





CONFERENCE ON ECOLOGICAL AGRICULTURE: MITIGATING CLIMATE CHANGE, PROVIDING FOOD SECURITY AND SELF-RELIANCE FOR RURAL LIVELIHOODS IN AFRICA

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INTRODUCTION

The Conference on Ecological Agriculture: Mitigating Climate Change, Providing Food Security and Self-Reliance for Rural Livelihoods in Africa was held in Addis Ababa, Ethiopia on 26-28 November 2008. It was organised by the African Union (AU), Food and Agriculture Organization of the United Nations (FAO) and the Ministry of Agriculture and Rural Development of Ethiopia, in collaboration with the Institute for Sustainable Development (ISD), Ethiopia and the Third World Network (TWN).

Over 80 participants from 15 African countries - Benin, Burundi, Djibouti, Ethiopia, Kenya, Madagascar, Malawi, Mali, Nigeria, Rwanda, Sudan, Tanzania, Uganda, Zambia and Zimbabwe - attended the Conference. The participants included policy-makers, agriculture experts representing governments, NGOs, farmers' organizations, universities, and international and regional bodies such as the AU, FAO, United Nations Conference on Trade and Development (UNCTAD), the UNEP-UNCTAD Capacity Building Task Force on Trade, Environment and Development (CBTF), International Food Policy Research Institute (IFPRI), International Assessment on Agricultural Knowledge, Science and Technology for Development (IAASTD) and World Food Programme (WFP).

The Conference was preceded by a field visit to the Axum area in Tigray Region in northern Ethiopia on 23-25 November 2008, to visit some of the communities of smallholder farmers that the Tigray Regional Bureau of Agriculture and Rural Development of Ethiopia and ISD have been working with on ecological agriculture since 1996. This was an appropriate experience to help focus attention on the aspects of the ecosystem that can easily respond to appropriate management, so as to stimulate discussion on experiences relevant for raising agricultural production, mitigating and adapting to climate change, and achieving the Millennium Development Goals (MDGs) in Africa.

The following are among the significant views, conclusions and recommendations expressed by participants during the Conference.

GENERAL VIEWS

The Conference heard several presentations and discussed the challenges facing African agriculture, not least among them the global food crisis, climate change and the conflicts with inappropriate biofuels development. Moreover, land degradation and the consequential loss of soil fertility, which are exacerbated by pests and erratic rainfall associated with climate change, are major constraints to improving agricultural production in Africa. Consequently, many local communities in African countries are food insecure. Trade policies also have implications for African food security and rural development, which need to be addressed, to stop the worrying trend of food import dependency and increasing vulnerability to external shocks.

The steep rise in petroleum prices and the consequent increase in the cost of chemical fertilizers and pesticides are making it essential to improve soil fertility and agricultural productivity in Africa through effective management of the local resources that are found in the agricultural and surrounding ecosystems. Many diverse and creative ecological agriculture (including organic agriculture) practices based on rich traditional knowledge and agrobiodiversity are found in Africa. Where supported by appropriate research and policy, it has been shown that these have been effective in tackling poverty and improving livelihoods.

In addition, this opens up the opportunity for Africa's smallholder farmers to become recognized as organic farmers producing for the growing global market fetching fair prices for their products. The global organic market growth has been about 15 percent per year over the past decade. Internal markets for organic products are also developing rapidly, particularly where consumers are made aware of the improvements to health from eating organic food.

The Conference heard presentations on the potential of ecological agriculture, including organic agriculture, to meet food security needs in Africa. Concrete examples and lessons learnt were presented from several African countries on practices that have successfully increased productivity and yields of crops, provided ecologically sound pest, weed and disease control, resulted in better water availability,

met household and local food security needs, increased household income and improved livelihood opportunities, especially for women who are the majority of Africa's farmers. Other presentations focused on the potential of ecological agriculture to mitigate climate change, and to provide farmers with the means to adapt to climate change.

Participants discussed the need for appropriate national policies to support and build the capacity of farmers and agricultural professionals to implement and mainstream ecological/organic agriculture in Africa. Some of the major barriers and challenges to a transition to ecological agriculture were identified, and recommendations for charting the way forward in terms of policies, action plans and regional and international cooperation were made.

MAIN CONCLUSIONS

1. Ecological agriculture holds significant promise for increasing the productivity of Africa's smallholder farmers, with consequent positive impacts on food security and food self-reliance. This is demonstrated by efforts such as the Tigray Project, now working with over 20 000 farming families in Ethiopia, where crop yields of major cereals and pulses have almost doubled using ecological agricultural practices such as composting, water and soil conservation activities, agroforestry and crop diversification. Although Tigray was previously known as one of the most degraded Regions of Ethiopia, yet over the 12 years of the introduction and expansion of ecological agriculture, the use of chemical fertilizers has steadily decreased while total grain production has steadily increased.
2. As most poor farmers, particularly in degraded lands and in market-marginalised areas, are not able to afford external inputs, the principles and approach of the Tigray Project, based on ecological agriculture, offer farmers and their families a real and affordable means to break out of poverty and achieve food security, provided that relevant government commitment, support and capacity-building is provided to them.

3. Ecological agriculture also provides many other benefits, including to the environment, such as addressing land degradation and reducing the use of polluting chemical inputs, with consequent beneficial health impacts. Ecological agriculture helps foster agrobiodiversity and other essential environmental services, which improve agroecosystem resilience, helping farmers to better face risks and uncertainties. The productivity and diversity of crops also increase incomes and improve rural livelihoods.
4. Ecological agriculture has high climate change mitigation potential; for example avoiding the use of synthetic fertilizers results in reduced greenhouse gas emissions, particularly nitrous oxide. Ecological agriculture practices such as using leguminous crops, crop residues, cover crops and agroforestry enhance soil fertility and lead to the stabilization of soil organic matter and in many cases to a heightened sequestration of carbon in the soils.
5. Ecological agriculture assists farmers in adapting to climate change by establishing conditions that increase agroecosystem resilience to stress. Increasing an agroecosystem's adaptive capacity allows it to better withstand climate variability, including erratic rainfall and temperature variations and other unexpected events. Drawing on strong local community and farmers' knowledge and agrobiodiversity, ecological agriculture improves soil quality by enhancing soil structure and its organic matter content, which in turn promotes efficient water use and retains soil moisture. Such conditions simultaneously enhance soil conservation and soil fertility, leading to increased crop yields.
6. The development and growing of biofuels should not compete with food and other crops, and thus require comprehensive impact assessments. Locally-controlled bioenergy production that makes use of agricultural waste and biomass, such as through biogas digesters, could provide sustainable energy generation.
7. Food and energy demand and climate change are inducing land use changes and land access issues, which threaten the viability of farming and rural livelihoods. The resilience of agroecosystems can only be built by empowering

local communities, particularly women, to rehabilitate, adapt and improve their natural resource base for continued productivity, and by giving them the appropriate legal backing.

8. The implementation and scaling up of ecological agriculture face several constraints, including the lack of policy support at local, national, regional and international levels, resource and capacity constraints, and a lack of awareness and inadequate information, training and research on ecological agriculture at all levels.

RECOMMENDATIONS

Policy and planning

1. The AU and other regional organizations (e.g. Southern African Development Community, SADC; Economic Community of West African States, ECOWAS; Common Market for Eastern and Southern Africa, COMESA) are urged to take action to assist African governments in implementing policies and action plans on ecological agriculture. The AU Commission should also develop strategic partnerships with civil society and other actors to promote and implement ecological agriculture in the continent.
2. The FAO is called to assist the AU in developing an African Action Plan on Ecological Agriculture that will guide member countries in implementing relevant policies and action plans, as a matter of urgency.
3. Governments are urged to conduct in-depth assessments of agricultural conditions and policies in their countries, identify barriers to a transition to ecological agriculture and gaps in policy, and to ensure policy coherence such that ecological agriculture is promoted and facilitated. Meaningful impact of development actions also requires the extensive deployment of extension officers and direct involvement of local communities. Resources from the national, regional and international levels, including climate-related funds, should be made available to assist governments to implement policies and action plans on ecological agriculture.

4. Trade policies should be crafted so that they are supportive of ecological/organic agriculture. Governments are urged to ensure that commitments made at the multi-lateral and bilateral levels provide enough policy space to enable support for the agriculture sector, expansion of local food production, and effective instruments to provide local and household food security, farmers' livelihoods and meet rural development needs.
5. Governments are urged to provide support in linking farmers to markets, in the development of domestic and regional markets for organic agricultural products, and in assisting farmers to access regional and international markets. Building awareness on the environmental and health benefits of organic products, and creating linkages between producers and consumers through short supply chains for ecological produce, are needed in order to stimulate local demand and local markets.

Research and development

6. Institutions involved in ecological agriculture are requested to pool their expertise and identify ways to establish an African Centre of Excellence on Ecological Agricultural Research. Research priorities along the value chain, including key food crops and animals, best practices, economic aspects, main problems and solutions to these problems, should be identified in a participatory manner. Farmers' knowledge is a basic and important component of the research/development continuum and research from the scientific community can complement and build on this.
7. The Conference participants agreed to establish a resource centre on ecological agriculture (e.g. an electronic library) to document best practices (including local knowledge and skills) and enable better communications, sharing of information and experiences on ecological agriculture.
8. Governments are urged to develop awareness, training and educational materials and curricula on ecological agriculture, including for students in schools, tertiary

educational institutions, graduate schools, extension officers and farmers. There is a need to include the mass media in awareness-raising efforts and to encourage consumers to appreciate the values of local organic products. Guidelines must be developed for training of trainers (e.g. extension officers) on watershed environmental management strategies and climate change adaptation practices through ecological agriculture. Improving soil fertility in dry and poorly vegetated areas must be given specific consideration.

Demonstration projects and technical assistance

9. Pilot projects on ecological agriculture should be established in each country to demonstrate the benefits of ecological agriculture to food security and rural livelihoods. In locations where Green Revolution projects are being launched or implemented, ecological agriculture pilot projects should be given the same financial and other kinds of support in order to allow comparative assessment of the two management systems' performance, including periodic documentation, monitoring and evaluation of impacts over the short-, medium- and long-terms. Where ecological agriculture projects already exist, they should be scaled up so as to encourage a wider impact on the environment and uptake by rural communities.
10. The training and technical assistance needs in relation to ecological agriculture should be identified and a list of experts compiled and targeted for continued capacity-building and training.

Implementation

11. The international community and African regional and national organizations, including the co-organisers of the Conference, are urged and encouraged to undertake follow-up activities, including providing policy and technical assistance to African governments, particularly the Ministries of Agriculture, Environment and Trade, in order to vigorously support ecological/organic

agriculture plans and programmes. Efforts should also include assisting Governments to tap climate-related funds in order to support capacity-building work in ecological agriculture.

12. The donor community is called upon to provide the resources required for ecological agriculture interventions to meaningfully support food security and rural livelihoods. This entails ensuring that adequate and balanced financial allocations are made for ecological agriculture projects. This is especially needed as heavy investments in industrial and chemically-oriented agriculture create disincentives to other agricultural management alternatives.
13. The Conference participants established a Standing Committee on Ecological Agriculture (see Annex A), which includes representatives from each participating country, in order to continue sharing experiences, enhance networking, undertake follow-up activities such as national workshops, and further the implementation of ecological/organic agriculture in their respective countries and at regional and international levels.

ANNEX A

STANDING COMMITTEE ON ECOLOGICAL AGRICULTURE

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