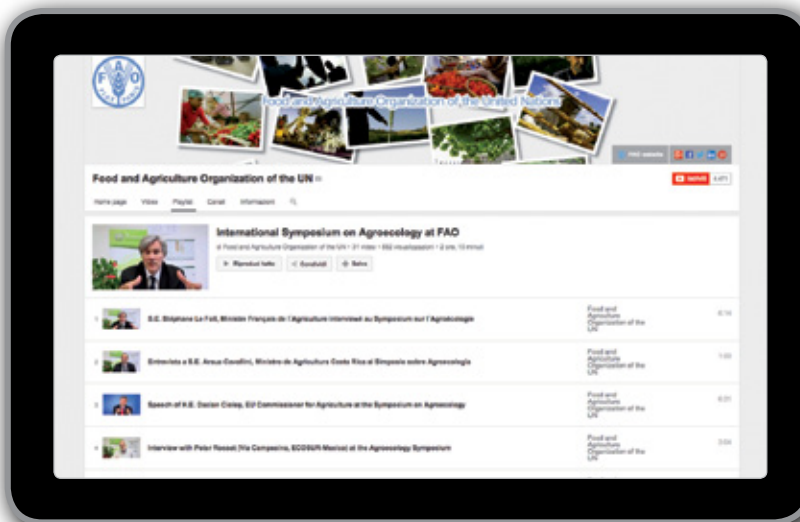
COMMUNICATION

61 articles, opinion pieces and letters on the Symposium in five languages were identified by the FAO media monitoring unit and the Secretariat (please see Annex 2 for an overview). This is a considerable amount, particularly, as there was no formal press release by the Secretariat.

The Secretariat had offered the possibility to selected participants to make short video presentations and over 30 messages, including those of all the Ministers present, were taken and made available on the Symposium's website.



FAO Symposium page on Slideshare: www.slideshare.net/FAOoftheUN/tag/agroecology



FAO Symposium page on YouTube: www.youtube.com/playlist?list=PLzp5NgJ2-dK6v0YMFxN_XTKtmhyaZMOXh

For general information also see: www.fao.org/about/meetings/afns/en/



KEY OUTCOMES

The Symposium generated the following key outcomes:

- » a proposal to continue the dialogue initiated through three regional meetings to be held in 2015;
- » a large amount of scientific evidence and examples of best practices already adopted in many different ecologies and the commitment to finalize proceedings;
- » the recommendation to accompany countries requesting FAO's assistance to promote national policy dialogue and research on Agroecology and expand partnership towards a local level;
- » recommendation to operationalize Agroecology into FAO's operational Work Plan for SO2 and other SOs, and to mainstream some ongoing planned national activities and projects towards Agroecology.

COAG Side-Event generated the following outcomes and key proposals:

- » the Permanent Representative of Brazil reaffirmed the offer to host and support a regional meeting on Agroecology for the LAC region in 2015, in partnership with FAO-LAC;
- » the Permanent Representative of France declared the full support of France to the process of Regional meetings. He launched the possibility to host a follow up meeting in Paris in 2016. He also proposed that France could lead the establishment of a "Club of Countries Friends of Agroecology". He recommended the establishment of a network of scientists and farmers to improve the exchange of scientific information and locally adapted Agroecology science.

NEXT STEPS

Based on the success of the Symposium and FAO's commitment to facilitate three regional meetings in 2015 in Latin America, Africa and Asia, FAO is looking forward to collaborate with the relevant interested actors on this action plan. More precisely, the Director-General outlined the following points as next steps for FAO:

- » FAO will organize three regional meetings in 2015 in Latin America, Africa and Asia, under the leadership of the Regional Offices (Brazilian government offered to host the Latin America meeting in collaboration with FAO-RLC);
- » The Director-General mentioned during the United Nations Climate Change Summit that participants of the International Symposium on Agroecology called for a United Nations wide initiative on Agroecology in order to help sustainably promote food security, address climate change and build resilience;
- » The Director-General appointed Ms. Maria Helena Semedo, DDG-N as the person responsible for this way forward.



Annex 1 Participants Data

Introduction

The Symposium on Agroecology for Food Security and Nutrition took place at FAO Headquarters on 18 and 19 September 2014. An analysis of building passes indicates that 266 external participants from 61 countries and all of FAO's regions, including the 74 speakers and at least 80 representatives from 32 FAO members attended the event. As the Permanent Representatives and the staff members from Permanent Representations have FAO building passes, they did not need to formally register and the Secretariat only counted the Permanent Representatives and staff members of representations who registered. The Secretariat estimates that in total, approximately 400 people attended the event. In addition, 186 persons followed the Symposium through live streaming. The Secretariat received a total of 417 requests to attend the Symposium out of which 377 were accepted and cleared under the guidance of OCP. The stakeholders who participated are represented in the Chart below:

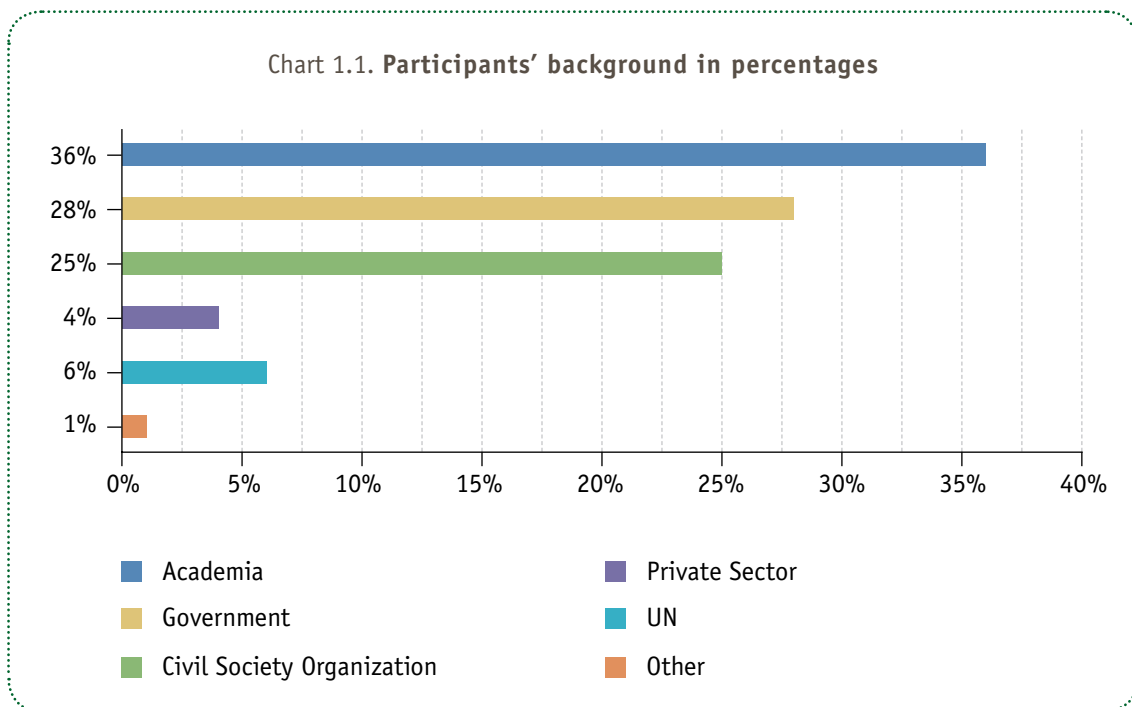
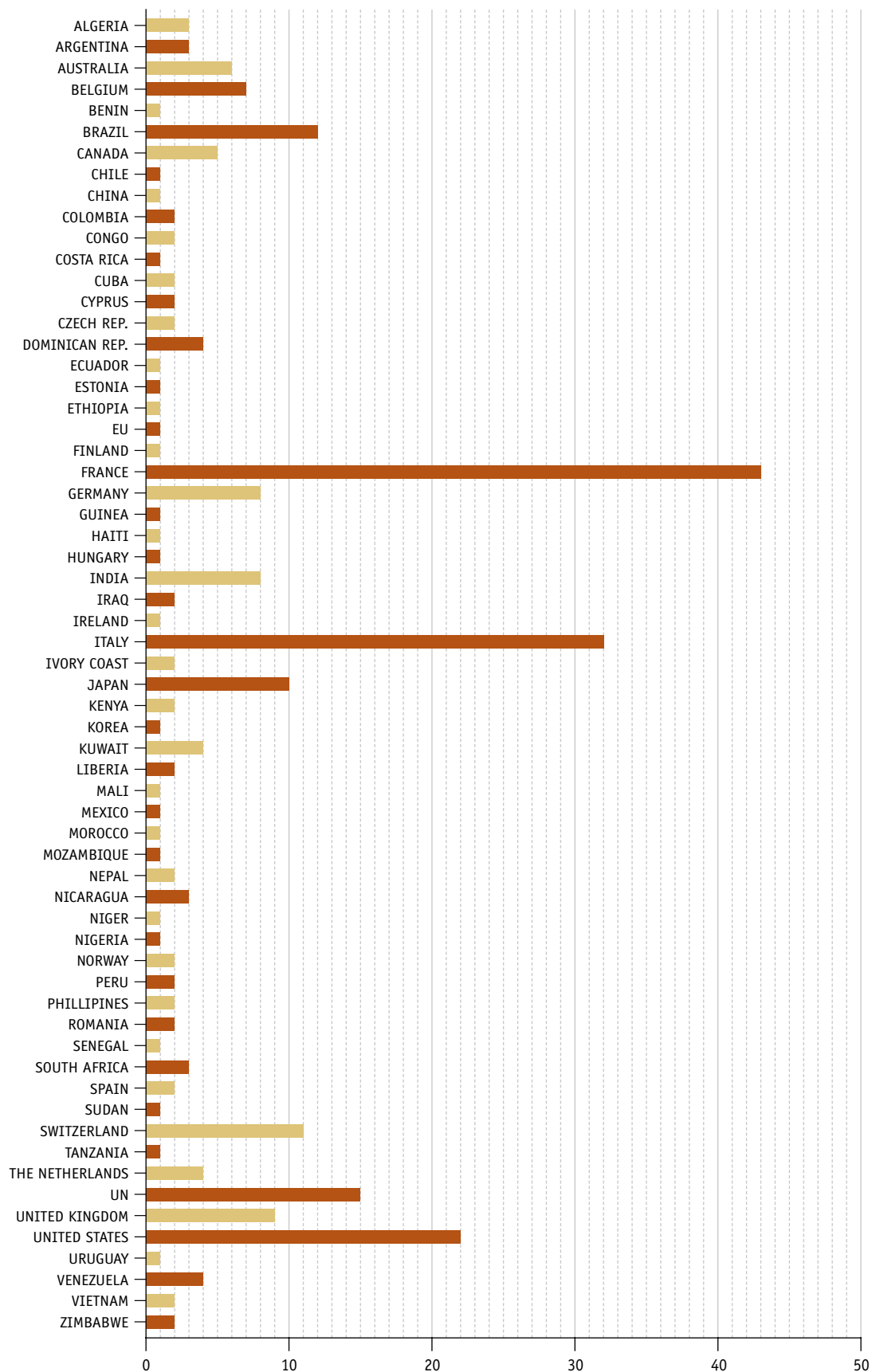




Chart 1.2. Participants' Nationalities





Participation of member countries

A minimum of 33 member countries were represented through their Permanent Representatives or through official representation of staff members. This number only includes officials who registered their attendance through the Symposium website or through the Agroecology Symposium dedicated email box.

Table 1. **Governmental and Policy Sector representation, disaggregated by countries**

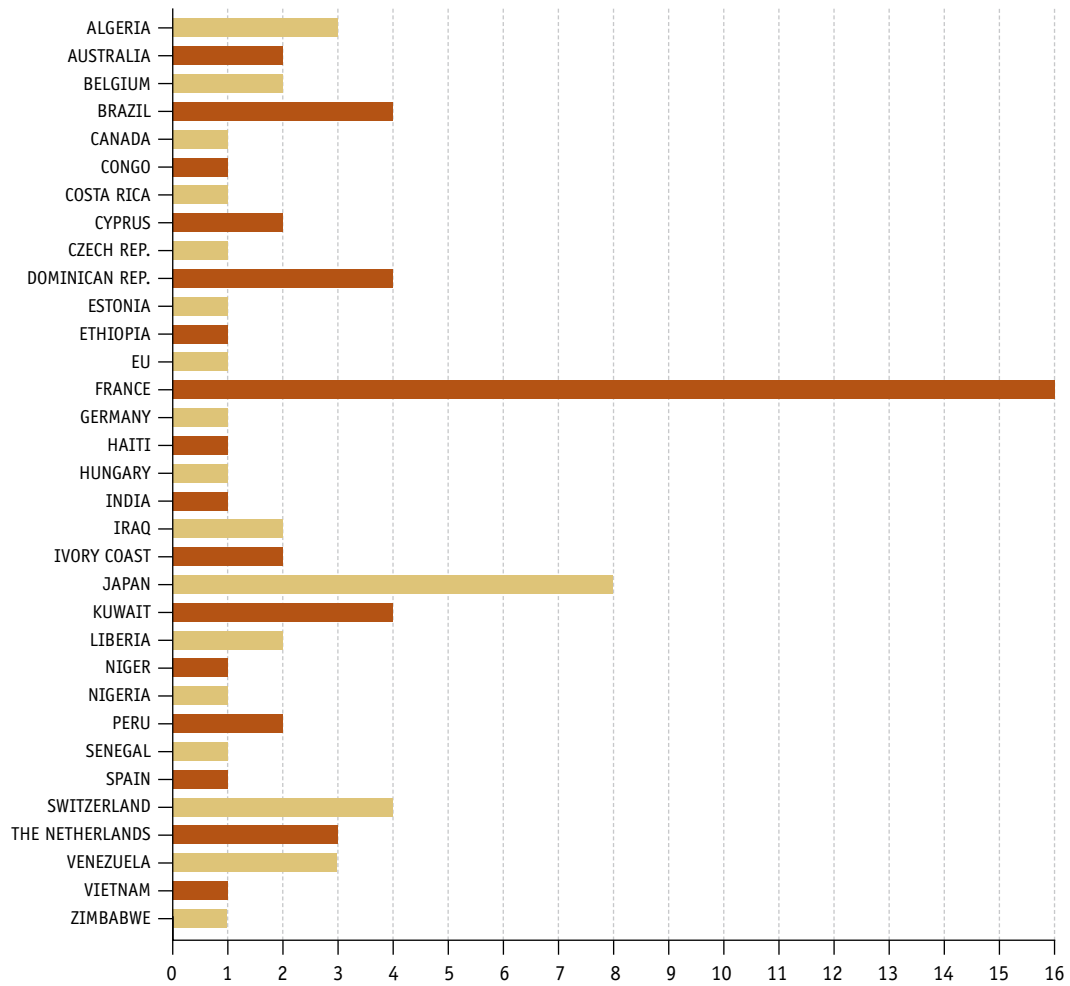
	Countries	Official and Policy Participants
1	Algeria	H.E. Abdelwahad Nouri , Minister for Agriculture and Rural Development Algeria Baghous Fatiha , Algerian Delegation Mekersi Scander , Algerian Delegation
2	Australia	Navarrete Rosemary , Permanent Representation Australia Worrell Matthew , Permanent Representation Australia
3	Belgium	H.E. Mertens de Wilmars Vincent , Ambassadeur- Permanent Representant de Belgique Germonprez Lieselot , Attaché - Permanent Representation of Belgium
4	Brazil	H.E. Laudemir André Muller , Minister for Agrarian Development, Brazil (via video message) H.E. Maria Laura da Rocha , Permanent Representant Starr Carolina , Ministry for Agrarian Development, Brazil Ferreira de Moura Iracema , Secretaria General da Presidencia da Republica Vieira, Olyntho , Permanent Representation Brazil Corrêa Luiz Maria Pio , Permanent Representation Brazil Costa, Larissa Maria Lima , Permanent Representation Brazil
5	Canada	Robinson Eric , Permanent Representation Canada
6	Congo	Mankoussou Marc , Permanent Representation Congo
7	Costa Rica	H.E. Arauz-Cavallini Luis Felipe , Minister of Agriculture Costa Rica
8	Cyprus	H.E. Poulides George F. , Permanent Representant Cyprus Spyridon Ellinas , Permanent Representation Cyprus
9	Czech Republic	Visek Lukas , Policy officer at European Commission
10	Dominican Republic	H.E. Don Mario Arvelo Caamaño , Permanent Representant Dominican Republic Julia Vicioso Varelas , Permanent Representation Dominican Republic Rawell Taveras Arbaje , Permanent Representation Dominican Republic Maria Cristina Laureano , Permanent Representation Dominican Republic
11	Estonia	Karjatse, Madli , Permanent Representation Estonia
12	Ethiopia	Abreha Aseffa , Permanent Representation Ethiopia
13	European Union	H.E. Ciołoş Dacian , EU Commissioner for Agriculture and Rural Development (via video message)
14	France	H.E. Le Foll Stephane , Minister of Agriculture France Grammont Mathilde , Permanent Representation France Pagès, Jacques , Permanent Representation France Reboa Giulia , French Delegation Remongin Xavier , French Delegation Ermel Thomas , French Delegation Ginet Mathias , French Delegation



Countries	Official and Policy Participants
	Geslain, Laneelle , French Delegation Seban Sandrine , French Delegation Roubin Jean-Cristophe , French Delegation Mauguin Philippe , French Delegation Soja Frederic , French Delegation De Laurens Patrice , French Delegation Vion Valerie , French Delegation Moinet Jean-Philippe , French Delegation Clergerie Alain , French Delegation
15	Germany Muller Georg-Albert , Permanent Representation Germany
16	Haiti Theodori Yves , Permanent Representation Haiti
17	Hungary Dora Egri , Permanent Representation of Hungary
18	India Sharan Vimlendra , Embassy of India
19	Iraq H.E. Saywan Sabir Mustafa Barzani , Permanent Representant Al-Nakib Aghadir , Permanent Representation Iraq
20	Ivory Coast Kouamé Kanga , Permanent Representation Côte d'Ivoire Sekouet Marie-Hortense Guei , Permanent Representation Côte d'Ivoire
21	Japan H.E. Sato Hidemichi , Parliamentary Vice Minister for Agriculture Japan Saigo Masamichi , Permanent Representation Japan Motohashi Nobuo , Permanent Representation Japan Nishikawa Michiko , Permanent Representation Japan Endo Yoshihide , Permanent Representation Japan Aihora Fuminori , Permanent Representation Japan Ito Hiromi , Permanent Representation Japan Kato Noriko , Permanent Representation Japan
22	Kuwait H.E. Jhail Yousef , Permanent Representant Kuwait Al Sabah Manar , Permanent Representation Kuwait Al Bazzaz Salah , Permanent Representation Kuwait Aghadir Hassan Musafa , Permanent Representation Kuwait
23	Liberia H.E. Sheriff Mohammed S. , Permanent Representant Liberia Kromah Haruna-Rashid , Permanent Representation Liberia
24	The Netherlands H.E. Verburg Gerda , Permanent Representant The Netherlands Proos Robert , Permanent Representation of The Netherlands Wierish, Ramsoekh , Permanent Representation The Netherlands
25	Niger Abdoul-Aziz Seyni , Ministry of Water and Environment
26	Nigeria H.E. Olaitan Olaniran , Permanent Representant Nigeria
27	Peru H.E. Reátegui Gamarra Pedro , Perm. Rep Peru Chirinos Llerena Stella , Permanent Representation Peru
28	Senegal H.E. Seck Papa Abdoulaye , Minister for Agriculture, Senegal
29	Spain Fraile Vasallo Ana , Delegation of the European Union in Rome
30	Switzerland Reinhard Eva , Permanent Representant Switzerland Buerli Markus , Swiss Agency for Development Wyss Andreas , Federal Office for Agriculture Lehmann Hans-Joerg , Federal Office for Agriculture
31	Venezuela H.E. Doña Gladys Francisca Urbaneja Durán , Permanent Representant Venezuela Álvarez Fermín, Luis Alberto , Permanent Representation Venezuela Claros Manuel , Permanent Representation Venezuela
32	Vietnam Ngo Tien Dung , Ministry of Agriculture Vietnam
33	Zimbabwe Chivandire Placida Shurvai , Permanent Representation, Zimbabwe



Chart 2. Governmental and Policy Representation, disaggregated by countries





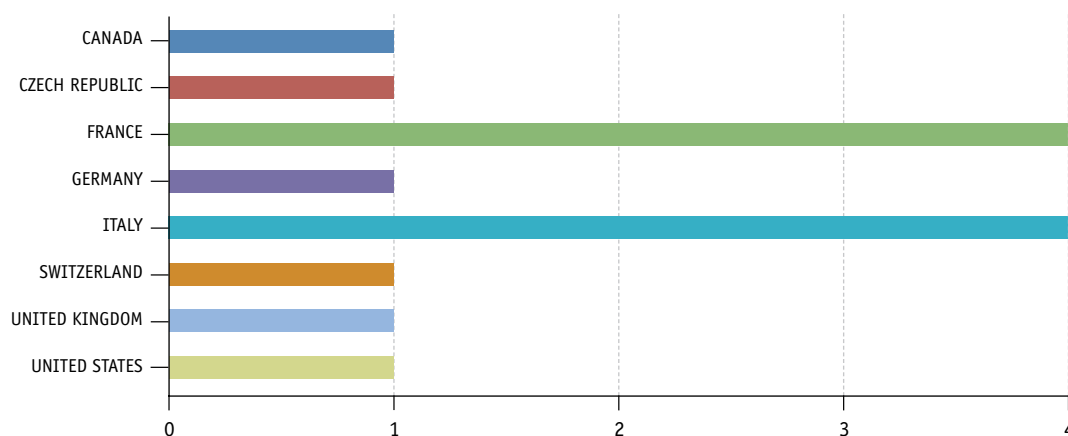
Participation of Private Sector

The Symposium Secretariat welcomed the registration, interest and contributions of the Private Sector and actively requested Private Sector participants to both present and attend the Symposium.

Table 2. **Participation of Private Sector**

	Country	Name of the delegate	Role during the Symposium	Company
1	Canada	Hunter, Robert	Participant	Crop Life International
2	Czech Republic	Krivankova, Blanka	Participant	GEOtest
3	France	Delachapelle, Audrey	Participant	FNCIVAM
4	France	Delachapelle, Quentin	Speaker	FNCIVAM
5	France	Monnier, Marie-Christine	Participant	Independent Consultant
6	France	Hilmi, Angela	Participant	KIASMO Space s.r.l.
7	Germany	Grensee, Andreas	Speaker	K&S Kali
8	Italy	Maccari, Michele	Participant	ICEA
9	Italy	Sciurano, Juan Pablo	Participant	ICEA
10	Italy	Ponzio, Carlo	Participant	Independent Consultant
11	Italy	Troiani, Luigi	Speaker	Autogrill
12	Switzerland	Zivanovic, Georgina	Participant	SAVE FOOD
13	United Kingdom	Lee, Katy	Participant	International Agri-food Network
14	United States	Michener, Michael	Participant	Croplife International

Chart 3. **Private Sector Participants at the Symposium on Agroecology**





Participation of Civil Society

A high, wide and varied geographical representation of Civil Society from 37 countries attended the Symposium.

Table 3. **List of Civil Society Participants**

	Country	Organization's name	Name of the delegate	Role during the Symposium
1	Argentina	IFOAM	Grandi, Christina	Participant
2	Australia	IFOAM	Leu, Andre	Speaker
3	Australia	IFOAM	Leu, Julia Fay	Participant
4	Belgium	Bioersity International	Declerck, Fabrice	Speaker
5	Belgium	OXFAM	Parmentier, Stéphane	Participant
6	Benin	Songhai Organization	Nzamujo, Godfrey	Speaker
7	Brazil	Associação do Semiárido Brasileiro	Alves de Souza, Marilene	Speaker
8	Brazil	Development Law Service	De Andreade, Fabiano	Participant
9	Brazil	Via Campesina	Toledo da Silva, Marciano	Participant
10	Colombia	CIPAV	Murgueitio, Enrique	Speaker
11	Congo	Programme Concerté Pluri-Acteurs (PCPA) Congo	Ignoumba, Gastele	Participant
12	Cuba	ANAP	Roman, Rilma	Participant
13	Ecuador	OXFAM	Castillo Paladines, Gina	Participant
14	France	Agronomes et Vétérinaires Sans Frontières	Ricordeau, Gauthier	Participant
15	France	GRET	Levard, Laurent	Participant
16	France	World Vision	Martin Fontaine, Laura	Participant
17	Germany	Association of World Council of Churches Europe	Ulmer, Karin	Participant
18	Germany	OXFAM	Wiggerthale, Mahita	Participant
19	Germany	Sol Futures	Winterhoff, Andrew	Participant
20	Guinea	AGACFEM	Dia Kagbe, Caba	Participant



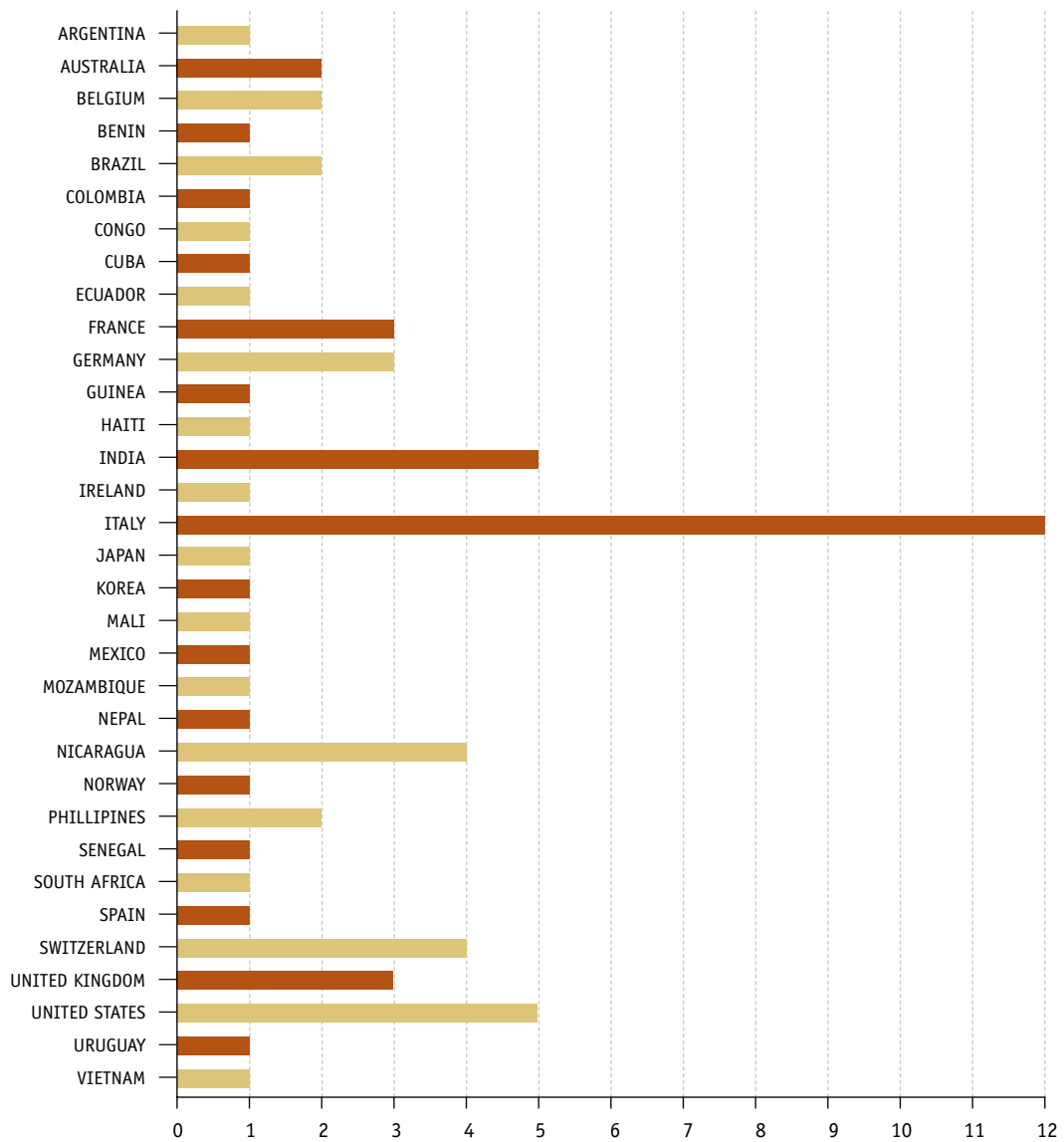
	Country	Organization's name	Name of the delegate	Role during the Symposium
21	Haiti	Peasant Movement of Papaye (MPP)	Chavannes, Jean-Baptiste	Participant
22	India	Greenpeace	Gopikrishna, Surendran	Participant
23	India	IFOAM	John, Matthew	Participant
24	India	ORRISSA	Mohanty, Biswa Mohan	Participant
25	India	Via Campesina	Kardhalli Singarigowda, Nandini	Participant
26	India	World Alliance of Mobile Indigenous Peoples (WAMIP)	Deasai, Lalji	Participant
27	Ireland	Trocaire	Crowley, Thomas John	Participant
28	Italy	Action Aid International	Marcatto, Celso	Speaker
29	Italy	Bioversity International	Manetto, Sarah	Participant
30	Italy	CISV	Casu, Alessandra	Participant
31	Italy	FIRAB	Colombo, Luca	Participant
32	Italy	Fondazione Progetto Mondo	Milani, Marialuisa	Participant
33	Italy	IPC/Crocevia	Conti, Mauro	Participant
34	Italy	More and Better Network	Sgro', Alessandra	Participant
35	Italy	Slow Food	Tonelli, Arianna	Participant
36	Italy	Slow Food	Ciacci, Laura	Participant
37	Italy	Slow Food	Isenghi, Edoardo	Participant
38	Italy	Via Campesina	Ajena, Francesco Maria	Participant
39	Italy	Via Campesina	Mammana, Ivan	Participant
40	Japan	Asian Farmers Association	Murakami, Shimpei	Speaker
41	Korea	International Cooperative alliance	Kang, Seok Ju	Participant
32	Mali	Pesticide Action Network	Thiam, Abou	Participant
43	Mexico	CEDICAM	Santos, Jesús León	Speaker
44	Mozambique	National Farmers Union Mozambique	Chingore, Renalod	Speaker
45	Nepal	Action Aid International	Tiwari Pokhrel, Sita	Participant



	Country	Organization's name	Name of the delegate	Role during the Symposium
46	Nicaragua	FEM	Meza Castillo, Maria	Participant
47	Nicaragua	FENICPESCA	Laguna, Cairo Roberto	Participant
48	Nicaragua	FENICPESCA	Martin Diaz, Margarita	Participant
49	Nicaragua	Las Diosas	Guzman Merlos, Cristian Dolores	Participant
50	Norway	The More and Better Network	Naerstad, Aksel	Participant
51	Phillipines	Asian Farmers Association	Banzuela, Ma Estrella	Participant
52	Phillipines	Asian Farmers Association	Penunia, Esther	Participant
53	Senegal	CRSFPC	Male, Seynabou	Participant
54	South Africa	Greenpeace	Tyler, Glen	Participant
55	Spain	Greenpeace	Tirado, Reyes	Participant
56	Switzerland	Biovision	Ledermann, Samuel	Participant
57	Switzerland	Biovision	Brander, Michael	Participant
58	Switzerland	Biovision	Tschirren, Sonja	Participant
59	Switzerland	Millenium Institute	Herren, Hans	Speaker
60	United Kingdom	Netherlands Development Organization	Simons, Sarah	Participant
61	United Kingdom	Practical Action	Henderson, Christopher	Participant
62	United Kingdom	The Permaculture Association	Warburton-Brown, Christopher	Participant
63	United States	ANEC	Van Gelder, Zoe	Participant
64	United States	Greenpeace	Mikhail, Monique	Participant
65	United States	New Field Foundation	Sargent, David	Participant
66	United States	New Field Foundation	Hobson, Sarah	Participant
67	United States	Pesticide Action Network	Marciano, Ishii-Eiteman	Participant
68	Uruguay	Movimiento Agroecológico de América Latina y el Caribe	Salgado, Maria Noel	Speaker
69	Vietnam	OXFAM	Le, Minh	Participant



Chart 4. Civil Society Participants, disaggregated by countries





Annex 2

Overview of Press Coverage

No	Title	Author	Outlet	Date
1	International Symposium on Agroecology for Food and Nutrition Security.	Danielle Nierenberg	Foodtank	09-2014
2	Scientists praise and challenge FAO on Agroecology.	Jahi Chappell	IATP	17/09-2014
3	Scaling Up Agroecological Solutions, Farmer to Farmer.	Danielle Nierenberg and Sarah Small	Foodtank	15/09-2014
4	Agroecology: A Different Approach to Agriculture.	Minister Stéphane Le Foll	Huffington Post	18/09-2014
5	L'Agroécologie ne peut être que paysanne.	18 French NGOs	Reporterre.net	19/09-2014
6	The Sky is falling...The Sky is falling.....Again.	Gary Truitt	Hoosier Ag. Today	21/09-2014
7	UN: only small farmers and agroecology can feed the world.	Nafeez Ahmed	The Ecologist	23/09-2014
8	The Time Has Come for Agroecology.	Geneviève Lavoie-Mathieu	IPS News	24/09-2014
9	France backs Agroecology to fight climate change.	N/A	Euractiv	24/09-2014
10	Reflections on the FAO's International Symposium on Agroecology for Food Security and Nutrition.	Clara Nicholls	FoodFirst	25/09-2014
11	Africa: Is FAO Opening a Window for Ecological Farming?	Monique Mikhail (Greenpeace)	AllAfrica.com / Greenpeace.com	25/09-2014
12	FAO sends message on the global need for Agroecology.	Gina Castillo	Oxfam Intl.	29/09-2014
13	Agroecology takes center stage in Rome.	Marcia Ishii-Eiteman	PAN North America	30/09-2014
14	FAO Calls for 'Paradigm Shift' Towards Sustainable Agriculture and Family Farming.	Targeted News Service	Insurancenewsnet.com	30/09-2014
15	PAT, PTI and the peasant.	Najma Sadeque	The Nation (Pakistan)	01/10-2014



No	Title	Author	Outlet	Date
16	The Agroecology movement is growing.	Kate Langford	World Agroforestry Centre	02/10-2014
17	Agroecology offers FAO a 'new window' on agriculture.	Laura Silici	IIED	02/10-2014
18	Small-Scale Traditional Farming Is the Only Way to Avoid Food Crisis, UN Researcher Says	Nafeez Ahmed	YES! Magazine	02/10-14
19	La ideología de moda del capitalismo en decadencia	Del Rosario Ignacio Denis	Rebelión	02/10-14
20	FAO sends message on the global need for agroecology	Gina Castillo,	GFAR	01/10-14
21	El momento de la agroecología es ahora	Phil Harris / Álvaro Queiruga	Mundo Agropecuario	30/09-14
22	Only agroecology can feed world	Nafeez Ahmed	Ea O Ka Aina –	26/09-14
23	El momento de la agroecología es ahora	No authors listed	El Mundo Economía y Negocios	26/09-14
24	International Symposium on Agroecology at the FAO in Rome	La Via Campesina	Organic Consumers Association	25/09-14
25	“Hoy se abre una ventana en lo que por 50 años fue la Catedral de la Revolución Verde”	La Via Campesina	Agencia Prensa Rural	25/09-14
26	El momento de la agroecología es ahora	Genevieve Lavoie Mathieu	EuroXpress	25/09-14
27	“Today a Window was opened in what for 50 years has been the Cathedral of the Green Revolution”	Vía Campesina	América Latina en Movimiento	25/09-14
28	“Hoy se abre una ventana en lo que por 50 años fue la Catedral de la Revolución Verde”	Vía Campesina	América Latina en Movimiento	25/09-14
29	El momento de la agroecología es ahora		Tendencias 21	25/09-14



No	Title	Author	Outlet	Date
30	Symposium sur la sécurité alimentaire et la nutrition : Le Dg de la Fao salue les efforts du Sénégal	Ama	Le Soleil	25/09-14
31	Riziculture: la FAO promet de soutenir la riziculture sénégalaise	Afrique en Ligne	Afrique en Ligne	24/09-14
32	UN: only small farmers and agroecology can feed the world	Nafeez Mosaddeq Ahmed	Resilience.org	24/09-14
33	France backs agroecology to fight climate change	Eur Activ	Eur Activ	24/09-14
34	The Time Has Come for Agroecology	The Time Has Come for Agroecology	Independent European Daily Express	24/09-14
35	La FAO promet de soutenir la riziculture sénégalaise	APS	Seneweb.com	24/09-14
36	La FAO promet de soutenir la riziculture sénégalaise sénégalaise	APS	Agence de Presse Sénégalaise	23/09-14
37	Ministro Arauz en Simposio Internacional sobre Agroecología	Costa Rica ON	Costa Rica ON	23/09-14
38	Les enjeux de l'agro-écologie reconnus à l'échelle planétaire	J.P	Campagnes et Environnement	23/09-14
39	Is FAO opening a window for ecological farming?	Greenpeace	Before It's News	23/09-14
40	El conocimiento en la transformación universitaria	ALAI	América Latina en Movimiento	22/09-14
41	Tout ce que vous devez savoir sur l'agro-écologie - Ministère de l'agriculture, de l'agroalimentaire et de la forêt	Ministère de L'agriculture, de L'alimentation, de la Pêche	Ministère de L'agriculture, de L'alimentation, de la Pêche	22/09-14
42	Protection des cultures Arrêt des opérations d'épandage aérien de produits phytos	MC	Terre-Net	22/09-14
43	Premier symposium international sur l'agro-écologie à la FAO : la sécurité alimentaire et la nutrition comme enjeux majeurs	Le Blog Enjeux	Le Blog Enjeux	22/09-14



No	Title	Author	Outlet	Date
44	Symposium international sur l'écologie pour la sécurité alimentaire à Rome : Nouri s'entretient avec le directeur général de la FAO	Elmoudjahid.com	Elmoudjahid.com	21/09-14
45	Nouri plaide pour l'adaptation des modes de production agricole	IMANE MISRAOUI	La Nouvelle Republique	20/09-14
46	Examen de la coopération entre l'Algérie et la FAO	Horizons	Horizons	20/09-14
47	Nouri pour l'adaptation des modes de production agricoles aux changements écologiques	Horizons	Horizons	20/09-14
48	Adaptation des modes de production agricoles aux changements écologiques	Portail Algérien des Énergies Renouvelables	Portail Algérien des Énergies Renouvelables	20/09-14
49	Sécurité alimentaire et nutrition: enjeux majeurs	Sillon 38	Sillon 38	19/09-14
50	O momento da agroecologia é agora	Genevieve Lavoie Mathieu	Dom Total	29/09-14
51	"Klimasmarte" Landwirtschaft gesucht	Klimaretter.info	Klimaretter.info	22/09-14
52	Premier symposium international sur l'agro-écologie à la FAO : la sécurité alimentaire et la nutrition comme enjeux majeurs - Ministère de l'agriculture, de l'agroalimentaire et de la forêt	Ministère de L'agriculture, de L'alimentation, de la Pêche	Ministère de L'agriculture, de L'alimentation, de la Pêche	19/09-14
53	A Rome Stéphane Le Foll participe au 1er congrès mondial sur l'agro-écologie	AFP	Terre-Net	19/09-14
54	Quentin, agriculteur proche de la Fondation décrypte pour nous l'agro-écologie et ses avantages	Fondation-nicolas-hulot	Hello Coton	19/09-14
55	Stéphane Le Foll participe au 1er congrès mondial sur l'agro-écologie	AFP	Agrisalon.com	19/09-14
56	Agroecology: A Different Approach to Agriculture	Stéphane Le Foll	The Huffington Post - Blog	18/09-14

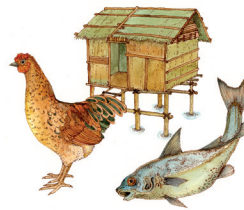


No	Title	Author	Outlet	Date
57	Nouri in Rome Friday to partake in International Symposium on Agroecology for Food and Nutrition	APS	Algeria Times	18/09-14
58	Nouri in Rome Friday to partake in International Symposium on Agroecology for Food and Nutrition	APS	Algeria Business Info	18/09-14
59	Changer les modèles de production pour combiner performance économique et performance environnementale - Ministère de l'agriculture, de l'agroalimentaire et de la forêt	Ministère de L'agriculture, de L'alimentation, de la Pêche	Ministère de L'agriculture, de L'alimentation, de la Pêche	18/09-14
60	L'agroécologie ne peut être que paysanne !	Les Amis de la Terre	Les Amis de la Terre	18/09-14
61	Symposium international sur l'agro-écologie : M. Nouri à Rome	Elmoudjahid.com	Elmoudjahid.com	18/09-14



AGROECOLOGY is the integrative study of the ecology of the entire food system, encompassing ecological, economic and social dimensions.*

It focuses on working with and understanding the interactions between plants, animals, humans and the environment within agricultural systems. By bringing ecological principles to bear in agroecosystems through ecological intensification, novel management approaches can be identified, building on key interactions and strengthening “virtuous cycles” in agricultural production that would not otherwise be considered.



* Francis C., Lieblein G., Gliessman S., Breland T.A., Creamer N., Harwood, Salomonsson L., Helenius J., Rickerl D., Salvador R., Wiedenhoef M., Simmons S., Allen P., Altieri M., Flora C., Poincelot, R. (2003) Agroecology: The ecology of food systems, J. Sustain. Agr. 22, 99–118.

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