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Work in Progress

No. 80



Economic Commission for Africa

African Trade Policy Centre

Scaling up Organic Agriculture and Enhancing its Foreign Market Access: Lessons Learned from Eastern Africa

Naftali Ndugire



ATPC is a project of the Economic Commission for Africa with financial support of the Canadian International Development Agency (CIDA)

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List of Acronyms

ABLH	Association of Better Land Husbandry
AIDS	Acquired Immune Deficiency Syndrome
ASALs	Arid and Semi-Arid Lands
CBD	Convention on Biological Diversity
CBOs	Community-Based Organizations
CBTF	Capacity-Building Task Force
CDE	Centre for Development Enterprises
CSO	Civil Society Organization
EPOPA	Export Promotion of Organic Products from Africa
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GMO	Genetically Modified Organisms
GNP	Gross National Product
HIV	Human Immunodeficiency Virus
IAP	Integrated Assessment Programme
ICIPE	International Centre for Insect Physiology and Ecology
IFAD	International Fund for Agriculture and Development
IFOAM	International Federation of Organic Agriculture Movements
IPM	Integrated Pest Management
JAS	Japan Agriculture Standards
KARI	Kenya Agriculture Research Institute
KEBS	Kenya Bureau of Standards
Kenya OA-IAP	Kenya Organic Agriculture Integrated Assessment and Planning Project
KIOF	Kenya Institute of Organic Farmers
KOAN	Kenya Organic Agriculture Network
KOFA	Kenya Organic Farmers' Association
KOOF	Kenya Organic Oil Farmers Organization
KOPA	Kenya Organic Producers' Association
MDGs	Millennium Development Goals
MHAC	Manor House Agricultural Centre
MoA	Ministry of Agriculture
MOARD	Ministry of Agriculture and Rural Development
MOOF	Mount Kenya Organic Forum
NBSAP	National Biodiversity Strategy and Action Plans
NCAPD	National Coordinating Agency for Population and Development

NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NIT	National Implementation Team
NOGAMU	National Organic Movement of Uganda
NOP	National Organic Programme
NSC	National Steering Committee
OA	Organic Agriculture
OAC	Organic Agriculture Committee
OSEA	Organic Standards for East Africa
PRB	Population Reference Bureau
PRSP	Poverty Reduction Strategy Paper
R&D	Research and Development
S&T	Science and Technology
SACDEP	Sustainable Agriculture Community Development Programme
SACRED	Sustainable Agriculture Centre for Research and Development in Africa
SARD	Sustainable Agriculture and Rural Development
SEE	Socio-economic and environment
SIDA	Swedish International Development Agency
SWOT	Strengths, Weaknesses, Opportunities and Threats
TBS	Tanzania Bureau of Standards
TOAM	Tanzanian Organic Agriculture Movement
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP-ETB	United Nations Environment Programme-Economics and Trade Branch
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	US Dollars
USDA-NOP	United States Department of Agriculture – National Organic Programme
VAT	Value-Added Tax

Acknowledgment

The following individuals are acknowledged for their contributions as reviewers and for the logistical support provided: Josue Dione, Director of the Food Security and Sustainable Development Division of UNECA; Ousmane Laye Chief, Environment and Sustainable Development Section for overall supervision; Amal Elbeshbishi of ATPC for her dedication, review and valuable inputs into the initial drafts and her support and encouragement for the finalization of this report; Kwadwo Tutu for his assistance all through this assignment from conception to finalization.

Thanks are also due to the following organizations/individuals: Alastair Taylor of Agro Eco Consultancy of Uganda; Export Promotion of Organic Products from Africa (EPOPA); International Federation of Organic Agriculture Movement (IFOAM), Kenya Institute of Organic Farmers (IOF); Eustace Kiarri of Kenya Organic Agriculture Network (KOAN); Moses Muwanga of the National Organic Movement of Uganda (NOGAMU); Uganda Bureau of Statistics; Jordan Gama of United Republic of Tanzania Organic Agriculture Movement (TOAM); Ngugi Mutura of Sustainable Agriculture Community Development Programme (SACDEP); many regional participants of the UNEP-UNCTAD Capacity-Building Taskforce on Trade, Environment and Development (CBTF) East African Organic Agriculture Initiative.

Charles Akol, Isatou Gaye and Emnet Tezera of ESDD also offered valuable logistical support throughout the project period.

Executive Summary

Organic agriculture is a sustainable and environmentally friendly production system that offers African and other developing countries a wide range of economic, environmental, social and cultural benefits. During the past 10 years progress in the drive to reduce hunger has been slow and has varied around the world, with incidences of people undernourishment and poverty increasing while population continues to rise. In this regard, sub-Saharan Africa has been the most affected.

The world therefore continues to face fundamental food challenges with demand for food rising day by day, as: (a) economic growth increases people's purchasing power; (b) growing rural-urban migration encourages people to adapt to new diets; and (c) climate change threatens the very survival of mankind. Governments have been grappling with ideas to increase food supply, food security and sustainable livelihoods with minimal adverse impacts on the environment. But how can Governments effectively increase food availability, improve the natural environment, raise the level of education, skills and health, improve infrastructure and markets and alleviate poverty?

The successful export of organic products to any market requires exact knowledge of the "organic market", which is a very specific and dynamic market, and one requiring considerable sensitivity. It is a market still having enormous potential. With enough experience and creativity to seize opportunities as they arise, chances of success are good.

This study was developed in response to the above observations. It examines the relationship between organic agriculture and food security in Africa, analysing the impact of organic agriculture on food availability as well as on the natural, social, human, physical and financial capital in the region. Given the paper's origins, special attention has been paid to East Africa throughout. The conclusions and findings are, however, relevant for all African countries and other developing countries around the world.

The study was carried out using desk-top review of various government documents including statistical abstracts, economic surveys, and consultations and discussions with relevant regulatory authorities and ministries in Kenya, Uganda and United Republic of Tanzania to corroborate and complement the reviewed literature.

This study's recommendations are intended to assist African countries and, in particular, exporters involved in the organic agriculture sector. If the market for organic products is developed with cooperation and responsibility, the familiar mistakes of conventional trade may be avoided and consumer needs met. The superior quality of organic products should lead to the satisfaction of all concerned, including governments, customers, producers and traders.

Overview: I. Introduction

1. The Food and Agriculture Organization of the United Nations (FAO) recognizes organic agriculture as one of several approaches to sustainable agriculture where almost all synthetic inputs are prohibited and soil investment and crop rotation are mandated. This form of agriculture aims to optimize all aspects of quality in agriculture and the environment by respecting the natural capacity of plants, animals and the landscape. The International Federation of Organic Agricultural Movements (IFOAM) defines organic agriculture as “a whole system approach based upon sustainable ecosystems, safe food, good nutrition, animal welfare and social justice” (IFOAM, 2002). Certified organic agriculture is considered a defined and regulated system of agricultural production that seeks to promote and enhance ecosystem health while minimizing adverse effects on natural resources.
2. There are many arguments in favour of organic agriculture. However, as this study demonstrates, organic agriculture is a positive aspect of economic growth and collective organizing for a variety of reasons, including environmental protection, food quality, food security and social justice.
3. The key goals of organic agriculture are: to produce food of high nutritional quality in sufficient quantities; to interact in constructive and life-enhancing ways with natural systems and cycles; to encourage and enhance biological cycles within the farming system which includes micro-organisms and other plants and animals; to maintain and increase long-term fertility of soils; to promote the healthy use and proper care of water resources and aquatic life; to use, to the extent possible, renewable resources in locally organized agricultural systems; to minimize all forms of pollution that may result from agricultural practices; and to maintain the genetic diversity of the agricultural system and the environment, including the protection of plant and wildlife habitats and ecosystems. Organic agriculture is therefore considered a sustainable and environmentally friendly form of agricultural production currently practised around the world and having particular advantages for small-scale farmers in Africa.
4. Trade in organic food and drinks attained the \$US 50 billion a year mark in 2008 and despite the economic slowdown and financial crises, the percentage of market growth for organic products remains the highest in the food sector. More than 50 per cent of all baby food sold in the UK in 2008 was organic. In parallel, the market for organic cotton, which was only \$US 241 million in 2001, exceeded US\$ 5 billion in 2008. Demand for wild harvested products and cosmetics made of organic ingredients is also growing exponentially. The growth trend is expected to continue as consumers and supply chains increasingly realize the health and environmental benefits of organic production.
5. While increasing demand for organic products has outpaced supply in recent years, many individuals and institutions, especially in developing countries and economies in transition, have not been able to seize the business development and wealth creation opportunities offered by this growing

segment of the market. Barriers to this are, most significantly, a lack of knowledge and understanding of the requirements and standards for production and export.

6. Very few organizations are engaged in the organic agriculture business worldwide and leading the group is Agro Eco, which facilitates and advises in organic and related areas, such as fair trade. This organization works with and strengthens links between all aspects of the organic chain: farmers, processors, traders and consumers. Agro Eco has its headquarters in the Netherlands and also has offices in Eastern Africa (based in Kampala) and in West Africa (based in Accra). Another leading participant in the organic sector is the International Federation of Organic Agricultural Movements (IFOAM), based in Germany.

Box 1: ABOUT AGRO ECO

Agro Eco is an international independent advisory organization; part of a European-African network specialized in Organic Agriculture and related areas such as Fair Trade, Utz kapeh and Rain Forest alliance certification.

Agro Eco first worked in Uganda in 1994, and was involved in the development of the first organic project in Uganda, in the Lango region of Northern Uganda, to produce organic cotton.

Agro Eco head office is in The Netherlands

Source: Agro Eco Annual Report 2005

Core Activities and Services of Agro Eco

1. Supply Chain

7. Agro Eco supports organic production by disclosing the knowledge throughout the food chain. It plays an intermediate role in linking the different partners in the supply chain to generate new business and new activities.

2. Innovation

8. Agro Eco is focused on adding new value to business with skills, network, knowledge and inspiration. Together with other partners, Agro Eco introduces new organic products and new sectors in the organic market. It also develops new farming techniques and practical knowledge. Agro Eco is closely involved in formulating and implementing new organic standards.

3. Marketing

9. Agro Eco develops and supports marketing mix in different retail channels. It carries out feasibility studies at the national and international levels for new markets and new products. Introduction new products in the retail channel and upgrading existing products is one of its main activities.

4. Training

10. Agro Eco has many years of experience in providing training to various participant stakeholders. The types of training offered are tailor made. The training includes many participative methodologies and different tools for full involvement of all the stakeholders.

5. Administrative Services and Project Support

11. Agro Eco provides secretarial, administrative and website services to farmers' associations, cooperatives and groups. For example, the secretariat of the Dutch organization for organic dairy farmers 'De Natuurweide' and the registration and financial handling of donations for the foundation Koevoet are entrusted to Agro Eco. Upon request, Agro Eco also supports associations, cooperatives and groups in setting up new activities and programmes in order to develop a stronger and more profitable sector.

1. Kenyan Experience with Promoting Organic Produce

12. The agriculture sector employs 75 per cent of the work force of Kenya which has a high unemployment rate of 40 per cent. Over 50 per cent of the population lives on less than one dollar a day. The country is well known for its array of agricultural products. Tea, coffee, corn, wheat, sugarcane, fruits, vegetables and flowers grow luxuriantly. Animals kept include cattle, goats, sheep and pigs. Kenya is ahead of most African countries in terms of industries. Consumer goods and agricultural products are processed locally. Heavy industries include oil refining, steel, cement, lead and commercial ship repair.

13. Organic agriculture in Kenya dates as far back as farming itself in the country. However, most farmers are involved in it by default rather than by design. According to Kimemia and Oyare (2006), a great deal of farming in Africa, including Kenya, has limited external inputs due to the cost factor and not necessarily for the fact that such practice is organic by default as some forms of farming are harmful to the environment. The history of formal organic farming in Kenya can be traced back to the 1980s. In 1984, the University of East Anglia in the UK organized a course in organic farming at Enmesh College, England, which was attended by Kenyans. The participants then returned and introduced organic farming in the country, eventually establishing the Kenya Institute of Organic Farming (KIOF). Kenya therefore has two decades of formal organic farming history although the organic sector is still relatively small but growing very fast. The Ministry of Agriculture did not pioneer the development of the sector in Kenya but rather the farmers, NGOs, faith-based organizations and the private sector, which have taken the

initiative themselves. At the beginning, the Government appeared to view the development of organic agriculture in Kenya as a contradiction to the Green Revolution being promoted in many parts of the developing world mainly with donor support.

14. The organic agriculture sector in Kenya has therefore mainly developed without any formal government policy support. The sector has consequently encountered a wide range of challenges during the past two decades, especially in terms of regulation and marketing. Despite these challenges, the sector is considered capable of catalysing the socio-economic and environment sectors, especially through rural employment creation, income generation, combating food insecurity and ensuring long-term environmental security.

15. In 2003, the total production area was 494 Hectares or only 0.002 per cent of the total agricultural land (Hine and Pretty, 2006; UNEP-UNCTAD, 2006). More recent studies put the coverage at about 185,485 Hectares which is approximately 0.69 per cent of the total arable land (Bett and Freyer, 2007; Hine and Pretty 2006). So far, about 30,000 farms have changed over to organic cultivation methods (IFOAM and Fib 2006, cited in Bett and Freyer, 2007).

16. The global market link to the Kenyan organic produce portrays a different scenario to the local market, as outlined below:

- (a) Products: Vary from herbs and herbal teas, coffee, macadamia, avocado oil, coconut and other essential oils;
- (b) Main markets are Europe, the United States and Japan;
- (c) Some fresh produce exporters have reduced their production due to reduced orders; and
- (d) Certifiers: Soil Association, Ceres Bio Swiss Ecocert and IMOJ USDA – NOP.

17. Opportunities that encourage organic production in Kenya include that:

- (a) Kenya has a vast botanical richness: favourable climatic conditions and rich and diverse natural resources;
- (b) There is high demand internationally for high-value conservation products and institutions promoting the products in Kenya are many;
- (c) Local capacity for certification and inspections is increasing;
- (d) There is goodwill on the part of the Government to support organic agriculture (an Organic desk exists at the Ministry of Agriculture and there are also other organs e.g. KEBS);
- (e) Much research and policy formulation on OA is ongoing;

- (f) A Bio-safety Bill 08 was passed by Parliament under the Ministry of Science and Technology; and
- (g) Training has been provided for the organic desk and other staff of the Ministry of Agriculture.

2. Uganda's Experience with Promoting Organic Produce

18. Uganda has substantial natural resources, including fertile soils, regular rainfall and significant mineral deposits of copper and cobalt. Agriculture is the backbone of the economy, employing 80 per cent of the work force. The Ugandan economy has turned around during the past 20 years. The Government, with the support of donors has managed to stabilize the economy by undertaking currency reforms, raising producer prices on export crops, increasing prices of petroleum products and improving civil service wages.

19. The current status of organic agriculture in Uganda is enviable and other countries in the region should learn from its experience which should also be shared with other African countries in the fight against hunger, improving livelihoods, generating income and even contribution to the GDP. Below are some statistics obtained from the proceedings of the first Regional Conference on Organic Agriculture, held in Kampala in May 2009:

- (a) Organic history in Uganda
 - i. First organic project in Uganda was undertaken in the Mid-1990s: Cotton and tropical fruits;
 - ii. The second was the production of organic coffee in highland regions; and
 - iii. The third was the formation of NOGAMU as umbrella organization in 2001.

- (b) Operationalization and membership of NOGAMU

20. NOGAMU has the following membership: Farmers, processors, exporters, NGOs, Universities, government agencies e.g. UEPB, UNBS, and government ministries: MAAIF and other service providers.

- (c) Current Organic statistics shows the:
 - i. Total land area certified: 296,203 hectares;
 - ii. Total exports: US\$ 22.84 million;
 - iii. Main products: Fruits, vanilla, chillies, coffee, cotton, sesame and spices;
 - iv. Number of farmers: 206,803; and
 - v. Number of organic exporters: 38.

21. In Uganda, Agro Eco has developed the expertise of facilitating market access for smallholder farmers, linking them with agribusiness operators. Agro Eco advises on development of the complete

market chain, from organic production techniques, farmers' group organization and organic certification to export management and organic marketing. The chain is further strengthened through the team's involvement in production and market-oriented research as well as in trade advice for both the local and international markets.

Box 2: Agro Eco - A good mix of rural development, trade and environment

In 2001 Agro Eco, in partnership with Grolink,, a fellow organic consultancy company based in Sweden, was commissioned by the Swedish International Development Agency (SIDA) to implement the Export Promotion of Organic Products from Africa (EPOPA). Within EPOPA, Agro Eco worked with over 25 small- and medium-sized export companies and cooperatives linking over 40,000 small-holder farmers to sustainable organic export markets. EPOPA is implementing projects in Uganda, United Republic of Tanzania and Zambia.

Source: Author's field data collection in Uganda

22. EPOPA is working very well in Uganda where it has offices and infrastructure for encouraging organic agriculture farming. The involvement of all stakeholders from government agencies, farmers and farmers' groups, cooperatives and civil society organizations has put Uganda ahead of others in the East African region in this sector. Below are some of the products and services EPOPA is engaged in when discharging its mandate in Uganda:

- (a) Training in Organic Agriculture: Agricultural technical assistance, extension, on-farm research and farmer organization;
- (b) Organic Link Activities: Preparation for certification, Fair Trade, Utz Kapeh, Rain Forest Alliances and setting up Internal Control System development for small-holder group certification schemes;
- (c) Market Research: Export markets, local market development, trading partnership development, supply chain management, and trade show exhibitions; and
- (d) Business Support: Baseline and feasibility studies, business plan formulation, project management and evaluation, promotion of material designs; brochures and websites.

Production and export constraints.

23. Constraints to organic agriculture in Uganda are related to: (a) production, (b) market access and marketing, and (c) institutional and policy-related issues.

24. Production constraints include:
- (a) Cost of certification and the need to maintain high quality standards. The small size of the organic sector makes it difficult to achieve economies of scale. The dispersion of small producers over a large area increases inspection costs;
 - (b) Lack of price premiums in the domestic market;
 - (c) Lack of know-how, insufficient training and extension facilities;
 - (d) Uncertainties about land ownership. Farmers have to be sure that they will be able to benefit from investing, for example, in improved and fertile soil;
 - (e) Insufficient financial support and credit facilities; and
 - (f) Overproduction in some areas.
25. Marketing constraints and challenges include:
- (a) Lack of information on organic markets;
 - (b) Difficulties in penetrating external markets as a result of which most producers sell through transnational corporations rather than exporting directly to distributors;
 - (c) Absence of an organized national market and distribution system;
 - (d) Poor infrastructure (including a poor road network in rural areas and limited airport handling facilities);
 - (e) Uncertainty concerning demand and price premiums, resulting in insufficient incentives and dampening farmers zeal for additional efforts needed for organic production; and
 - (f) Difficulties in generating sufficient export volumes, partly due to small-scale producers' location in different areas.
26. Institutional and policy constraints and challenges include:
- (a) Absence of a clear government policy on promotion of organic products or on the provision of financial or other support to entrepreneurs;
 - (b) Lack of a national body to support organic agriculture through national coordination and international negotiations; and

(c) Lack of locally-based certifying bodies.

3. **Tanzanian Experience in Promoting Organic Production**

27. The trends and development of organic agriculture farming in United Republic of Tanzania and certified production result in the following facts and statistics:

(a) OA operators range from 36 to 43;

(b) Total number of farmers is 115,472;

(c) Total area under OA is 133,546 hectares;

(d) Value chains are in coffee, spices, tea, herbal tea, essential oils, pineapples, cocoa and cotton; and

(e) Approved inputs are stocked e.g. bionic, neem oil, pyrethrum, compost and rock phosphate.

28. Data and information collected during the study gives the following price scenario:

(a) Organic and herbal tea sold above 10 per cent of conventional tea in the domestic market;

(b) Cotton growers received 15 per cent more than conventional crop growers; and

(c) Organic exports fluctuated depending on supply and type of market, but remained above the conventional.

29. In terms of markets the following is the broad picture:

Domestic market involving herbal tea, instant coffee, fresh and dried vegetables, fresh fruits and juice are now available in the domestic retail outlets such as supermarkets and local stores.

30. The statistics of the United Republic of Tanzanian case are:

Certified production

(a) Organic produce operators have increased in the recent past from 36 to 43 and farmers are now about 115,472 working on 133,546 hectares;

(b) The value chains include coffee, spices, tea, herbal tea, essential oils, pineapple, cocoa and cotton; and

(c) Approved inputs are stocked e.g. bionic, neem oil, pyrethrum, compost and rock phosphate.

31. Prices and the market include:

- (a) Organic tea and herbal tea sold above 10 per cent of the conventional one on the domestic market;
- (b) Cotton growers received 15 per cent more than conventional crop growers;
- (c) Organic Export fluctuated in line with supply and market type, but remained above the conventional;
- (d) Domestic herbal tea, instant coffee, fresh and dried vegetables, fresh fruits and fresh juice are now available in the domestic retail outlets such as supermarkets and local stores; and
- (e) There are more requests for organic products from packers and processors i.e. Chai Bora and TTB.

32. Institutions include:

- (a) TOAM, members increased from 55 to 85;
- (b) NOAF exists and led preparation of NOADP 1M. Partners interests are increasing;
- (c) Researchers are picking interest; and
- (d) Tancert is accredited by IFOAM and ISO 65 and together with other foreign certifiers is still providing services.

33. However, there are initiatives to facilitate the establishment of growers' associations, manage a quality system and own quality certificates. Emerging producers' groups targeting the domestic market are also exposed to both third party certification, PGS and EAOM. Furthermore, Tanzania Trade Centre and Board of External Trade invites TOAM and organic operators for trade fairs and exchange of market information.

34. Opportunities include:

- (a) Inclusion of organic operators in NES, policies and trade programmes i.e. trade fairs;
- (b) Existence of East Africa Organic Product Standards and market requirements;

(c) Growing demand for organic products; and

(d) Availability/stocking of approved organic inputs with increasing interest in research and training.

4. Rwandan Experience in Promoting Organic Production

35. Rwanda's economy is still young in terms of industrialization, foreign investor participation and commercial engagement with international markets. About 90 per cent of the population primarily relies on subsistence agriculture for livelihood. Agriculture contributes 46 per cent to GDP while industry and services contribute 20 per cent and 34 per cent, respectively. The country's main exports are Tea and Coffee. Other agricultural products such as pyrethrum and flowers have appeared on the country's list of exports. The limited industrial output available generates products for local consumption only. Locally-manufactured products include cement, beverages, soaps, shoes, plastic goods, garments and cigarettes.

36. The scenario in Rwanda is as follows

(a) Currently in Rwanda there are no formal organic shops;

(b) The prices are the same as those of conventional products; and

(c) However, Roam is about to start an organic shop in Kigali, Rwanda's capital city.

37. Roam has concluded an understanding with leading supermarkets in Rwanda (Nakumatt and Simba supermarkets) to include shelves for organic products of Rwanda.

38. Opportunities and challenges include:

(a) Government support exist but the cost of certification is high;

(b) Organic agricultural production is good but there is no specific programme to support;

(c) Formulation of organic agriculture policy is not well defined; but

(d) A large number of farmers are being trained in OA.

39. Markets and supporting institutions include:

(a) ROAM is the national umbrella organization for the organic movement in Rwanda;

(b) Rwandese Bureau of Standards (RBS) is the national standards setting and certification body;
and

(c) The private sector and a few NGOs are also taking a keen interest in OA.

5. Burundi's experience in promoting organic production

40. Burundi, a tiny, landlocked country, is classified as a central African country although it is actually in Eastern Africa. It straddles the crest of the Nile-Congo watershed – River Kagera, which drains into Lake Victoria. Its neighbours are United Republic of Tanzania, the Democratic Republic of the Congo and Rwanda. The hilly and mountainous country, which drops to a plateau and some plains to the east, covers an area of 27,830 square kilometers.

41. The scenario include:

- (a) Burundi stakeholders' preliminary contacts are IFOAM, EPOPA and AGROECO;
- (b) Burundi participated in EAO conference in Dar es Salaam in May 2007;
- (c) EAOPS has been adopted but not yet implemented;
- (d) Burundi Organic Agriculture Movement (NOAM) does not exist yet but is in preparation;
- (e) Very few fresh products are exported;
- (f) Government committed to setting up an organic agriculture policy;
- (g) NGOs and private stakeholders: ready to start a NOAM;
- (h) AGROECO has visited Burundi in (2007, Alastair Taylor) and held discussions with the main stakeholders (Minister of Agriculture, ISABU, BBS, Private exporters and potential producers, NGOs like CRS and INADES; and
- (i) Brainstorming on the agenda of launching a Burundi NOAM.

Observations of the above scenario

42. In general, it has been observed that food security is an issue of great and growing concern in many countries, and from the available literature, field excursions and direct contacts with stakeholders in Kenya, United Republic of Tanzania and Uganda and during the study the following are the main elements of organic agriculture farming in East Africa.

1. Organic agriculture and food security

43. Agriculture, by its inherent multifunctionality, influences and addresses the factors that contribute to food insecurity. Organic agriculture relies on five capital assets for success (natural, social, human,

physical and financial) and so contributes to and builds up stocks of these natural, social and economic resources over time thus often reducing many of the factors that lead to food insecurity.

2. Increase in food availability

44. Evidence from research and this study shows that in developing countries agricultural yields in organic systems do not fall, remaining stable when converting from systems that use relatively low amounts of synthetic inputs. Many of these systems were bypassed by the earlier “green revolution” as frequently found in Africa. Over time, yields increase as capital assets in systems improve, thus outperforming those in traditional systems and matching those in more conventional, input-intensive systems. Food availability increased in all cases centred on food production where data reported were examined in this study. Gibbon and Bolwig (2007) also found that organic conversion in tropical Africa is associated with yield increases rather than yield reductions.

45. Organic farming increases access to food at several levels. Firstly, increased quantity of food produced in every farm leads to household food security, resulting in all members of the household having access to enough food. Secondly, the production and selling of food surpluses at local markets increase the income of farmers and thus their purchasing power. Thirdly, fresh organic produce becomes available to more people in the wider community. Finally, organic farming enables new and different groups in a community to be involved in agricultural production and trade, even if previously excluded for financial or cultural reasons.

3. Benefits to the natural environment

46. The vast majority of the contacts made for this study showed improvements to the natural capital base - their local natural environment – with most of them reporting observed benefits to soil fertility, water supply, flood control and biodiversity. Organic farming leads to many improvements to the natural environment, including increased water retention in solids, improvements in the water table (with more drinking water in the dry season), reduced soil erosion combined with improved organic matter in solids, leading to better carbon sequestration, and increased agro-biodiversity. As a result solids are healthier, better able to hold water, more stable, better able to sustain plant growth and have a higher nutrient content. All this enables farmers to grow crops for longer periods, with higher yields and in marginal conditions. This can effectively reduce the food insecurity of a region.

4. Benefits to community, cooperation and partnerships

47. Organic agriculture leads to improvements in social capital, including more and stronger social organizations at the local level and to new rules and norms for managing collective natural resources and better connectedness to external policy institutions. Results from the cases in this study reveal that those involved, cited improvements to social capital as integral to their success. The formation of farmers’

groups and cooperatives and less formal community cooperation has lowered the costs of working, increased knowledge transfer amongst farmers, reduced the costs of organic certification and contributed to greater food security.

48. Strong networks and links with partners from government, non-governmental organizations (NGOs) and organic support organizations such as the Kenya Organic Agriculture Network (KOAN), the National Organic Agricultural Movement of Uganda (NOGAMU), the Tanzania Organic Agriculture Movement (TOAM) and the Export Promotion of Organic Products from Africa (EPOPA) programme are helping farmers to organize for organic certification, access export and domestic organic markets and gain greater knowledge of sustainable organic techniques, crops and markets.

5. Increase in education, skills and health

49. Organic farming leads to an increase in human capital, evident in all of the places visited as evidenced in this report. All have some element of education that increases the knowledge of organic farming methods and the skills of farmers. In many cases there have been direct improvements in the health of individuals and communities as a result of increased knowledge, increase in food yields and improved access to food. The ability of farmers to use their better understanding of the holistic nature of organic farming to adapt and change their farming systems when faced with new challenges, has resulted in these agricultural systems becoming more resilient to environmental and external stresses.

6. Improvements to infrastructure and markets

50. Organic farming can also lead to improvements in the infrastructure (communications and transport) through the need to access markets. Access to markets is an essential part of organic farming, particularly crucial for export and for farmers. NGOs and Governments can work together to help farmers to earn premium prices for their organic produce. Access to markets has increased not only for farmers selling their surplus in domestic markets, but also for farmers selling their certified organic produce in international markets.

7. Increase in farmers' and household incomes

51. Poverty is a major contributory factor to food insecurity, and organic farming has a positive impact on poverty in a variety of ways. Farmers benefit from: (a) cash savings, as organic farming precludes the need to purchase synthetic pesticides and fertilizers; (b) extra incomes gained by selling the surplus produce resulting from the change to organic farming; (c) premium prices for certified organic produce obtained primarily in Africa for export but also for domestic markets; and (d) added value to organic products through processing activities.

8. Objectives of the study

52. The general objective of the present study is to assess factors underlying the success of organic agriculture in East Africa and its foreign market access and to explore prospects for scaling up organic farming for the rest of Africa. In addition to the general objective described above, the specific objectives of the study are:

- (a) To assess the extent of increase in productivity, food availability, employment and income with organic agriculture in relation to modern agriculture;
- (b) To find the determinants of success, policies drawn up and any gaps that should be filled in promoting organic agriculture and foreign market access. Issues of harmonization of policies, standards and labelling are investigated. The level and degree of institutional support that has contributed to the success are covered;
- (c) To assess the potential for market access by organic agriculture and quantify the social and economic benefits in organic agriculture. They are also to investigate the commodity syndrome of secular deterioration of terms of trade in relation to organic agriculture;
- (d) To investigate and quantify the environmental benefits, including human health, in organic agriculture; and
- (e) To determine the lessons learnt and the extent to which organic agriculture in East Africa and its foreign market access is replicable in the rest of Africa.

9. Study approach and methodology

53. This study was carried out using the following methodologies:

54. Desktop work involving review of various government documents, including statistical abstracts, economic surveys, the Vision 2030 blue print, printed budget estimates and related trade policy documents. International statistical databanks, including that of WTO and UNCTAD, also provided useful statistical indicators. In addition, existing domestic laws and regulations in various service sectors were examined vis-à-vis restrictions on market access and national treatment.

55. Consultations and discussions were also carried out with relevant regulatory authorities and ministries in Kampala, Arusha and Nairobi to corroborate and complement reviewed literature.

56. The first objective of the study was to systematically establish how policies in Kenya, United Republic of Tanzania and Uganda on organic agriculture are responsive to national environmental protection as well

as to socio-economic and trade imperatives, especially trade improvement and poverty reduction. In particular, the individual country assessment was expected to involve key stakeholders in analyzing the implications of various organic agriculture policy options. A social, economic and environmental assessment of the benefits of organic agriculture in Kenya was conducted, specifically guided by the following objectives:

- (a) To assess the current practices and situation regarding organic agriculture in Kenya, including levels of production, policies and constraints;
- (b) To facilitate the development of a national organic agriculture policy and action plan;
- (c) To facilitate national stakeholder dialogue among all relevant parties and authorities;
- (d) To identify capacity building needs in the promotion of organic agriculture; and
- (e) To explore and facilitate the development of an EAC organic standard that is tailored to local ecological, social and economic conditions in order to facilitate export to major markets.

57. The main analytical tool used during the study was scenario analysis. This tool was used to explore the range of possible outcomes from alternative policy options on organic agriculture. The process was conducted in a participatory and country-driven manner through stakeholder consultations, field work and data analysis. The study report heavily relied upon both primary and secondary data, including published literature at each country level. This involved visiting key institutions to obtain relevant but unpublished work, which also presented an opportunity for limited discussions with stakeholders. Much of the data for Rwanda and Burundi were sourced from the proceedings of the first East African Regional Organic Conference held in Kampala, Uganda, in May 2009.

58. At the beginning of the study process, the specific social, economic and environmental (SEE) indicators to be applied in the study process were identified in order to measure the impact of organic agriculture in the three sectors particularly in Kenya which offered less costly implications for the study. The selected indicators are shown in table 1. Fieldwork in the study process involved an analysis of organic farmers and farmers' groups but this was limited to those involved in the production of macadamia nuts, herbs and spices. This was because it was felt that these two crops would offer the best results for analysis since both had a very high potential for addressing the priority policy concerns. Secondly, since the two crops were already being grown by small-scale farmers, these would have the requisite experience in conversion as well as the production and market-related issues.

Table 1: A summary of the SEE indicators in the Kenya context

Sector	Indicators
Social	Number of farmers adopting organic agriculture
Number of organic agriculture-related employment opportunities	
Improved living standards	
Level of food and nutrition security	
Reduction in rural-urban migration	
Improved health standards	
Reduction in agrochemical-related diseases	
Economic	Increased income at the household level
Increase in investments e.g. number of new businesses	
Increase in household income	
Percentage increase in volume and value of exports	
Farm gate prices	
Number of certified organic farmers and traders	
Increased revenue	
Environment	Increase in farm-based biodiversity
	Number of trees and diversity of species on the farm
	Improved soil fertility
	Improved agricultural yields
	Percentage of reduction in the use of chemicals
	Amount of land under organic production
	Reduction in the application of agrochemicals

Source: The Author

Note: The SEE indicators were applied in a survey conducted among the stakeholders where a questionnaire was administered to key informants and focus groups to determine what they considered as the key challenges facing organic agriculture in Kenya.

II. Findings and In-depth Assessment/Analysis

59. According to Kimemia and Oyare (2006), each of the three East African countries has had quite a different history since independence, which has ultimately influenced the development of their organic agriculture sectors. In Kenya, colonial land occupation was common, especially in areas of high productivity where large-scale farms were developed with a focus on high-input agriculture. As a result, many of these inputs were introduced to surrounding smallholder producers. This was also true in many parts of United Republic of Tanzania. However, during the country's socialist period, there was a strong government promotion of cooperative societies as a means of supporting farmers and many chemical inputs were introduced directly to smallholder farmers. In Uganda, colonial land occupation was never prolific and farm size therefore remained small, with smallholder farmers as the backbone of agricultural production. These past scenarios are still largely reflected in the East African organic agriculture sector today. In Kenya, a few large commercial farms have led the way in export-oriented organic production. In United Republic of Tanzania, most organic produce comes from smallholder farmers organized in strong cooperative unions, and in Uganda organic production is dominated by smallholder farmers organized through private companies.

60. From the assessment, it was found that certified and non-certified organic farming in East Africa has a development potential in the region and can contribute to better livelihoods, especially for the poor. This potential is based on broadening the options on the use of local resources, contributing to improved sustainability in terms of production and food security. The export of organic products from East Africa is also a key source of foreign exchange. It also contributes to economic savings on agrochemical imports. However, the study noted that the full potential of organic farming in the country has yet to be achieved due to a range of challenges that tend to weaken organic farmers. Thus, if the full livelihood potential of organic farming is to be unlocked, then a suitable package of policy options is needed to alter the prevailing rules of the game as they determine interactions between actors within the organic sector.

61. The development of organic agriculture in East Africa still has many bottlenecks stemming from inadequate agricultural policies and from production and marketing. A key drawback for the sector in Kenya is, for example, marketing, as most importers are looking for organically certified produce. The organic certification is very expensive for smallholders. It is tedious with a lot of paperwork and farmer training will require financial support. The study identified the main problems faced by the small organic producers in Kenya as threefold, namely: financing the shift to organic production; adoption of organic methods of production; and marketing of organic products.

62. The study also established that small farmers have difficulty gaining access to formal credit for organic agriculture, since they do not have the requisite collateral to obtain credit and also for the fact

that financial institutions do not recognize the differences between organic and conventional agriculture. The study further established that farmers will be required to put in huge investments when shifting to organic production. The transitional period was identified as the most difficult one for organic producers in terms of financial needs.

Critical Issues in Organic Agriculture Farming in East Africa

1. Standards and Regulations

63. According to UNEP-UNCTAD (2006), East Africa has previously relied heavily on external standards for certification and regulation of organic production and exports. Initially, all certified organic production was mostly certified either according to the EU regulation 2092/9, the US National Organic Programme (NOP), or the organic standards of Japan Agriculture Standards (JAS). The direct use of these standards in East Africa has been very problematic due to stringent requirements. It is therefore quite natural that East African stakeholders have been looking for an organic standard that is better adapted to their situation. By 2005, there were several public or private organic standards in East Africa. These included: one private sector standard by Go-Cart and NOGAMU in Uganda; one working draft from the TBS and a private standard by Tanker in United Republic of Tanzania; and two private sector standards by KIOF and KOAN in Kenya UNEP-UNCTAD (2006).

64. The Kenya Bureau of Standards (KeBS) eventually entered the arena and formed a “Technical Committee on Organic Foods” whose official task was to develop a set of organic standards for Kenya. KeBS is a statutory governmental organization that develops national standards in all sectors (Kimemia and Oyare, 2006). The KeBS organic standards and guidelines (DKS 1928:2004) were developed in a participatory manner and eventually gazetted in January 2006. It is expected that application of national standards for organic agriculture will open the door for the registration and accreditation of other private standards in order for them to engage in local certification (UNEP-UNCTAD, 2006).

65. In recent years, the three East African countries have come up with one organic standard for East African countries (OSEA). The standard was developed through a public-private partnership of East African businesses, government bureaus, organic movements and certification bodies, in cooperation with UNCTAD, UNEP and IFOAM as well as GROLINK and EPOPA. In this way, the spirit of cooperation through the organic sub-sector has found its way in the region. It is expected that the standard, once finalized, will boost organic trade and market development in the region, define a common vision of organic agriculture in East Africa, raise awareness about organic produce among farmers and consumers, facilitate training and certification, and create a unified negotiating position that should help East African organic farmers win access to export markets.

2. Certification

66. Organic products have no outright distinction from conventional products, especially at the market. Therefore, organic products require strict inspection right from when the product is being produced and processed. Organic marketing agents have therefore established an inspection system to which the organic farmers wishing to market their produce as organic must apply for inspectors to inspect their production systems, write a report and have another independent third party give a certificate of organic production after studying the inspection report. This is a guarantee process for consumers to know the product is really organic. The organic product must be accompanied by the certificate of organic production all the time or be labeled organic, with the label of the certifier, UNEP-UNCTAD (2006).

67. There are three reasons why certification and mandatory regulation are necessary in organic agriculture. The first is to create a respectable and credible image for the sector. The second, is for the certification to serve as an instrument for development of the local market and, finally, to serve as a tool for assisting organic producers in accessing export markets through equivalence agreements. Organic produce generally sells at premium prices in overseas markets and wins higher profits for farmers. There are now over 70 countries that have home-based organic certification systems. Asia has 117 certification bodies, 104 of these based in China, India and Japan UNEP-UNCTAD (2006). Most Latin American countries have their own domestic certification bodies. However, organic certification services have not yet been fully established in many other parts of the world (Kimemia and Oyare, 2006). In Africa, organic certification is mainly organized under participatory guarantee systems whereby an Internal Control System (ICS) operated by a farmers' group is linked to an exporter who holds the organic certificate. Currently, East Africa leads the continent in that kind of certification.

68. The cost of certification remains one of the most contentious issues in organic agriculture for both small-scale farmers and commercial operators. The solution to this problem will be the establishment of government institutions with mechanisms for the provision of affordable inspection and certification services. In this endeavour, the Conservation Agriculture Trust of Kenya (CATOK), a non-profit trust duly registered under the Trustship Act of Kenya, was formed with the aim of assisting farmers and agricultural exporters in accessing the services of internationally recognized organic inspectors and certification bodies within the recognition of FAO, IFOAM and the EU.

69. In 1997 ABLH, in cooperation with Soil Association, began providing certification services. However, after three years the cooperation came to an end. In 2001, ABLH approached the UK-based Organic Food Federation (OFF) to continue with the project, which they accepted, but the work never took off (Kimemia and Oyare 2006). Through an initiative of the ICIPE, AfriCert Ltd. was formed in 2003 to carry out certification services. AfriCert has achieved ISO 65 accreditation, which is one step towards getting international recognition for its organic certification. Some of the other certification

organizations or agencies still active in the Kenyan market include Soil Association (SA-UK) and Ecocert (France).

70. One of the key limitations of certification of organic production in East Africa is the cost. Local certifiers are charging KShs 35,000 a year (approximately US\$ 470) for each producer, which is quite high, especially for the small-scale producers. The other challenge is the long time taken for a production unit to be declared organic with the conversion from chemical to organic production taking two-three years.

3. Market

71. Market opportunities for the products of organic agriculture can be classified into both international and domestic categories. Both markets are growing and are expected to continue to grow in the foreseeable future. In 2005 the global market alone was estimated at \$US30-32 billion, an increase from \$US 27 billion in 2004 (UNEP-UNCTAD, 2006).

(a) International market

72. Studies of the global organic market have shown that the UK market, which is the second largest within the EU, is also one of the most dominant for East Africa (UNEP-UNCTAD, 2006). The Netherlands with a medium size EU market is also a very important vehicle for East Africa. The US market which is the biggest in the world, has a low impact in East Africa due to long distance and strong competition from Latin America. Canada with the sixth largest world market has a strong interest in direct imports from developing countries.

73. According to UNEP-UNCTAD (2006) and Bett and Freyer (2007), export of organic products from Kenya has been taking place for the last two decades. This mainly consists of vegetables and fruits produced by large-scale farms. In 2005, some 2,200 - 2,400 metric tons of organic produce worth over \$US 4.6 million was produced and exported from Kenya (UNEP-UNCTAD, 2006). Over the years, exports have diversified beyond vegetables and fruits to include other products such as essential oils, dried herbs and spices as well as products for the cosmetic and pharmaceutical industries, which are more often produced by smallholders.

(b) Domestic market

74. Market studies on organic produce have showed that the African market has been quite small in most parts of the continent. This is due to a number of factors such as lack of awareness due to poor marketing, low-income levels and lack of local organic standards and certification infrastructure (Kalibwani, 2004, cited in Bett and Freyer, 2007). UNEP-UNCTAD (2006) established that even with the many initiatives in Kenya to develop organic farming only a few have focused on developing

and expanding the domestic markets. Kenya has almost 20 outlets where consumers can buy organic products. The City of Nairobi and its environs alone has up to 13 outlets and the number is growing. Other upcoming markets are scattered in the main towns in Kenya. Over 50 herbal clinics scattered throughout the country are also promoting healthy eating through organic diets. Table 4 provides a summary of some of the key outlets for organic produce in Kenya and their products. According to the table most of the outlets are currently in the upper class zones of urban areas such as Nairobi Downtown, West lands, Muthaiga and Gigiri where the people are aware and can afford the organic products. Most of these outlets are also importing some of the products because of inadequate local supply or lack of the required product-specific certification services.

Table 2: Summary of some of the key outlets and organic products in Kenya

Outlet	Location	Organic products
Uchumi Supermarkets	Key cities, including Nairobi, Mombasa and Kisumu	Fruits and vegetables, honey, herbal pharmaceuticals
Nakumatt Supermarkets	Key cities, including Nairobi, Mombasa and Kisumu	Fruits and vegetables, honey, herbal pharmaceuticals
Healthy U at Sarit Centre	Nairobi	Porridge oat, honey and sunflower.
Zucchini Green Grocers at ABC Place	West lands, Nairobi	Organic salad vegetable (lettuce) and other greens
Green Dreams Organic Shop	Gigiri, Nairobi	
Organic Green Grocers based at the Mobil Plaza	Muthaiga, Nairobi	Salad vegetable and other conventional green groceries
Green Corner	Highridge and Yaya Centre, Nairobi	Fresh fruits and vegetables, dairy, eggs, frozen meats, dried and canned items, spices.
Juja Organic Market	Juja Town	Fresh fruits, dried fruits, vegetables, herbs, spices, tubers, squash, and vegetables, nuts, porridge powders, Chapati flour, herbal teas, body care products, honey, arrowroots, oranges, amaranth grains, garlic, ginger and sweet potatoes.
Biosafe Technologies	Juja Town	Mushroom
Bridges Organic Health Restaurant	Nairobi Downtown	Fresh vegetable and fruit juice cocktails, dietary fiber, vitamins, minerals, oils, vegetable soups, and traditional Kenyan dishes made with whole grain and organic ingredients.

Source: The Author

75. The most common types of organic produce in the local market include: indigenous vegetables, especially “Sukuma wiki” (kales) and cabbages; French beans, runner beans, mange tout, fruits and salads; tea including hibiscus tea, jam, macadamia nuts and oils. However, the best trade opportunities concern high-value and value-added products, including organic honey, coffee, nuts and oilseeds, fresh vegetables, herbs and spices, essential and pressed oils, indigenous plant materials and flavourings such as vanilla, fragrance, cosmetics and body-care products and nutraceutical materials.

4. Social impacts

76. These will include:

- (a) Production of cheap and healthy food - According to Kimemia and Oyare (2006) a study of Mirichi Organic Farmers’ Association in Kenya established among other things that organic farming is a cheap option towards food security, as farmers do not need to buy expensive synthetic inputs. They rely on local resources like compost that is produced on the farm. Organic farming also yields healthy foods and is both ecologically friendly and resilient. An assessment of some farms under the association showed that the maize crops were able to withstand moisture stress more than those of conventional farmers;
- (b) Enhanced family involvement in agriculture - According to Kimemia and Oyare (2006), the study of Mirichi Organic Farmers’ Association also showed that organic farming quite often involves the entire family. Children are more involved in raising small stock like rabbits and chicken while women work more on kitchen gardens. Other activities like horticulture are done in togetherness. Kimemia and Oyare (2006) concluded that organic agriculture would not only ensure food security but also promote participation by all family members in production;
- (c) Gender empowerment - Organic agriculture enables different social groups that may not have previously been involved in agricultural trade to become more involved. This is particularly true for Kenyan women who, in many cases, do not have access to the inputs or credit required for cash crop farming. Organic farming is therefore a source of empowerment;
- (d) Employment creation - Unemployment is a serious problem in Kenya with most job seekers migrating to the urban areas for formal employment. This problem of rural-urban migration, including the increased upsurge of urban slums, can be reduced by the organic agriculture sector through the creation of rural occupational opportunities;
- (e) Reliance on local inputs – Organic farmers in Kenya have realized the value of the inputs they readily have around them in form of manure from their animals. This is very often wasted in conventional systems. Waste plant matter from roadsides and the field boundaries is used as mulch or to make compost. At the same time, local varieties of crops, many of which are ideally adapted

to local conditions but which have been half-forgotten in the rush to adopt modern varieties are used in organic agriculture; and

- (f) Application of indigenous knowledge - An important local input in organic farming is the people's own knowledge. Local people are experts on the plants, animals, soils and ecosystems they are surrounded by and on which they depend. Instead of condemning this as superstitious nonsense, organic agriculture draws on this wealth of knowledge, and encourages local people to use it, test it, and promote what works. The widespread use of indigenous vegetables like amaranthus in Kenya is a good example of the application of local knowledge for the production of traditional vegetables.

5. Economic impacts

77. The economic impacts will include:

- (a) Premium price: Engagement with the lucrative and rapidly expanding organic foods market in Kenya, especially around the city of Nairobi, is a key indicator of the potential benefits of the organic sector. However, the economic significance of organic farming, goes well beyond the premium market into numerous additional non-monetary returns accruing to the producers by virtue of their being organic;
- (b) Reduced financial risk, increased profit margins and access to new markets: Organic farming often involves substituting purchased inputs with ones that are locally available, thereby increasing the profit margin of the farmer. Organic farming also reduces financial risk by avoiding the need to take high-interest loans for purchase of agro-inputs. For many farmers, switching to organic farming often also implies opening up access to new markets that are not often readily accessible; and
- (c) Knock-on effect on conventional prices: It is the 'gross earnings' rather than just the 'margin of the premium' that represent the true benefit of organic farming. The premium offered on organic products, however, has a knock-on effect on the prices offered in local conventional markets by creating competition as the local non-organic traders seek to maintain their supply base. Thus, the benefits of organic farming become more diffuse and widespread.

6. Environmental impacts

78. These will include:

- (a) Agro-biodiversity conservation: Maintaining agricultural biodiversity is vital in ensuring long-term food security. During field visits for the study it was observed that organic farms exhibited

great biodiversity, with more trees, a wider variety of crops, use of local varieties of seed and many natural predators, controlling pests and helping to prevent disease;

- (b) Improvement of soil fertility - Conventional farming methods rely on artificial fertilizers to maintain fertility. Organic agriculture uses a range of techniques to maintain and improve soil fertility including, organic fertilizers, mulching, cover crops, agro forestry, crop rotation and multiple cropping. Organic farming therefore helps conserve and improve the farmer's most precious resource, the topsoil. Organic farmers in Kenya use trees, shrubs and leguminous plants to stabilize and feed the soil. They use dung and compost to provide nutrients, and terracing or check-dams to prevent erosion and conserve groundwater;
- (c) Better pest control - Conventional farming uses chemical pesticides to control pests. These are expensive and often result in the emergence of new and resistance pests or the resurgence of the very pests they are trying to control. Organic agriculture instead uses integrated pest management approaches involving a combination of natural enemies, crop rotations and mixtures and biological control. These methods cost less than the pesticides, and do not result in pest resurgence;
- (d) Controlling erosion - Sustainable agriculture includes a palette of techniques to conserve precious topsoil and prevent it from being washed or blown away. These include using contour bunds, contour planting, check dams, gully plugs, and maintaining cover crops or mulch to protect the soil from heavy rainfall. In Kenya some farmers use the zero-tillage approach of cultivation, which ensures sufficient soil cover in the farms especially at the onset of the long rains, which are predominantly torrential and extremely erosive; and
- (e) Water conservation - Water is scarce in Kenya and in most of East Africa and as a dry land country drought is never far away. Organic agriculture conserves water in the soil through a variety of methods. Fortunately, many of these are the same as those used to control soil erosion. Because it conserves water and uses a variety of crops instead of just one, organic agriculture is less risky than conventional mono-cropping and is more likely to produce food for the farm family even during a drought.

7. Challenges and emerging opportunities.

79. East African Governments did not recognize the value of organic agriculture until recently. Consequently, marginal efforts were made to promote the sector through the region's agriculture policies. Instead the Governments appear to embrace biotechnology as the answer to perennial food shortages. The development of organic agriculture in Kenya, for example, therefore still has many bottlenecks due to inadequate agricultural policies, production and marketing. A key drawback for the sector in Uganda is marketing because most importers want organically certified produce. The organic certification is very

expensive for smallholders. It is tedious with a lot of paperwork and farmer training will require financial support. A SWOT analysis on the organic sector was recently undertaken by Bett and Freyer (2007) and highlighted the main challenges and opportunities in the sector as summarized in table 3.

Table 3: A summary of the challenges and opportunities of organic agriculture in Kenya

Development issue in organic agriculture	Challenges	Opportunities
Policy	<ul style="list-style-type: none"> • Overlooks equity issues largely neglects the small farmer in prioritizing agricultural research and setting the research and development agenda. • Policies focus on the development and commercialization of cash crops for export. 	<ul style="list-style-type: none"> • >85 per cent of Kenyan farmers are small scale. • Presence of a large number of NGOs and CBOs promoting organic farming.
Certification and marketing	<ul style="list-style-type: none"> • Importers wish to buy organically certified produce • High cost of certification coupled with too much paper work which local farmers are not familiar with 	<ul style="list-style-type: none"> • Apart from the export market the local market for organic produce is picking up.

Source: The Author

8. Mainstreaming organic agriculture in policy, planning and development - A problem analysis

80. From the analysis of information during the study process, it was possible to distinguish between low-input, traditional (near organic) farming practices and high-input, modern farming sectors in agriculture. The study focused more on low-input, traditional farming, which is mostly practiced by smallholders. Medium- and large-scale production is predominantly modern and is characterized by conversion from high-input and modern farming to organic farming, mainly for export markets. This distinction is important since the kind of challenges faced and the intervention measures to be taken in the two sectors, could be quite different. However, the latter appears more capable of moving forward without great support than the former.

9. Financing the shift to organic production

81. Small farmers in Kenya, for example, are facing major problems in terms of introducing new crops and technologies because they frequently require credit to cover investments, such as irrigation, and off-farm costs related, inter alia, to the processing and packing of organic produce. Evidence from

the study shows that the most important period in the shift to organic production is the transitional period, especially; the first three years after farmers start to produce organically. During that period, most farmers produce organically before certification. This stage therefore is associated with critical certification costs together with additional costs for production investments, including equipment and training. These transitional period costs can be viewed as an investment that will eventually yield returns after the transitional period and can be distinguished in terms of both on-farm and off-farm costs.

(a) On-farm costs

82. Shifting to certified organic agriculture requires a wide range of production costs. The production costs include control of weeds and pests using labour-intensive technology. Apart from production costs the shift is liable for certification costs. Organic production will therefore incur lower costs in chemical inputs and higher costs in labour relative to conventional production. This mostly leads to higher production costs per hectare in organic agriculture than the conventionally grown crops. The change in production costs mainly relate to the labour costs in organic because producers have to introduce several new tasks, such as soil-conservation and more careful management practices. Some of these measures are required in order to obtain products of higher quality.

83. Certification is one of the most important cost-items faced by organic farmers, especially during the transitional period. This is because farmers have most often to meet the certification fee in order to gain market access. Normally, the certification cost varies depending on the certification firm. In most cases, the costs include payment for inspection, which is calculated on the basis of the daily fees, travel and living expenses of the inspectors and the certification fees. The costs vary depending on whether or not the inspectors are based in the country, but are an average of US\$ 500 a day for a UK inspector. Table 4 gives a summary of certification fees for Producers in Kenya.

(b) Off-farm costs

84. The study established that one of the most important off-farm costs incurred by small farmers who convert to organic production concerns the establishment of a good monitoring system. Such a system is required by the regulation agencies as part of the certification process. The establishment of a monitoring system can involve substantial costs in terms of setting up the infrastructure. This may require the acquisition of expensive physical equipment like ICT as well as engagement of specialized human resources. In addition, a successful monitoring system is often accompanied by intensive training and awareness creation. Such training activities impose extra costs. The marketing of most of the organic products also requires facilities where such products can be sorted, classified, partially processed and packaged before being sent to the market. In most cases, individual small-scale farmers are unable to produce sufficient output to keep the facilities working at full capacity. Such facilities also have to be certified by certification firms.

Table 4: A summary of certification fees for producers in Kenya

	Annual/Application fee (US\$)	Inspection fee (US\$)	Other expenses
Holdings less than 50 ha	620	500 a day for UK inspector Local fee rate for a local inspector	Transport, travel time and subsistence allowance
1-100 members (e.g. growers, collectors)	2300	500 a day for UK inspector	Transport, travel time, and subsistence allowance
Each additional band of 100 members unto 1000 members	100	Local fee rate for a local inspector	

Source: Author's compilation

10. Adoption of organic production methods

85. The successful adoption of organic production methods will depend on a number of important considerations, including technology options; access to extension services; and efficiency of the monitoring system. Many advocates of organic agriculture have emphasized that the values behind the concern over the environment are key in explaining the adoption of organic methods of production. In contrast, analysts relying on a more conventional micro economic framework argue that farmers will adopt organic technologies if the returns are higher than those obtained using conventional technologies. Interviews with stakeholders during the study process revealed that the attitudes of farmers towards organic production were linked to the expectation of higher returns which is the main driving force for small farmers to shift to organic agriculture.

86. One of the factors that may influence the adoption of new organic technologies by small farmers relates to the complexity of such technologies. If new technologies are difficult to adopt, farmers may resist applying them and may continue using the ones they already know. One of the potential problems that small farmers face in producing organically is the limited supply of technologies that are effective in solving technical problems like the control of weeds, pests and diseases and that are appropriate in terms of the circumstances of the particular farmers, such as their access to credit.

87. The fact that small farmers find organic technologies relatively easy does not mean that they do not face some major technology problems. The most significant concern is the need to obtain a quality product. Exporters and marketing firms have found that buyers of organic products have become

increasingly more demanding in terms of quality. The study established that small organic farmers often find it difficult to introduce new technologies because they do not have access to quality technical assistance. Most of them have limited or no capacity to pay for technical assistance and have to rely on public extension services that are often under-funded and of low quality.

88. One of the major issues for small-scale organic producers, especially within associations, is the need to ensure that all members properly apply organic methods of production. Since visits to every association member would make the certification process too expensive, the international norms that regulate the certification of organic products allow certification firms to carry out inspections among only a sample of farmers (usually about 20 per cent), on condition that the association sets up an “internal control system” or ICS. This system is intended to control the compliance of all farmers with the proper methods of applying organic technologies. It involves unscheduled visits in addition to the annual visits of the certification agencies and the collection of detailed information about the association and its members. The capacity of organic produce associations in Kenya to organize efficient and reliable ICS is likely to be the key to success as organic producers.

11. Marketing of organic products

89. The study established that small-scale farmers often face great difficulty in selling their products because they lack marketing skills and the right connections. Many of them depend on middlemen who pay them lower prices. In most cases the buyers of organic products in both international and domestic markets do not want to deal with a large number of individual small-scale farmers, an alternative that would be too costly and time consuming. Thus, they prefer to negotiate with an agent who has organized the small farmers and coordinated the production and deliveries of a reasonable number of producers. Thus, small farmers are in a relatively weak position in negotiations with firms because they have limited information and poor organization. Small producers selling to marketing firms end up receiving relatively low prices and accepting contract terms that are not advantageous to them. Consultations with stakeholders during the study indicated that all the market challenges can be easily removed using the right policy intervention.

Best practice policy options for organic agriculture in East Africa

90. The study reviewed best practices in the organic agriculture sector and concluded that an organic agriculture policy package for East Africa should inter alia recognize and consider the following:

- (a) Recognition of the potential contribution of organic farming to agricultural policy reform and rural development by: giving specific consideration to organic farming at all levels of policy formulation; removing production constraints from organic farming; investigating the potential

for tax credits and other means to support organic farming via the following tax-related actions: pesticides tax and organic investment tax credits, reduced or zero VAT on organic foods; Building as much consensus as possible on the long-term objectives of organic farming;

- (b) Strengthening the performance of organic farming with respect to environmental, social and other public goods by: ensuring the compatibility of organic farming and other measures, including strengthening the links with other, more targeted agro-environment measures and integrating organic farming with general agro-environment schemes; promoting organic farming as a preferred management option in regions of high nature value; encouraging targeted research and information dissemination to improve the environmental and social impacts of organic farming; developing organic regulations and production standards to include specific environmental and social provisions;
- (c) Empowering the consumer to actively support the changing direction of agricultural policy and, in particular, the contribution of organic farming, by informing consumers how to recognize organic products, what practices and technologies are acceptable in organic farming and what benefits can be expected; involving consumers in standards setting and dialogue on the development of organic farming; improving understanding of consumer characteristics, needs and motives; developing a unified approach to a widely recognized common logo; increasing market transparency, including improved communication and avoiding confusion with intermediate and pseudo-organic standards; supporting the development of domestic (local, regional) markets in order to reduce dependence on exports; improving access of low-income groups to organic products, including through public procurement for schools and hospitals; strengthening consumer-producer links; recognizing and working with gender issues;
- (d) Supporting organic producers directly and indirectly, by paying financial remuneration for the production of public goods within the framework of agro-environmental and rural development programmes: supporting organic farming based on its potential to achieve many environmental and other objectives as well as its financial advantage over other approaches such as integrated crop management and its actual environmental benefits; supporting advisory and extension services for organic producers, particularly during the conversion period when it constitutes a significant learning process; and enhancing technical, financial and public good performance through targeted research and information dissemination. As the level of funding for research in organic farming does not yet reflect its future role, it should not be restricted to levels of organic land as part of a forward-looking strategy; encouraging risk sharing with other components of the supply chain that do not require the full risk of conversion and continued organic production to be borne by the producer; and assisting the producer in obtaining a fair price;
- (e) Strengthening and developing regulatory systems especially by: developing a national organic

standard which should include non-food agricultural products such as fibers, wood, flowers and personal-care products; increasing stakeholder involvement in setting standards and developing regulations; improving links with researchers to provide a stronger scientific basis for standards; developing effective risk-based inspection, auditing and traceability systems through the whole supply chain in order to minimize the possibility of fraud and food safety risks; examining the role of private sector accreditation systems in achieving this objective, with the possibility of the fruitful involvement of non-government actors; and increasing regional and international cooperation in standards development, inspection and control;

- (f) Developing organic supply chains (covering inputs, production, processing, trade, distribution, retailing and catering), by: developing comprehensive information on the sector with respect to standards, policies, production, trade and consumption statistics and market intelligence; improving information flows through education, technology development, research and extension; developing standards with respect to quality, safety, processing and criteria for the use of additives; establishing guidelines for sustainable and fair trade; increasing confidence and trust through supply chain transparency, chain agreements, risk sharing and effective control systems; providing financial support for the development of marketing and processing initiatives; addressing barriers to small-scale/on-farm processing, including reducing the negative impacts of regulations; targeting resources at actors with a long-term involvement in and commitment to the sector, for sector development; supporting human capacity- building and infrastructure development initiatives;
- (g) Developing specific national policy programmes on organic agriculture. Organic farming has been identified as a good option for overcoming some problems faced by conventional agriculture. East Africa should not repeat the environmental mistakes caused by high-input agriculture and could rely instead on improving the environmental and economic performance of dominant low-input agriculture, “greening” the remaining high-input agriculture and stimulating a wider spread of organic agriculture by: strengthening environmental regulations related to agriculture, including enforcement and control; reforming current subsidy, tax and investment aids to shift support towards organic farming and away from adverse measures; introducing or improving existing organic-farming-support measures, including ensuring appropriate budgetary reservations; supporting institutional and human capacity- building by inter alia increasing research and education funding, developing indigenous research facilities, and setting up extension services; supporting stakeholder cooperation, platform building and strengthening of organic agriculture networks, including existing international networks dealing with organic agriculture; encouraging the development of domestic (local and regional) markets; developing new initiatives to meet the specific technical, financial and other needs of small producers, including the development of producers’ group initiatives; and

(h) Adopting an integrated action plan which takes the dynamic nature of the organic sector into account, balances supply-push and demand-pull measures and reflects the specific circumstances of individual countries or regions. Such an action plan should include: goals (vision) for the development of the organic sector, detailed analyses of the situation of organic farming in the specific regions and identification of key barriers to development; evaluation of and learning from experiences with similar policies in other regions; stakeholder participation in development and implementation of the plans through representative bodies/partnership structures with appropriate administrative support; realistic funding of the development process and subsequent actions; mechanisms to permit periodic evaluations and revisions; support for the development of such action plans.

1. Innovative financing of organic production

91. The study established that small farmers have difficulty gaining access to formal credit since they do not have the requisite collateral and also for the fact that financial institutions do not recognize the differences between organic and conventional agriculture. Furthermore, the IAP process established that farmers will be required to provide substantial investments when shifting to organic production. The transitional period was identified as the most difficult for organic producers in terms of financial needs.

2. Establishment of social capital incentives

92. Organic agriculture policy should be designed to facilitate stronger organic farmers' associations to enable them to play a major role in the marketing of organic produce and the dissemination of organic technologies among small-scale producers. Such associations can help monitor their members' compliance with organic methods of production and can provide solid support during the transition period for the certification of production, including granting temporary and partial subsidies to cover certification costs. Their support should also include training for members and they can be used to gain access to extension services.

3. Promoting the marketing of organic production

93. The marketing of organic products through farmers' associations having direct contacts with buyers has helped small farmers to obtain better prices in Kenya. Long-term contracts have been better because they have provided a safe market and more stable prices. The study found that small-scale farmers have a relatively weak capacity to negotiate with marketing firms because they have limited information and are generally poorly organized. Consequently, they end up receiving relatively low prices and accepting inconvenient contract terms. In addition to this, out grower schemes with small-scale farmers may have severe limitations caused by high cost of monitoring contracts and difficulties in appropriating benefits of investment in the schemes due to the diversion of output to other buyers capable of paying prices higher

than the ones agreed in the contracts. Development of an organic agriculture policy should therefore identify mechanisms for protecting small-scale producers.

94. The domestic market for organic products in Kenya shows good growth prospects and is likely to be an attractive alternative for small-scale farmers as the products are easier and usually less demanding in terms of quality. Thus, awareness needs to be created about the domestic market, especially as these products can be sold to supermarkets and food chains. Also, supply chains need to be established and strengthened probably through private-public initiatives. Organic produce could also be given support in public procurement with the Government, as policymaker, being the number one buyer of organic produce. The Public Procurement Act could be used for this purpose.

4. Strengthening the role of organic agriculture NGOs

95. NGOs have been most influential in the emergence of organic agriculture, usually by promoting alternative models of production among indigenous farmers. They have also played a major role in supporting small farmers' associations to adopt organic methods of production and in selling organic products. NGOs with know-how and experience in organic production should be considered preferential government partners for future organic agriculture projects, and thus targeted for financing.

96. NGOs should be targeted and strengthened to help small organic producers through:

- (a) Promotion of technologies based on local inputs which enables them to avoid the purchase of chemical inputs, thereby favouring an eventual shift to organic production;
- (b) Promotion of the establishment and strengthening of small farmers' associations and organizations which have become key in the marketing of organic products, and through the establishment of effective monitoring systems;
- (c) Establishment of contacts with buyers in both the domestic and foreign markets. In the domestic market, NGOs should be facilitated to help farmers negotiate with supermarket chains and open local fairs specializing in organic products. In foreign markets, some NGOs could help farmers enter the fair trade market, which is increasingly demanding organic products; and
- (d) Action as a mediator between small-scale farmers' groups and government agencies. There are several model NGOs and CBOs in Kenya from which good lessons can be learned. A good example is the SACDEP initiative in Thika (box 1). The other case is the MOOF initiative in Mount Kenya area (box 2).

5. Research, information, education and public awareness

97. Although many resource-conserving organic production technologies and practices are currently being used in Kenya, the total number of farmers using them is still relatively small. Lack of knowledge and poor public awareness of organic and sustainable agricultural techniques often limits the spread of organic production. Also, lack of knowledge and information about organic agriculture among consumers, government bureaucrats and other influential actors in educational and research institutions leads to poor appreciation of the potential for organic agriculture. During the transition period, farmers must experiment more, and so incur the costs of making mistakes as well as of acquiring new knowledge and information. Targeted education, information and public awareness campaigns should be launched at all levels. Information on marketing opportunities should be provided to producers via affordable and accessible communication media.

Box 3: SACDEP, Thika, Kenya

SACDEP Kenya is an indigenous NGO that has worked for 13 years with over 30,000 smallholder farmers. Based in Thika, in Central Kenya, SACDEP facilitates training programmes for farmers in sustainable agriculture and community development with focus on production, processing, agro-marketing, savings and credit schemes and is currently working with 4,500 smallholder farmers in Eastern and Central provinces of Kenya. SACDEP mainly works on a weekly basis with farmers in organized community groups of about 30 families. SACDEP operates under the four principles of sustainable agriculture: (a) Ecological feasibility, (b) Environmentally-friendly production, (c) Social justness and (d) Cultural acceptability. Topics covered in the SACDEP training programme include natural soil fertility management; integrated environmentally-friendly weeding, pest control and disease protection; on-farm soil and water conservation techniques and farm-level seed conservation. Farmers' groups are trained by SACDEP for three-four years during which time productivity has reportedly increased by 50 per cent giving the farmers food security and surplus produce to sell. SACDEP also facilitates the development of smallholder farmers organizations (SFOs) that together address common issues such as value-adding for produce, marketing, savings and credit. SFOs at this development stage also agree on sustainable and organic norms for use by all the producers in the group. Incomes have increased by up to 40 per cent as a result, enabling farmers to meet basic needs such as paying school fees and medical expenses.

Source: Hine and Pretty (2006)

Box 4: Mount Kenya Organic Farm (MOOF)

Mount Kenya Organic Farm (MOOF) is a registered NGO established in 1999 with the official task of facilitating smallholder producers' groups' production and marketing of high-value certified organic products. The primary objective is to improve and raise the living standards of Kenya's smallholder farmers by making them to have an assured food security for themselves and their communities, to tackle poverty and to empower the local community through the production of special high-value organic crops for the local and export markets. Its main goal is to tackle poverty among smallholder farmers through organic trade.

MOOF has links with the Soil Science Department of Nairobi University, the International Centre for Insect Physiology and Entomology-ICIPE, International tree Foundation-ITF, the University of Essex, the University of Coventry, and other groups promoting sustainable agriculture overseas and in Kenya such as Kenya Organic Oil Farmers Organization (KOOF).

The MOOF farm demonstration garden consists of 0.25 acres and is made up of a number of raised beds growing 14 vegetable types. During the 2000-2002 drought, vegetables in the demonstration garden fared well compared to others in surrounding gardens. Pest control included the use of natural predators and plant extracts, neem and garlic sprays.

MOOF has developed a local network of Self-Help smallholder groups which it services with training and advice on certified organic farming technologies. Farmers trained by MOOF and adopting organic methods like soil management practices (which help to retain moisture) had a greater crop success. As a result, 925 farmers have visited MOOF organic gardens and 300 farmers adopted at least one organic food production technique. MOOF has recently started the organic borage for export project, which is currently supported by USAID Development Agency through FINTRAC – Horticulture Development Centre and Earthoil. The Project targets production of certified organic Borage seeds for cold pressing into neutraceutical oil for export to Europe and the United States of America. This has contributed immensely to the development of the rural economy in the project area. This organic agriculture is labour intensive and has helped a large number of people to be employed in the sub-sector. Borage seeds fetch good farm gate price at US\$ 4.00 per kg as negotiated and agreed by the buyers, Earthoil Kenya Limited and Farmers Self-Help groups. Borage yields are estimated at 500-750 kg an acre and the cost of production is very minimal compared to conventional agricultural technologies. Income generated from the project's 30 acres of borage in 2006 is estimated at Kshs. 4.5 Million (US\$ 64,000). This came into the Nanyuki community (80 smallholder farmers) over a period of 7 months.

It is hoped that income generated from this project will help give people access to better health facilities, a family bicycle and more protein foods from stocking Tilapia fish for their diets. Income generated from sale of organic oil crops is also hoped to provide money for the basic needs of households and hence reduce encroachment to Mt. Kenya forest for charcoal burning and the felling of indigenous trees for timber and fencing posts. Borage attracts a large number of bees and it is hoped that farmers will engage in the production of organic honey which, when marketing is well organized, will fetch a good income, helping people to further add to their Borage income.

Source: Hine and Pretty (2006)

III. Conclusions, Lessons learned and Reasons for Scaling Up in the Rest of Africa

98. Useful key lessons were learnt during the study from East Africa which could be used by other African countries to advocate for the inclusion of organic agriculture in their policies. In summary, the key lessons learnt follow.

1. Conclusions and lessons learned

99. It can be deduced from the study that the performance of the agriculture sector in East Africa, which remains the backbone of the economy, slackened dramatically during the 1980s, 1990s and early 2000s culminating in a negative growth rate of -2.4 per cent in 2005 with spillovers into 2006. As a sector that engages up to 75 per cent of the region's labour force, such a decline implies reduction in employment, incomes and, more importantly, food insecurity for a vast majority of rural East Africans. A decline in agriculture thus has far-reaching implications in terms of employment, income inequality and food security for the country.

100. East Africa has had two decades of formal organic farming history although the national organic sector is still relatively small, but growing very fast. The Government, especially the Ministry of Agriculture, did not pioneer the development of the sector in East Africa, but rather the farmers, NGOs, faith-based organizations and the private sector did.

101. The sector in East Africa therefore developed mainly without any formal government policy support. Consequently, the sector has encountered many challenges during the past two decades, especially in terms of regulation and marketing. Despite these challenges, the sector is considered capable of serving as a catalyst for the socio-economic and environment sectors especially through rural employment creation and income generation as well as combating food insecurity and ensuring long-term environmental security.

102. The small-scale organic farmers in East Africa find it difficult to obtain formal credit for lack of collateral and because financial institutions ignore the difference between organic and conventional agriculture. They find it difficult to sell their products for lack of marketing skills and the right connections. Many therefore depend on middlemen who pay lower prices. They have a relatively weak ability to negotiate with marketing firms for lack of sufficient information and proper organization.

103. Standardization of organic products used to be mainly for the export market for lack of local standards and also lack of awareness on the part of local consumers. The future prospects for these products are immense given that Kenya organic product standards were gazetted in early 2006 and the East African Organic Standards launched in May 2007, for example.

104. The Government, through the Ministry of Agriculture, has, over the years, established a number of policies to guide development in the agriculture sector. These policies range from general policies on service delivery to commodity-based policies. However, a policy is yet to be formulated on organic agriculture.

105. Very few policies in East Africa have made major provisions for organic agriculture as an option for food security, employment creation, poverty reduction and environmental security and sustainability. However, in Kenya, the Ministry of Agriculture has in recent years made progress towards formulating commodity-specific policies such as the Potato Policy (2005), Pyrethrum Policy (2005), Cotton Policy (2006), Sugar Policy (2006), Oil Crop Policy (2006), and the Nuts and Cassava Policy. However, no provision has been made for organic production although a number of these crops are grown without use of any external inputs because farmers cannot afford them.

106. The region previously lacked a clearly articulated land policy with the result that issues like land use, management, tenure reforms and environmental protection were inadequately addressed through the existing systems. However, the respective Governments have recently developed land policies which will, hopefully, address these issues in the future. For the other parts of Africa, below are two cases of Organic Agriculture.

Case No.1: Organic Cocoa - Togo and Cameroon (on-going)

107. The main objective of the project is to identify the best production areas, producers' organizations and support activities for organic cocoa production in Cameroon and Togo. The project will provide a detailed analysis of the value chain of cocoa in the two countries, as well as an assessment of the current status of and opportunities for organic cocoa production and export. Finally, the study will develop an action plan for supporting organic cocoa exporters in selected areas, with selected producers' groups and stakeholders.

108. This study is done together with the Royal Tropical Institute and is commissioned by the Common Fund for Commodities and the International Cocoa Organization.

Case No.2: Organic School garden Project – Ghana (on-going)

109. The Ghanaian Government and the donor community have instituted improvement programmes in the nutritional status of school-going children at the primary school level through the Ghana School Feeding Programme. Agro Eco, in partnership with GOAN (Ghana Organic Agriculture Network), is helping to stimulate local production of ingredients required to prepare meals for pupils.

110. The project aims to develop organic gardens in 24 primary schools in Ghana. Those gardens are to produce organic vegetables and fruits for the meals of the schools' pupils. Organic fruits and vegetables

are healthy and safe for the children (no pesticide residues) and are environmentally- friendly. The crops that are grown in the organic school gardens are leafy vegetables, cabbage, tomato, pepper, onion, garden egg, okra, carrot, water melon, citrus and pineapple.

111. The organic garden of each school is also used as a demonstration farm during two years to organize Farmer Field Schools with the farmers of the community. The extension officers are to train the teachers to maintain the organic school gardens together with the school pupils. At the end of the two years period, the organic garden will provide organic vegetables and fruits to the school pupils independently.

112. The project started in 2008 and runs till 2010 with 10 schools in seven different districts. Each school has a 1-acre organic garden. In the second year six school gardens will be added, this year the extension officers are to train farmers in a total of 16 school gardens. In the last year eight school gardens will be added.

Public support

113. A newsletter about the project activities is published twice a year. It informs people in the Netherlands about the SGP in Ghana and the public support activities in the Netherlands. The school gardens in Ghana will be brought into contact with school gardens in the Netherlands for exchange of information. The main objective of the public support activities is to create awareness about the situation in Ghana amongst Dutch schoolchildren, their teachers and their parents. They learn how children in Ghana live and the various purposes of a school garden in Ghana (food security). Dutch schools are also encouraged to organize activities to support the Ghanaian school to which they are linked.

114. Organic institutions that have direct links with consumers, farms with weekly vegetable box schemes, social care farms, or farms with a shop, will also be approached to be involved in supporting activities for the SFP and the distribution of the newsletter.

2. Recommendations

115. The following recommendations were made from the findings of the study in East Africa. They present a case and justification for further scaling up organic agriculture farming in the region and possibly replicating the same in the rest of Africa.

1. Policy and regulation

116. These will include the following:

- (a) Formulation of clear policies on organic agriculture. Such policies should identify mechanisms for protecting small-scale producers since they are the ones facing more serious challenges compared to large-scale producers. The policies should also be designed to strengthen organic farmers' associations and NGOs so that they can play a major role in the marketing of organic produce and the dissemination of organic technologies among small-scale producers;
- (b) Revision of the existing policies, which have relevance in organic agriculture to ensure that they effectively consider the vision and mission of organic agriculture farming in Africa focusing on food security and sustainable development;
- (c) Formulation of laws in favour of organic agriculture thereby enabling Africa to comply with international regulations on organic agriculture formulated by IFOAM;
- (d) Establishing National Organic Agriculture Committees (NOAC) with cross-cutting representation of Government and all stakeholders in the sector. A key task for the NOAC would be to explore and lead prospecting, development and eventual implementation of policies on organic agriculture.

2. Market development

117. This will include the following:

- (a) Expansion and broadening of the domestic market are necessary in Africa, especially the existing supermarkets and food chains. The organic produce should be promoted more by the relevant agencies such as the Export Promotion Council in the respective countries;
- (b) Promotion of the use of organic produce by supporting public procurement of such products whereby the Government should be the number one buyer of organic produce;
- (c) Development, enhancement and promotion of the domestic markets for organic products through sensitization of consumers and publicity campaigns, especially through the media;
- (d) Supporting and strengthening the NGOs, CBOs and private businesses which are currently involved in organic farming and encouraging them to build linkages between producers, traders and consumers;
- (e) Supporting the establishment of local mechanisms for regulation of the organic agriculture sector through affordable and transparent inspection and certification; and

- (f) Documenting the contribution of organic products to the total volume of export agriculture produce in the respective African countries. This will help place organic products in their proper position in economic development and environmental management.

3. Research, Education and Public Awareness

118. These will include:

- (a) Strengthening of research on organic farming through research institutions and public universities;
- (b) Launching targeted education, information and public awareness campaigns at all levels; and
- (c) Providing information on marketing opportunities to producers, especially through affordable and accessible communication media.

4. Planning and Implementing Exports

119. This will include the following:

- (a) Assessing each country's export potential and exploring opportunities in foreign markets;
- (b) Using marketing instruments, including product adjustment and pricing and selecting specific trade channels;
- (c) Making new business connections, including expertise in the handling of export business; and
- (d) Other logistics of packaging and transport.

GLOSSARY OF TERMS

Agricultural biodiversity: Encompasses the variety and variability of animals, plants and microorganisms necessary to sustain key functions of an agro ecosystem, its structure and processes for, and in support of, food production and food security.

Agro-environment measures: The science of applying ecological concepts and principles to the design and management of sustainable agro ecosystems.

Agricultural subsidies: They can take many forms, but a common feature is an economic transfer, often in direct cash form, from Government to farmers.

Carbon sequestration: The process that removes carbon dioxide from the atmosphere.

Contour planting: Line-spaced planting that is well designed.

Deforestation: The action or process of changing forestland to non-forested land uses.

Degradation: The result of processes that alter the ecological characteristics of terrestrial or aquatic agro ecosystems so that the net services that they provide are reduced. Continued degradation leads to zero or negative economic agricultural production.

Eutrophication: Excessive enrichment of waters with nutrients, and the associated adverse biological effects.

Genetically Modified Organisms (GMO): An organism in which the genetic material has been altered by means of gene or cell technologies.

Intermediate and pseudo-organic standards: Not genuine standards that are more generic as compared to the certified standards by accredited standardizing bodies.

Multifunctionality: The inescapable interconnectedness of agriculture's different roles and functions.

Organic Agriculture: An ecological production management system that promotes and enhances biological cycles and soil biological activity.

Zero-tillage approach to cultivation: The least amount possible of cultivation or soil disturbance done to prepare a suitable seedbed.

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