

Final Report

Strengthening the Export Capacity of Thailand's Organic Agriculture



An Asia Trust Fund Project implemented with technical assistance from the International Trade Centre (UNCTAD/WTO), Geneva, Switzerland, co-funded by the European Commission, in cooperation with the National Innovation Agency, Ministry of Science and Technology, and the Ministry of Agriculture and Cooperatives, Thailand





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by

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Project No: TA/A1/01A

The views expressed in this report are those of the authors and in no way represent the official views of the Asia Trust Fund, the International Trade Centre, the European Commission or the Government of Thailand

TABLE OF CONTENTS

Acknowledgements	6
Executive Summary	7
A National Action Plan for Organic Agriculture: Summary of Recommendations	9
1. Introduction	11
1.1. Background and project objectives	11
1.2. Study methodology	12
1.3. Development of organic agriculture in Thailand	14
1.4. Current situation	16
1.5. Land area and number of farms under organic production.....	16
1.6. Volume and value of production	18
2. Organic actors and producers	19
2.1. Overall structure	19
2.2. Private sector producers.....	19
2.3. Grassroots support groups and cooperatives.....	20
3. Regulatory framework and organic certification	22
3.1. Policy / regulatory framework.....	22
3.2. Organic certification in Thailand	24
3.3. Public certification initiatives.....	24
3.4. Thai private certification: Organic Agriculture Certification Thailand (ACT).....	25
3.5. Northern Organic Standard Organization	25
3.6. Foreign-owned private certification agencies	25
4. Markets	27
4.1. Current market for organic crops and farm produce in Thailand	27
4.2. Pricing structure	27
4.3. Distribution channels	28
4.4. Domestic consumer perceptions.....	29
4.5. Exports	30
5. EU import requirements	33
5.1. EU regulations on organic imports- Article 11(1)	33
5.2. Control systems for organic agriculture	35
5.3. Revision of EC Regulation 2092/91.....	37

6. Major challenges faced by Thailand’s organic sector	39
6.1. Sector challenges	39
6.2. Conversion	39
6.3. Production technologies	40
6.4. Supply	40
6.5. Supply chain logistics	40
6.6. Quality	41
6.7. Processing	41
6.8. Market promotion and advertising	41
6.9. Inspection and certification	41
6.10. Support mechanisms: training and extension.....	42
7. Recommendations and action plan.....	43
7.1. Introduction.....	43
7.2. Vision and principles	43
7.3. Strategy 1: Broaden the production base for organic agriculture	44
7.4. Strategy 2: Enhance capacity and streamline the existing regulatory structure.....	46
7.5. Strategy 3: Prioritize research into organic agriculture	48
7.6. Strategy 4: Enhance and upgrade training and extension services for organic farmers.....	49
7.7. Strategy 5: Develop the domestic market for organic goods.....	50
7.8. Strategy 6: Expand the export market for organic goods	52
7.9. Strategy 7: Establish Thailand as a leader and centre of excellence at regional level.....	53
7.10. Implementation	54
Appendix I: Bibliography	59
Appendix II: Project fact sheet	61
Appendix III: Organic companies	62
Appendix IV: Grass-roots organizations.....	67
Appendix V: Persons / organizations consulted.....	74

List of Figures

Figure 1: Project methodology and stakeholder consultation	13
Figure 2: Area under organic agriculture in Thailand 1998-2005.....	17
Figure 3: National organic quality infrastructure	23
Figure 4: General structure for governmental control systems for organic agriculture in the EU	35
Figure 5: Possible structure for implementation.....	57

List of Tables

Table 1: Recent chronology	14
Table 2: Categories of organic produce in Thailand (2004).....	16
Table 3: Production areas (ha) under organic farming by crop, 1998 – 2005	17
Table 4: Ranking of Thailand with other countries	18
Table 5: Production and market value 2003 - 2005.....	18
Table 6: Key organic producers- private sector companies	20
Table 7: Producer groups and cooperatives	20
Table 8: Overview of organic agriculture policies and programmes	22
Table 9: Organic certification in Thailand.....	24
Table 10: Price comparison of fresh vegetables in Bangkok supermarkets (Bht/kg).....	27
Table 11: Results of survey on consumer buying patterns regarding organic produce	29
Table 12: Thailand's organic exports to the EU.....	31
Table 13: Gap analysis - compliance with EC Regulation 2092/91	36
Table 14: Organic producer groups in the Earth Net Foundation Network.....	67

Acknowledgements

The ITC Technical Assistance Team wishes to express its sincere thanks to all those who contributed to this study. In particular, the Ministry of Agriculture and Cooperatives and Ministry of Science and Technology provided their full cooperation, and the National Bureau for Commodities and Food Standards was highly supportive of the work of the team. The team also acknowledges Green Net's kind assistance in providing much of the statistical data quoted.

The director and staff of the National Innovation Agency, Thailand provided outstanding support in coordinating and facilitating all workshops, training courses and media events relating to this project, and the International Institute for Trade and Development provided valuable assistance in co-organizing the Final Round Table. The team is also most grateful to the ITC-EU Asia Trust Fund, whose financial contribution made this project possible, and to all the expert resource persons and facilitators for their excellent presentations and dedicated hard work at the various workshop and training fora. Finally, the team extends its thanks to the many stakeholders in the public and private sectors, individual growers and exporters, academia, non-government organizations and the international community, whose expert opinions we have sought to capture in this report.

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Executive Summary

Context

This report has been prepared by the ITC Technical Assistance Team to provide a background to the current state of play of organic agriculture in Thailand, and offers an assessment of key issues for the supply chain, including production, marketing, research, training and extension services, institutional framework and support systems, and import requirements of the EU.

The report is based upon an earlier benchmark survey and literature review, combined with an extensive stakeholder consultation process over a 12-month period. Based on the outcomes of this feedback, the report makes a number of recommendations in support of a national action plan for organic agriculture to foster growth of the export sector, enhance coordination between government agencies, and strengthen Thailand's government control systems.

Policies and regulatory framework

Thailand's Cabinet has repeatedly endorsed its support for organic agriculture and allocated significant budgets for a number of national-level projects and initiatives, under a National Organic Agenda. In 2002 the Department of Agriculture established the Organic Crop Institute and approved "Organic Thailand" as a national logo. In 2002, the National Bureau of Food and Agricultural Commodity Standards was established, national organic standards defined and a certification system set up. However, despite this rapid progress on both production and regulatory fronts, significant constraints remain within the accreditation and certification systems, and for producers and exporters. Further improvements are needed to achieve recognition by EU of a national level Competent Authority in Thailand. This would be a first step towards inclusion of Thailand in the EU's "Third Countries list" of exporters, which will greatly streamline procedures for organic exporters and stimulate the export market.

Certification and control systems

Certification bodies in Thailand fall into 3 categories: Thai government bodies, Thai private entities, and foreign entities, with around 50% of organic farmlands certified by foreign companies in 2004. The Department of Agriculture offers a free certification service, but there is currently only one Thai-owned private certification body. Organic accreditation has been offered by the National Bureau of Food and Commodity Standards since 2004.

Production and markets

The global organic market has grown rapidly in recent years- with a 2004 value of US\$26 billion, projected to reach US\$100 billion by 2010. The European Community's organic food market was estimated at US\$ 8 billion in 2004 and is the world's largest single market. However, this growth has begun to slow in some developed countries, due partly at least to increased competition.

Thailand has been a major exporter of tropical fruit and vegetables to European markets and is recognized as a source of reliable and quality products. Thailand's organic sector is small but has also grown very rapidly over the past 5 years in line with the global trend, due to growing consumer consciousness, crisis in the farm sector, and environmental concerns. In 2005 the Thai organic market was valued at US\$ 23 million, up 145% from US\$ 9.4m in 2002. In 2005 there were approximately 21,701 ha of certified organic (up by > 900% from just over 2,100 ha in 2001). In value terms, the domestic market has increased relative to the export market, and in 2005 was estimated at Baht 494m, or US\$12.4m, with Baht 426m (US\$10.6m) in exports.

Rice is the most important crop, followed by vegetables, fruits, corn, then herbs and spices. Thailand exports the bulk of its organic produce to EU, with the remainder destined mainly for Japan, US and Singapore. The majority of organic products approved for export to EU were jasmine rice, certified by Bioagricert, KRAV, ACT, BCS, The Soil Association or Ecocert.

Production is mainly by smallholders, farmer groups or by contract farmers supplying corporate enterprises. Grass-roots NGOs have played a seminal role in promoting the movement, facilitating conversion to

organic methods, organizing farmer groups, providing training and marketing support for small farmers, and in certification.

By the end of 2004, many certified brands of organic farm produce appeared in local supermarket and modern trade outlets, particularly in Bangkok. These new entrants led to an increasingly competitive environment, which helped reduce consumer prices. There is increasing integration of the supply chain, and a trend towards increasing dominance of modern trade outlets in marketing organic produce. Today a variety of labels and competing standards is available in supermarkets, which has led to some confusion among consumers.

Exports

Most of Thailand's organic produce is produced for export. Despite its recent rapid growth, development of the export sector is constrained by many challenges. The organic guarantee system is generally not fully understood by organizations promoting organic agriculture. In particular, accreditation and certification are frequently not properly differentiated, and regulations covering organic imports are not well understood even among organic practitioners. The long conversion period stipulated by EU acts as a barrier to participation since it generates major compliance costs for farmers who have little or no support during the transition period prior to receiving certification. There has also been relatively little progress in the areas of agronomy and crop protection for organic systems, with the result that existing organic farming systems still cannot ensure consistent production and regular supplies of fresh produce of guaranteed quality- all essential prerequisites to meet the stringent requirements of export markets.

Challenges

Thailand's organic exports have a strong potential due to fast growth in international markets, particularly in the EU member countries. Thai organic produce (particularly rice and tropical fruits and vegetables) is in particularly high demand. With its comparative advantage in production, Thailand is well-placed to serve the world market. However, the stringency of current requirements presents barriers to participation of smallholders in both export and domestic organic markets. Training, education and support (especially for small farmers for certification and marketing), will all be important drivers of sectoral growth. Review and upgrading of Thailand's regulatory and control systems will also be required to ensure equivalence with EU standards, as a step towards Thailand's inclusion in the EU Third countries list.

A National Action Plan for Organic Agriculture: Summary of Recommendations

This Action Plan addresses the ITC-EU Technical Assistance Project's objective to strengthen Thailand's organic export sector and facilitate access to markets in EU member countries. The recommendations represent the outcome of a series of group and individual consultations between stakeholders in government, the private sector, academia, grower groups, and concerned NGOs, as well as national and international experts.

The Action Plan offers national-level strategies which can be implemented by the Royal Thai Government in order to address the constraints and challenges identified by stakeholders over the past 12 months of the study, and enhance the competitiveness of the organic export sector.

The recommendations themselves cover production systems and supply chain, certification and control systems, research, training and extension, domestic and export markets.

Seven overall strategies are proposed to strengthen the overall sector, with particular reference to the export market. In support of these policy recommendations, specific actions are described which address challenges and constraints identified during the stakeholder consultation process. Wherever appropriate, such activities will be most effective in generating long term sustainability if they are implemented at the community level (i.e. bottom-up).

The strategies and proposed specific actions are summarized below:

Strategy 1: Broaden the production base for organic agriculture

- Action 1.1 Implement additional support measures to facilitate conversion to organic systems
- Action 1.2 Support the establishment of organic production clusters in the private sector
- Action 1.3 Support contract farming in organic agriculture as an effective vehicle for poverty alleviation
- Action 1.4 Invest in technologies and processing facilities to enhance value-added and exploit new market opportunities
- Action 1.5 Support the organization of growers in regard to joint distribution, storage and transport infrastructure
- Action 1.6 Strengthen the ongoing bio-fertilizer initiative spearheaded by the Ministry of Agriculture and Cooperatives

Strategy 2: Enhance capacity and streamline the existing regulatory structure

- Action 2.1 Review the public sector certification system and improve access by smallholders
- Action 2.2 Review and strengthen the voluntary National Organic Standards to improve understanding and enhance their value to farmers

Strategy 3: Prioritize research into organic agriculture

- Action 3.1 Identify and address the role and potential contribution of organic agriculture to national goals for sustainable development

- Action 3.2 Establish a national organic research and development centre and national organic information database
- Action 3.3 Earmark additional funding for multidisciplinary research in order to address key challenges
- Action 3.4 Encourage researchers to examine and evaluate traditional knowledge about pest control treatments, working in close collaboration with farmers and local communities.

Strategy 4: Enhance and upgrade training and extension services for organic farmers

- Action 4.1 Promote organic agriculture through a participatory community-level approach
- Action 4.2 Initiate and support training programs for farmer groups to help them set up internal control systems as further options to reduce compliance costs for smallholders.

Strategy 5: Develop the domestic market for organic goods

- Action 5.1 Conduct market research in order to understand consumer preferences and behaviour
- Action 5.2 Private sector stakeholders should strengthen their representation through greater participation and support for the Thai Organic Traders' Association
- Action 5.3 Introduce a pro-organic public procurement policy by public agencies
- Action 5.4 Establish an effective market information system for organic produce
- Action 5.5 Initiate public awareness campaigns to stimulate demand and promote consumption.

Strategy 6: Expand the export market for organic goods

- Action 6.1 Extend additional support for exporters through global marketing outreach initiatives, liaison and export facilitation processes
- Action 6.2 Review and maximize potential of innovative marketing channels for organic produce
- Action 6.3 Provide an effective global market information service for organic exporters.

Strategy 7: Establish Thailand as a leader and centre of excellence at regional level

- Action 7.1 Lead initiatives to foster cooperation between governments in Asia on harmonization of national regulatory regimes and sharing of experiences on key issues
- Action 7.2 Foster regional collaboration among private-sector certification bodies
- Action 7.3 Develop training courses for organic conversion schemes at regional level
- Action 7.4 Establish a regional organic trade association.

The Action Plan underlines the need for greater coordination between key stakeholders in fostering greater awareness and adoption of organic practices, and in strengthening the supply base to ensure stable, consistent supplies of a wide range of quality organic produce to serve EU markets.

The recommendations presented herein represent the views of the individual authors and in no way should be taken as reflecting official policy or positions of the European Commission, the International Trade Centre, or the Thai Government.

1. Introduction

1.1. Background and project objectives

Organic agriculture is the most dynamic and rapidly-growing sector of the global food industry. Its growth from a small-scale niche market to a US\$ 26 billion market sector in 2004 has made “organic” an international phenomenon. With increasing consumer consciousness of safety and environmental issues, the global market value is expected to reach US\$ 100 billion within the next five years, growing at between 20 to 30 percent a year. The European Community’s organic food market was estimated at US\$ 8 billion in 2004 and is the world’s largest single market.

Thailand has long been a major exporter of tropical fruit and vegetables to European markets and is recognized as a source of reliable and quality products. However, during the past five years, the value of exports has decreased, due mainly to the impact of bilateral FTAs and the introduction of stringent food safety and traceability legislation by EU and other importing countries. Compliance with these rules is essential for access by Thai exporters to EU markets, and smallholder farmers (with limited access to capital, market information and, above all, to the management skills needed to comply with the rules) will be particularly impacted.

The Thai Government has repeatedly underscored its policy of support for organic farming, announcing in a Cabinet resolution on 4 January 2005 its goal to transform Thailand’s agriculture and to increase the importance of organic production systems. However, institutional capacity and co-ordination to support implementation does not yet match the ambitious policy goals. If Thailand is to achieve its policy goals for organic trade and export, the relevant government agencies will need to establish a coordinated policy and regulatory environment that stimulates the development of the private organic sector and builds international confidence.

With this in mind, the Asia Trust Fund, with financial support from the European Commission, has provided technical assistance to achieve the following:

- (a) facilitate the development of a national action plan for organic agriculture, whereby a consensus is reached regarding optimal allocation of public and private sector resources to support growth of the sector.
- (b) facilitate the coordination of relevant government agencies in the implementation of organic projects in a synergistic manner
- (c) strengthen Thailand’s government control systems and requisites to prepare for application for inclusion in the EU’s ‘Third Countries list’ (Article 11 of EC Regulation 2092/91).

Ultimately, it is hoped that the project can contribute towards a coherent national model whose principal aim would be (a) to promote and support conversion to organic methods; (b) to bring the regulatory control systems to internationally recognized standards, and (c) in the longer term, to prepare the ground for eventual inclusion of Thailand in the EU’s “Third Countries list” of exporters, under Article 11 of EU Regulation 2092/91.

In this initiative, Thailand’s National Innovation Agency – as the prime counterpart agency-coordinated with relevant government ministries and implementation agencies including the Ministry of Science and Technology (MOST), Ministry of Agriculture and Cooperatives (MOAC), Ministry of Commerce (MOC) and other relevant agencies, producer groups and grass roots

organizations, and provided the Technical Assistance personnel with full logistic and other local support.

1.2. Study methodology

Project implementation was carried out from July 2005 to August 2006 in three stages:

Stage 1: Benchmark Survey: A literature review and stakeholder interviews were conducted to produce a benchmark survey that provided a background to the current state of play of organic agriculture in Thailand. The report included an overview of the organic industry supply chain, from farm production processes through accreditation, certification, traceability, and other regulatory issues. The study drew from interviews with key stakeholders to offer a preliminary assessment of key issues for the supply chain, including the institutional framework and support systems, and import requirements of the EU. The report served as a starting point for the stakeholder consultation process which built on the benchmark findings to identify key constraints and challenges to strengthening of the organic sector in Thailand.

Building on the benchmark survey report, the ITC technical assistance team, in consultation with all key government agencies and other stakeholders, convened a technical workshop of key stakeholders (**National Stakeholder Workshop**). The workshop had the following aims:

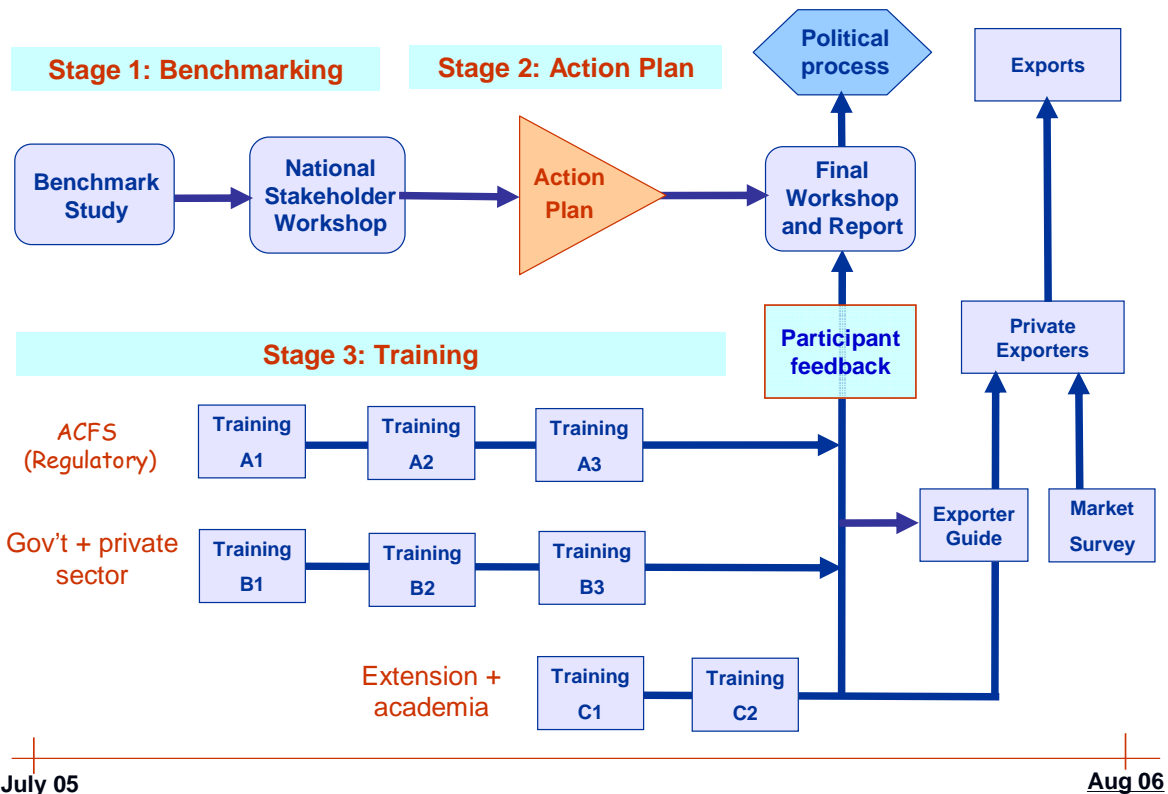
- Develop recommendations for inclusion in a national action plan.
- Build consensus and improve coordination between different stakeholders.

Stage 2: National Action Plan: Following the National Stakeholder Workshop, a National Action Plan for organic agriculture in Thailand was drafted, with a particular focus on facilitating exports of high quality organic produce from Thailand to the EU. The plan took into account the outputs of the National Stakeholder Workshop, as well as feedback from participants in the six training workshops.

Stage 3: Training Workshops: concurrently with phase 2, government officers received comprehensive training in information and skills required to strengthen government control systems for organic agriculture. In addition, private sector representatives received training in requirements for compliance with EU legislation.

The study methodology and stakeholder consultation process is shown schematically in Figure 1 below.

Figure 1: Project methodology and stakeholder consultation



Stakeholder consultation at all stages is essential to the consensus-building process, and the technical assistance therefore sought to obtain this feedback through the following avenues:

- Individual interviews with national experts from key stakeholder groups
- Preparation of Benchmark Report
- National Stakeholder Workshop, involving 120 senior representation from all major actors, including individual growers, private sector exporters (large and small), grower cooperatives, grass-roots NGO's, academia, regulatory agencies, certification bodies, the Ministry of Science and Technology, and the Ministry of Agriculture and Cooperatives.
- Training Workshops: a series of 8 training workshops were held from November 2005 to August 2006, for public and private sector stakeholders. All workshops included group work to elicit participant feedback on their perspective of challenges, constraints and solutions.
- Further consultation with stakeholders on the draft national action plan, including individual interviews and expert group brainstorming.

A list of organizations and individuals consulted is presented in Appendix V.

The outputs of the entire consultation process have been consolidated into the finalized National Action Plan. The final recommendations / action plan (see Chapter 7) were presented to the stakeholder community and senior officials from concerned Ministries at a National Round Table,

held on 30 August 2006 in Bangkok. The recommendations are intended as an input into the subsequent political process.

1.3. Development of organic agriculture in Thailand

The emerging popularity of organic agriculture in Thailand has resulted from a combination of three major trends. The first is an increasing public awareness of healthy living. Consuming natural and safe foods is seen as important for both preventive and curative health care, leading to a growing concern and demand for safe foods, especially among urban middle classes with higher disposable incomes. Organic foods are seen as the safest option as they are perceived as having low or zero contamination by agro-chemicals.

The second trend is the development of sustainable agriculture in response to the crisis faced in the farm sector. Depressed farm prices and declining productivity of high-input cash-crop monoculture systems have helped drive the establishment of many grassroots community development organizations and NGOs to promote a more environmentally sustainable agriculture system in Thailand. The Alternative Agricultural Network (AAN), established in 1989 with the co-operation of NGOs and farmer leaders, was from the outset a major driving force of the organic movement. AAN's activities focused mainly on creating a system for transferring knowledge and experience to grassroots NGOs and farmer leaders. In 1992, a conference on sustainable agriculture issued a declaration calling for promotion of organic agriculture as a part of national sustainable development strategies.

The third trend is the rise of environmental awareness, starting from a concern for environmental protection and conservation, but later transforming into a broader agenda covering the impact of conventional agriculture on environment, ecology and biodiversity, including land use, landscape, biodiversity, and pollution caused by use and misuse of agro-chemicals.

The convergence of these trends contributed to the pace of development of organic agriculture in Thailand during the early 1990s, and to its more rapid take-off from 2001 to the present day. The key landmarks are summarized in Table 1 below.

Table 1: Recent chronology

Year	Key events
1991	<ul style="list-style-type: none"> ▪ Chai Wiwat Agro-industry and Capital Rice Co started organic rice project in Chiang Rai and Phayao. Production was certified by Bioagricert, Italy.
1992	<ul style="list-style-type: none"> ▪ Alternative Agriculture Network organized its first national conference, requesting the government to promote sustainable agriculture and organic farming ▪ First Fair Trade rice from Surin was exported to Fair Trade groups in Europe.
1993	<ul style="list-style-type: none"> ▪ Green Net established
1994	<ul style="list-style-type: none"> ▪ First public fair on "Chemical-Free Food for Health and Environment", Bangkok. ▪ Capital Rice began selling organic jasmine rice in Thailand and overseas
1995	<ul style="list-style-type: none"> ▪ Green Net became the first full member of IFOAM from Thailand ▪ ACT certification agency established in Thailand, and first Thai organic crop standards were drafted for public consultation

1996	<ul style="list-style-type: none"> ▪ Organic rice project established in Yasothon, certified by the Swiss Institute for Market Ecology (IMO). ▪ IFOAM-Asia Regional Workshop on “Certification for Organic Agriculture and Alternative Market”.
1997	<ul style="list-style-type: none"> ▪ ACT commenced organic farm inspection and certification.
1999	<ul style="list-style-type: none"> ▪ Thailand Institute of Technological and Scientific Research (TISTR) / Department of Export Promotion, Ministry of Commerce, and the Department of Agriculture and Cooperatives (DOA), started drafting organic crop standards.
2000	<ul style="list-style-type: none"> ▪ ACT obtained IFOAM accreditation with the help of the International Organic Accreditation Service (IOAS), and its first certified products appeared in Thai markets. ▪ Cabinet approved US\$ 15.8 million (633 million baht) budget to support a 3-year pilot project on Sustainable Agriculture by Small-Scale Producers. The project was coordinated by the Sustainable Agriculture Foundation and covered 3,500 farming families
2001	<ul style="list-style-type: none"> ▪ DOA gazetted organic crop production standards. ▪ First IFOAM Organic Shrimp Consultation held in Thailand
2002	<ul style="list-style-type: none"> ▪ Department of Agriculture established the Organic Crops Institute and approved the logo of organic produce “Organic Thailand”. ▪ MOAC established National Office of Agricultural and Food Commodity Standards (ACFS), responsible for implementing / enforcing national agricultural and food standards as well as accreditation. Its role covers standard-setting, certification of agricultural products and foods from farm level to the consumer. It also includes provision of technical advice in trade negotiations, and the raising of quality standards for agricultural commodities and foods, to increase Thailand’s international competitiveness. The office was subsequently upgraded to Department-level status and renamed as the National Bureau of Agricultural and Food Commodity Standards. ▪ ACFS completed drafting of “Organic Agriculture: the Production, Processing, Labelling and Marketing of Organic Agriculture”. The document includes minimum standards for production, processing, labelling, and marketing, to comply with international standards. They cover human foods, animal feeds derived from organic production from plants, cattle and aquaculture. ▪ Swiss Government recognized the competency of ACT, allowing ACT to conduct organic inspection and certification according to the Swiss government’s organic standards. ▪ First produce bearing “Organic Thailand” label appeared in the Thai market.
2003	<ul style="list-style-type: none"> ▪ First major international conference on organic agriculture held in Thailand - the 2003 International Organic Conference, co-hosted by FAO, Green Net and Earth Net Foundation. ▪ Surin Province set up a large-scale organic project, planning to convert 16,000 households (with 37,760 ha.) into organic jasmine rice farming, of which 2,735 households (covering 2,735 ha) would apply for organic certification from ACT. ▪ ACT was recognized by the Swedish competent authority for organic certification according to EU regulation 2092/91.
2004	<ul style="list-style-type: none"> ▪ ACFS launched a new certification process for organic agriculture. The first agency to be granted certification was the Office of Organic Agriculture Standards. ▪ “Sustainable Agriculture Fair” held in Bangkok, aimed at spreading knowledge about sustainable agriculture, including the organic movement. Organized by AAN / Sustainable Agriculture Foundation ▪ Organic Agriculture Fair was organized by the MOAC and the Cabinet resolved that organic agriculture would henceforth be part of the national agenda.

1.4. Current situation

Despite this rapid progress on production and regulatory fronts, Thailand's organic sector is still at a relatively early stage in its development. Most production systems are still simple, without sophisticated technologies. Most organic products are basic unprocessed commodities such as fresh fruits and vegetables, and rice. Processed organic produce are relatively few, as the raw material is usually insufficient to supply processing plants, and the supply is often not continuous.

According to Green Net and Earth Net Foundation, the Thai organic market for 2005 was estimated at around 29,415 tons, valued at US\$ 23 million per year.

However, Thailand has considerable potential in producing processed organic products, both basic and processed, which will of course increase the value-added in both domestic and export markets. Dried fruits, canned fruits and vegetables, fruit and vegetable juices, and processed cereal foods are of greatest interest and market potential in this respect.

Thailand's first dedicated processing facilities for organic products was established in 2003 by the Sampran Food Company. Apart from this, there are also some organic processing initiatives and development trials in progress using segregated lines in existing processing facilities.

Table 2: Categories of organic produce in Thailand (2004)

Category	Example of OA Production / Produce
Rice	White and brown rice (Hom Mali, Lueang-On, red Hom Mali)
Beans	Soybeans and peanuts
Processed vegetables	Frozen or bottled baby corn
Fresh vegetables	Fresh baby corn, okra, salads, tomatoes, Chinese vegetables
Fruit	Banana, papaya, pineapple, jackfruit, mango, longan
Herbal teas	Tea (<i>Thunbergia laurifolia</i> L), dried bael fruits, dried lemongrass, rose tea
Food ingredients	Dried tom yam seasoning, coconut milk, sugar, tapioca flour
Wild products	Wild honey
Processed foods	sesame butter, peanut butter
Medicinal herbs	Fa talai joan (<i>Andrographis paniculata</i>) Indian Mulberry, <i>Cissus quadrangularis</i> L.
Aquaculture	Tiger prawns, fish

Source: Green Net / Earth Net Foundations, 2005

1.5. Land area and number of farms under organic production

There are two major categories of organic agriculture in Thailand; certified and non-certified. However, there has been no systematic record of organic production in Thailand, and it is therefore difficult to evaluate the situation precisely. The available data cover only certified production, because there is at present no way to evaluate to what extent non-certified producers follow fully organic methods. Given this lack of documented information on non-certified organic agriculture, this report refers mainly to certified production.

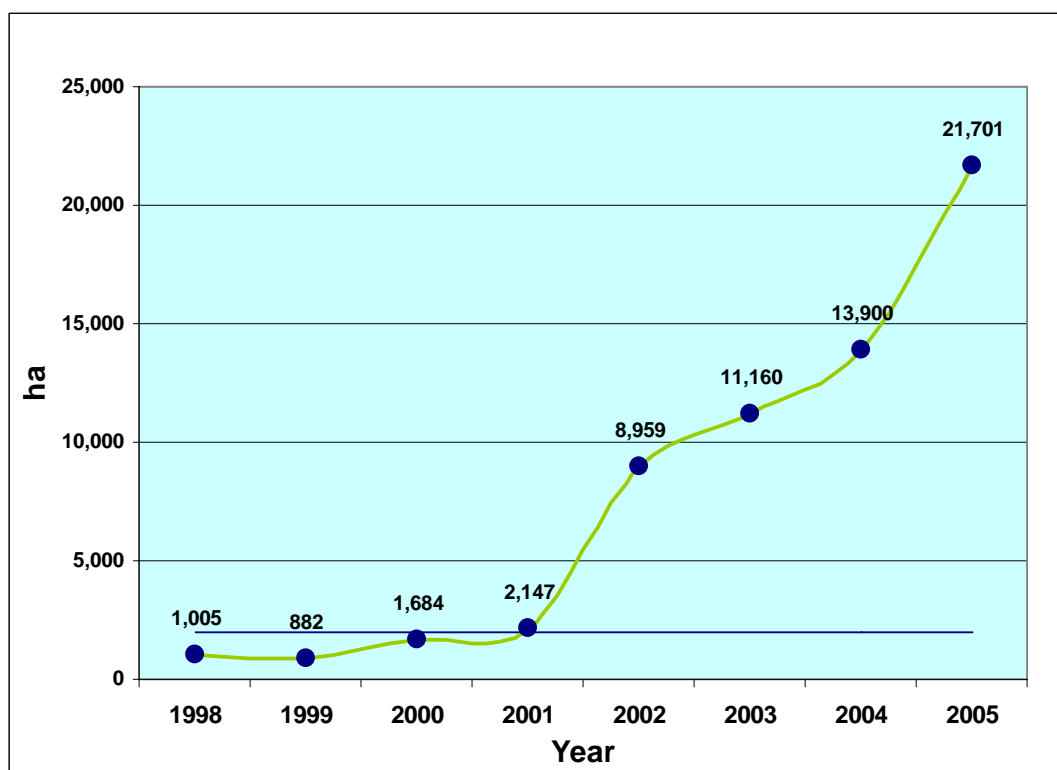
Green Net and the Earth Net Foundation estimate that the area under organic farming increased from just over 2,100 ha in 2001 to 21,701 ha in 2005, (Figure 2, Table 3) representing 0.10% of the total agricultural land area (21m ha, or 131 m rai). The land area devoted to organic agriculture increased by over 19,500 ha from 2001 to 2005 (>900%). The number of farms increased commensurately, with 2,498 organic farms, representing 0.049% of the total number of farms in the country in 2004 (5.1 million farms).

Table 3: Production areas (ha) under organic farming by crop, 1998 – 2005

Year	Rice	Field crops	Vegetables	Fruit	Other	TOTAL
1998	1,005.03		-		-	1,005.03
1999	881.62		-		-	881.62
2000	1,120.84		563.00		-	1,683.84
2001	1,584.08		563.00		-	2,147.08
2002	5,254.60		3,581.17		123	8,958.77
2003	7,475.09		3,561.70		123	11,159.80
2004	8,349.24	1,257.57	2,125.38	2,044.32	123	13,899.50
2005	17,328.32	1,076.99	2,375.16	799.26	121.76	21,701.49

Source: Green Net / Earth Net Foundations, 2006

Figure 2: Area under organic agriculture in Thailand 1998-2005



Source: Green Net / Earth Net Foundation, 2006

Nevertheless, the area of organic farming as a percentage of total agricultural land is among the lowest in the world, and ranks in the middle in Asia (Table 4).

Table 4: Ranking of Thailand with other countries

Production Area in Thailand	Ranking (World, 85 countries)	Ranking (Asia, 21 countries)
Production area (ha)	71	12
Organic area as % of total agricultural area	82	13
No of organic farms	42	5

Source: Willer, Helga and Yussefi, Minou (2004)

1.6. Volume and value of production

In 2005 the total volume of organic products in Thailand delivered to market was estimated at 29,415 tons, valued at US\$ 23m. - a substantial increase from just 9,756 tons in 2003 (Table 5). The largest production category is organic rice, primarily *Hom-mali* jasmine rice from the northeast region, followed by fresh vegetables and herbs. Organic vegetables are mainly leafy vegetables, especially the salad type and Chinese vegetables, produced mainly in central Thailand and in Chiang Mai province. Dedicated organic orchards are also becoming more important, though many organic vegetable farms also produce organic fruits. The major fruits now grown organically are mango, papaya, and longan.

Table 5: Production and market value 2003 - 2005

Crop	2003		2004		2005	
	Production (tons)	Value (m Baht)	Production (tons)	Value (m Baht)	Production (tons)	Value (m Baht)
Rice	7,007.90	210.24	7,827.41	313.10	18,960.38	534.75
Field crops			1,571.96	55.02	2,040.92	45.16
Vegetables and herbs	2,671.28	160.28	2,656.73	159.40	4,618.18	255.83
Fruits			3,833.10	76.66	3,746.51	74.93
Others	76.88	4.61	76.88	4.61	49.11	9.69
Total	9,756.05	375.13	15,966.08	608.79	29,415.10	920.36

Source: Green Net /Earth Net Foundation, 2006

In value terms, the domestic market has increased relative to the export market, and in 2005 was estimated at Baht 494.5 m, or US\$12.4 m, with Baht 425.9 m (US\$10.6 m) exported.

2. Organic actors and producers

2.1. Overall structure

Thailand's organic sector is driven mainly by private companies, government projects, grower cooperatives, grassroots support groups and NGOs.

The private sector in general comprises farmers who either work on large farms or operate as contract farmers at pre-agreed volumes, grades and price levels. The companies provide technical advice and cash advances to the contract growers. In registering for organic standards, the company will also pay for and hold the organic certification in their own name- not the farmer's.

It is noteworthy that larger Thai-based companies are increasingly entering the organic sector at all stages in the supply chain, including production, processing and marketing levels. These include large agro-industrial companies, whose aim is either to supply modern trade outlets in the domestic market, or to export to industrialized countries.

In projects supported by NGOs, producers normally work together as a grower group, although few have formal registration as cooperatives or farmer organizations. Mostly they have no legal status. They are self-supporting, and provide their members with training and cash advances to cover production costs. Also, many provide group processing facilities for their members and act as a collective marketing mechanism.

2.2. Private sector producers

Private sector producers may be divided into three broad categories:

- producers with single farms (traditional family farms)
- smallholders working together as a grower group or under a common organic project. This is becoming increasingly common today
- large-scale corporate farms.

Table 6: Key organic producers- private sector companies

Organization	Location	Significance
Top Organic Co Ltd (Capital Rice)	Chiang Rai, Phayao	Pioneer of organic agriculture in Thailand
River Kwae International Food Industry Co Ltd	Kanchanaburi	First exporting producer of organic baby corn
Plook Rak Farm	Ratchaburi	Major producer of organic vegetables
Rangsit Farm	Pathum Thani	Major producer of organic vegetables
Sampran Food Co Ltd	Nakhon Pathom	Major dealer aiming to develop processing industry
Southeast Asia Organic Co Ltd	Bangkok	Tapioca flour, sugar
Swift / Exotic Farm Produce Co Ltd	Kampaengsaeng / Sra Kaew	Works with contract grower cooperatives, exports asparagus and baby corn to EU
Urmatt Ltd	Chiang Rai	Major organic rice producer and exporter

Profiles of these companies are provided in Appendix III.

2.3. Grassroots support groups and cooperatives

There are many non-government organizations established to assist farmers to convert to organic farming and offering technical and marketing support to grower groups. The most important of these are listed below.

Table 7: Producer groups and cooperatives

Organization	Location	Type of Organization	Significance
Earth Net Foundation	Bangkok	Non-profit development organization	Pioneer of organic agriculture in the country
Green Net Cooperative Ltd	Several provinces	Service cooperatives	Pioneer of organic agriculture in the country with the most extensive producer network
Bak Ruea Farmer Group	Yasothon	Producer group	No 1 producer of organic jasmine rice in Thailand
Rak Thammachart Club	Yasothon	Producer group	Biggest producer of jasmine rice and a pioneer of organic agriculture in Thailand
Surin Farmer Support	Surin	Grassroots development organization	Organic rice producer
Rice Fund Organic Cooperative Surin	Surin	Producer group	The country's major producer of jasmine rice
Mae-Tha Sustainable Agricultural Cooperative	Chiang Mai	Farmer group	No 1 producer of organic baby corn
Alternative Agricultural Network	Bangkok / nationwide	Grassroots development	Active at both village level and in policy planning

		organization	
Institute of Sustainable Agricultural Community, Community's Potential Development Foundation	Chiang Mai	Grassroots development organization	Support for farmers to implement sustainable agriculture systems
Lemon Farm Cooperative	Nationwide	Cooperative	Branches at Bang Chak petrol stations nationwide
Santi Asoke	Nationwide	Cooperative	Uncertified

The above organizations are described in more detail in Appendix IV.

3. Regulatory framework and organic certification

3.1. Policy / regulatory framework

Thailand's National Agenda on Organic Agriculture was launched in October 2005. The 5-year programme is aimed at supporting 4.25 million farmers (0.85 million in 2006) to use organic inputs instead of agrochemicals over an area of 13.6 million ha (2.72 million h for 2006), reducing total import of agrochemicals by 50% as well as boosting organic exports by 100% annually. The programme aims are to be achieved through various supports and intervention mechanisms, including seminars, training, general promotion, and setting up organic fertilizer factories. There are 26 agencies from 6 ministries involved in the programme, coordinated by the Land Development Department. A 1.26 billion baht (US\$ 31.5 m) budget is allocated for this programme in 2006.

Furthermore, the Cabinet has set up a national organic agriculture committee to advise the government on organic agricultural policy development. However, the private sector is not represented on the committee, and in practice, organic policy-making is a top-down process with relatively few mechanisms for consultation with the wider stakeholder community.

Table 8: Overview of organic agriculture policies and programmes

Policy area	Government policy & programmes
General awareness of merits of organic agriculture	Publication and government websites, e.g. publications of Department of Agriculture (DOA) and Department of Agricultural Extension (DOAE).
Organic regulations, standards & certification	Voluntary national standard guideline for organic crop, aquaculture and livestock (ACFS) Set up public certification body (Organic Crop Institute)
Export marketing	Department of Export Promotion (DEP) conducts public seminars, assists traders and exporters to participate in overseas organic fairs (Biofach, Germany, Natural Products Organic Asia, Singapore) and organizes buyer-seller matching events and information services
Production	At provincial level, some governors started organic projects, e.g. Surin and Buriram organize organic rice projects. Several local and national agencies started organic agriculture training courses for producers. Few training programmes are linked to certification.
Inputs (seeds, seedlings, pest control & fertilisers)	No specific activities so far on seeds. The Department of Land Development plans to set up several hundred organic fertilizer factories in 2005-06.
Research	Some research funding institutions offer specific funding support for organic agriculture, e.g. Thailand Research Fund, National Research Council of Thailand. No clear budget allocation or research goals.
Extension service	Many public agencies, esp. DOA and DOAE, conduct seminars and 1-day courses on organic farming. These are promotional as well as an extension activity

The organization responsible for implementing the regulatory framework for organic agriculture is the National Bureau of Agricultural Commodity and Food Standards (ACFS).

ACFS consists of 5 divisions- Division of Agricultural Commodity and Food Standards Policy, Office of the Secretary, Office of Commodity and System Standards, Information and Technology Center, and Office of Commodity and System Standards Accreditation.

ACFS drafted National Standards for Organic Agriculture, including production, processing, labelling, and product sale. The draft was finalized and approved by the Cabinet in 2003. The ACFS standard is similar to CODEX and IFOAM standards, in that it sets standards for standard-

setting organizations, rather than standards for production, i.e. they are not intended for use by certification bodies conducting inspection and certification. Organic livestock standards were added in May 2005. At present the standards are still voluntary.

In August 2004, ACFS received the first application for organic accreditation from Organic Agriculture Certification Thailand (ACT). Accreditation was granted in mid-2005. The national quality infrastructure is shown in Figure 3.

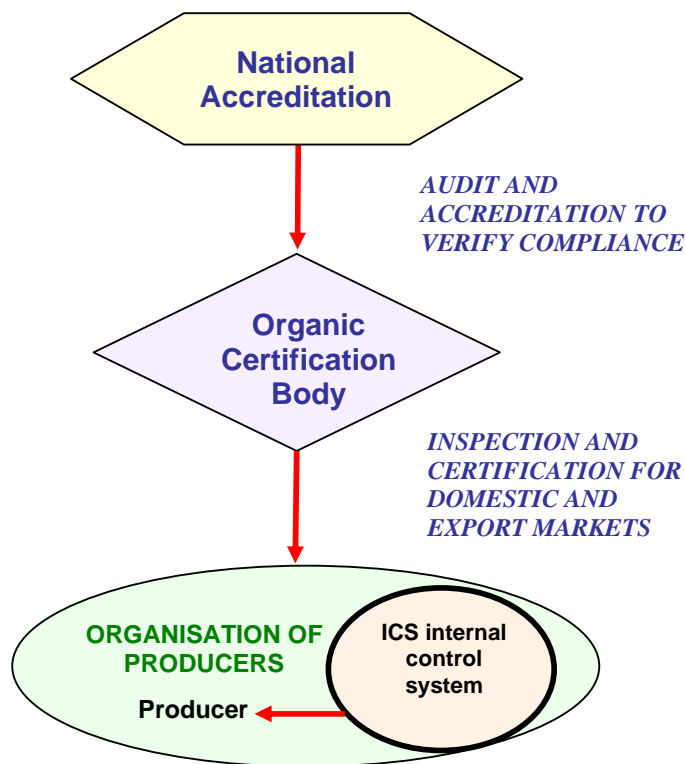


Figure 3: National organic quality infrastructure

Apart from its responsibility for organic agriculture, ACFS is also responsible for accreditation in other areas, including Good Agricultural Practice (GAP), Good Manufacturing Practice (GMP), Hazard Analysis and Critical Control Point (HACCP), and laboratory accreditation.

3.2. Organic certification in Thailand

Several certification bodies offer organic certification services for producers in Thailand. These certifiers fall into 3 groups: Thai government bodies, Thai private entities and foreign entities. From a study by Green Net / Earth Net in 2004, around 50% of organic farmlands were certified by foreign companies (see details in Table 9 below).

Table 9: Organic certification in Thailand

Agency	% of land certified
DOA (Organic Crops Institute)	13%
ACT	37%
Northern NGOs	0.3%
Foreign CBs	50%

3.3. Public certification initiatives

In order to secure international acceptance and recognition, Thailand developed national standards for production of organic products, to conform with existing international standards. The standards were drafted in 1999 by the Thailand Institute of Science and Technology Research (TISTR) in cooperation with the Department of Export Promotion, Ministry of Commerce. The final version was adopted on 18 October 2000.

In 2002, the DOA established the Institute of Organic Crops as a national certification body, and also to support research and development into organic crops. By February 2002, DOA had established the “Organic Thailand” brand and established 5 pilot projects producing 15 organic crops, managed in collaboration with farmers, individual experts, the private sector, and consumer groups. As of September 2004 there were 440 DOA-certified farms covering 1,763 ha (11,018.50 rai).

The Ministry of Agriculture and Cooperatives (MOAC) tried to replicate the DOA mechanism with parallel mechanisms for organic fisheries (Department of Fisheries) and organic livestock (Department of Livestock Development), but this has since posed problematic since many farms in Thailand use integrated farming systems, and such a single farm would require three separate certifications from the respective agencies.

Other government organizations have also set up separate certification bodies, e.g. Surin Province certified its organic rice in order to export products from the province, and the National Bureau for Commodity and Food Standards (ACFS) also offers an organic certification service.

3.4. Thai private certification: Organic Agriculture Certification Thailand (ACT)

Established in 1995, the Organic Agriculture Certification Thailand (ACT) is an independent private certification body. Its members are producer organizations, consumer groups, NGOs, environmentalists, and academics. ACT was the first and is still the only Thai-owned organic certification body offering internationally-recognized organic certification services,

ACT has established its own standards for crops, wild product harvest, processing and handling but its current certification covers only organic rice, vegetables and bean products. ACT is currently also researching animal husbandry standards. ACT operates throughout Thailand except for the southern region, and received ACFS certification in 2005.

ACT has forged a number of international linkages. In 2002, ACT was the first certification body in Asia to receive IFOAM accreditation, with the support of the International Organic Accreditation Services (IOAS). Its organic standards are recognized as equivalent to IFOAM (International Federation of Organic Agriculture Movements) Basic Standards. Since then, the Swiss government has also recognized ACT, which later led to acceptance by global organizations such as BIOSWISS (Switzerland), BLIK (Belgium), KRAV (Sweden), Die Bio-Bauern (Austria), Ecocert (Canada), and Agriculture Biologique (France).

As of June 2005, there were 1,413 farms certified by ACT, covering 4,752 ha (29,708.21 rai).

3.5. Northern Organic Standard Organization

This is a private certification body catering only to farms and crops from Chiang Mai Province. The certification method is based on collaboration between growers and consumers to accept organic products. So far only 20 families are certified by this organization. (11.3 ha or 70.74 rai).

3.6. Foreign-owned private certification agencies

3.6.1. Bioagricert

Established in 1984, Bioagricert (BAC) was the first independent Italian organic certification body. Its organic certification is recognized by the Ministry of Agricultural Policy, Italy, as a national body authorized to control organic products in accordance with EU Regulation No. 2092/91.

Bioagricert started operations in Italy. In 1984, under the name Bioagricoop, a group of specialists, agronomists and food sector experts established an independent technical monitoring and certification body, providing a service to companies voluntarily submitting to these controls. In 1985, Bioagricoop became an active member of IFOAM (the International Federation of Organic Agriculture Movements), making a constructive contribution to the definition of standards for organic products and international accreditation systems. In 1996, it became the first IFOAM-accredited organization for the certification of plant and animal products, processed products and from natural harvesting in the whole of Mediterranean Europe.

BAC has a local office in Bangkok.

3.6.2. BCS Öko-Garantie GmbH

BCS certifies more than 100,000 farmers and more than 800 processing businesses in import and export worldwide. Its services cover all major agricultural crops and the majority of all relevant processing industries and several market leaders are among the companies serviced by BCS.

BCS has representative agencies in America, Europe, Asia and Africa. BCS has been licensed as a private controlling agency since May 11th 1992 to implement Council Regulation (EEC) No. 2092/91. It currently employs about 50 experts for inspection of farms and businesses and all branches of food industry. BCS has a local office in Chiang Mai.

3.6.3. Others

In addition to the above, several other organizations offer certification services (both first and second party certification). International certification bodies with a presence in Thailand include the following:

- Soil Association (UK) covering certified organic products for EU markets
- IMO (Switzerland/Germany) covering certified organic products for EU markets
- OMIC (Japan) covering certified organic products for the Japanese market
- Skal (Netherlands) which contracts P&H Agrocontrol Inc. to certify organic production for the EU market.
- Ecocert
- KRAV.

4. Markets

4.1. Current market for organic crops and farm produce in Thailand

In 2002 Thailand began to see an economic recovery and the early signs of a revitalized domestic market. However, urban consumers were only just becoming aware of the benefits of consuming organic food. This was partly due to the lack of available information to help consumers differentiate between organic and ‘chemical-free’ produce, which was also available in the market, and promoted by two separate government schemes. Meanwhile, most of the certified organic crop production at that time was export-oriented, leaving only an insignificant volume for the domestic market, i.e., fresh vegetables and grains – mostly rice and beans.

Since that time the range, volume and brands of fresh organic vegetables have all expanded considerably. By the end of 2004, many certified brands of organic farm produce appeared in local supermarket and modern trade outlets, particularly in Bangkok. These new entrants led to an increasingly competitive environment and helped reduce consumer prices.

Reliable sources of data on organic produce are hard to find. The situation is confused by the various standards or systems of certification for organically grown crops and produce. This made it difficult to categorically differentiate between the two market segments.

4.2. Pricing structure

Despite the increase in volume and number of producers which have exerted downward pressure on prices, current markets for organic produce still favour producers as demand continues to outstrip the available supply. Organic produce on supermarket shelves formerly attracted a 20-50% price premium compared with conventional produce, but the premium is gradually eroding.

Surveys show that consumers are ready to pay a maximum premium of 10-15% for organic produce, on condition that the quality must be at least equivalent to conventionally grown produce. As mentioned, average prices for organically grown fresh vegetables sold in supermarkets in Bangkok continue to gradually fall, since the introduction of organic produce through modern trade outlets at the end of 2001. However, the price base is still higher than for ‘hygienic’ and ‘chemically produced’ vegetables.

Table 10: Price comparison of fresh vegetables in Bangkok supermarkets (Bht/kg)

	Dec 2001	Jul 2002	Mar 2003	Dec 2003	Mar 2004	Aug 2004	Feb 2005
1. Conventional vegetables	40.18	41.28	38.98	57.49	29.45	34.85	29.85
2. Hygienic vegetables	54.79	60.28	35.29	56.75	46.29	83.3	48.24
3. Organic	88.375	66.99	65.94	64.28	76.77	135.29	52.37
4. Organic premium above hygienic vegetables (2)	61%	11%	46%	12%	40%	38%	8%
5. Organic premium above conventional vegetables (1)	120%	62%	69%	11%	62%	74%	43%

It is anticipated that in the next few years, when more producers have gone through the transition period of converting their farms, more organic agricultural produce will be launched in the market, leading to further downward pressure on prices.

4.3. Distribution channels

Distribution channels for organic agricultural products in Thailand have developed a great deal since cooperatives launched the organic market nearly 10 years ago. During the early years, consumers could only purchase health food products from small retail shops, although these numbers later proliferated. When it reached the peak of popularity there were more than 100 shops of this kind. However, the distribution structure changed radically once retailers recognized this trend. Soon organic and health foods became increasingly available in most modern trade outlets (supermarkets and hypermarkets). Some companies have even made the allocation of shelf space to organic produce a part of company policy.

Currently, the main distribution channels in Thailand are as listed below:-

1. Member systems (e.g. Community-Supported Agriculture, or CSA): products (mainly fresh fruits and vegetables) are delivered to customers' homes or offices regularly every week.
2. Weekly markets: Mostly these markets for organic produce are upcountry where sellers meet weekly, for example, *Im-Boon* market in Chiang Mai province.
3. Occasional markets: Producers get together for trading during major events such as trade fairs or conferences, e.g. environment days, health fairs etc.
4. Retail health shops: These retail shops may buy directly from producers or through distribution centers (wholesalers). Most health shops are stand-alone (no branches), e.g. *Puan-sukaparp* and Green Net Shops. There are also entrepreneurs who have many outlets such as *Aden* and *Poh-taek*.
5. Health supermarkets: These supermarkets focus on health and environment-friendly products. Currently, in Thailand, there is only one example in this category- the Lemon Farm Cooperative, with its many outlets located at Bangchak petrol stations nationwide.
6. Supermarkets and discount stores – Today all supermarkets and discount stores such as Tops, Safeway, Carrefour, Macro, the Mall, Big C and Villa stock a range of organic produce on their shelves.
7. Organic restaurants– There are many restaurants that source their raw materials from organic producers. These include Anotai Restaurant (Bangkok), Chiva-Som Restaurant (Hua Hin), Mama's Secret (Bangkok), and Red Room (Phuket). Apart from this, there are many restaurants in major cities associated with the Santi Asoke network (See 2.3 and Appendix IV), which use non-certified organic ingredients sourced mainly from growers within the sect's membership.

Clearly, distribution channels for organic agricultural products are quite diversified. The majority of produce is sold through health shops or "Green Shops" but there is a clear and growing preference for supermarkets due to changing consumer behaviour. Modern trade outlets are likely to play an increasingly influential role in trading of organic produce in the near future.

Nevertheless, some environmentalists and advocates within the organic movement question the appropriateness of such marketing channels. In their opinion, modern trade supermarkets and discount stores- by widening the gap between producers and consumers- will eventually destroy the close trust-based relationship which characterizes traditional organic supply chains. In Thailand, most modern trade outlets are in the hands of major retail conglomerates. Such systems carry potential to place smallholders at a disadvantage in negotiating fair prices for produce. There

is pressure therefore to promote alternative channels such as local markets which preserve close producer-consumer relationships.

4.4. Domestic consumer perceptions

As previously mentioned, increasing interest and demand for organic farm produce among local consumers is due mainly to the fact that consumer concerns over chemical contamination and other hazardous substances present in farm produce and foods have often proved to be well-grounded. A flood of health foods and products entered the market to capitalize on these concerns. There are four major non-traditional categories of vegetables on the shelves at most supermarkets today: “hygienic” (*pak anamai*), “chemical-free” (*pak plod sarn*), hydroponic, and organic (*pak in see*).

The plethora of labels and logos has made it difficult for consumers to differentiate between these various labelling schemes. Competing labels could potentially lead to distrust among consumers on labelling integrity, especially when these labels appear to communicate similar messages. Thus, there is a need to promote better understanding among consumers, particularly in the significance and importance of certification.

Thailand’s organic consumers may be characterized as follows:

- urban and middle-class consumers, with 1-2 children and average income of 30,000- to 60,000 Baht per family per month
- Principal shoppers are housewives or female members of family, who are more health conscious compared with their male counterparts
- Consumers have access to data and information beneficial to their health and also on sources of organic food and health products, mainly from printed media, TV and radio.

Table 11: Results of survey on consumer buying patterns regarding organic produce

Who does the buying?	Middle-aged women, highly educated, married with 1-2 children, career women or professionals, working in private or public sector, mostly living in cities.
What to buy?	Food products considered as healthy and environmentally friendly.
Why buy?	Being health conscious and responding to their needs to stay healthy and safe from hazardous food contaminants such as pesticides.
For whom?	Female shoppers take the initiative in deciding what to buy and what to consume. Decisions motivated by concerns for health of other family members, especially children and old people.
When to buy?	Regularly, but more at weekends as scheduled weekly shopping for family.
Where to buy?	Most shoppers do weekly shopping at supermarkets, convenience stores and/or specialized stores for selected items considered safe and healthy. Modern trade outlets are gaining popularity
How to decide?	Consumers acquire information on food safety and healthy products from mass media, and seek additional data through personal contact with reliable or more knowledgeable persons, but still tend to rely on label information, information given by storekeepers or salespersons, and on the quality guarantee label or sticker.

Source: Green Net Cooperative 2005

4.5. Exports

4.5.1. Thailand's exports of organic produce

Thailand's organic exports have a bright future due to excess of demand over supply in international markets. Thai produce such as rice and tropical fruits and vegetables are in particularly high demand. With its comparative advantage in production, Thailand is well-placed to serve the world market.

Major importers of organic farm products include the European Union, especially Germany, the United Kingdom, and France. Demand in Japan and Singapore is also increasing significantly, with the Japanese market for organic farm goods expanding at the highest rate in the world. Among the most popular products are fresh and dried tropical fruits and vegetables, as well as processed agricultural products.

Thailand's comparative advantages lies principally in export of tropical products not produced in the developed markets, off-season products, in-season products where demand outstrips supply, and specialty or novelty products.

It is important to note that the domestic and export markets cannot be considered in isolation. The rapid development of the domestic market for organic food and products contributes to the overall stability of the sector by easing supply fluctuations and broadening the diversity of available produce, thereby supporting the export market. A mature domestic market also provides a ready market to absorb export surpluses and produce which falls below required export specifications.

The Department of Export Promotion (DEP), Ministry of Commerce, undertakes a number of activities aimed at facilitating exports. Apart from supporting participation of exporters at global and regional organic events (e.g. Biofach, Germany and the Natural Products Organic events in Singapore and Hong Kong), DEP also organizes business incubation and training events to develop the export sector, and plans to develop an information website catering specifically for the organic sector.

4.5.2. Exports to the EU

There are no official statistical data on Thailand's organic exports to EU markets. The available information is indirect, compiled from import authorizations issued by EU competent authorities, allowing import of organic produce from overseas. For Thailand, a total of 53 permits had been issued since 1999. The majority of organic products approved were jasmine rice, certified by Bioagricert, KRAV, ACT, BCS, or Ecocert.

Besides rice, the second important category exported to EU is fresh vegetables. Other important organic exports include sugar, palm oil, and vegetable seed.

Table 12: Thailand's organic exports to the EU

Issuing country	Inspection body	Product
Austria	KRAV	Rice
Austria	KRAV	Rice
Austria	IMO Inst Fur Marktölogie CH	Rice
Belgium	KRAV	Brown jasmine rice; white jasmine, rice
Switzerland and Liechtenstein	Organic Agriculture Certification Thailand	Jasmine rice
Switzerland and Liechtenstein	Organic Agriculture Certification Thailand	Conversion jasmine rice
Switzerland and Liechtenstein	Organic Agriculture Certification Thailand	Leung-on rice
Switzerland and Liechtenstein	Organic Agriculture Certification Thailand	Conversion Leung-on rice
Switzerland and Liechtenstein	Organic Agriculture Certification Thailand	Leung Pra Taw rice
Switzerland and Liechtenstein	Organic Agriculture Certification Thailand	Conversion Leung Pra Taw rice
Switzerland and Liechtenstein	IMO Inst Fur Marktölogie CH	Polished jasmine rice
Germany	Ecocert SA c/o Ecocert International	Basmati rice, black Chinese rice, brown jasmine rice, red jasmine rice, white jasmine rice, white basmati rice
Germany	KRAV	Rice
Germany	Organic Agriculture Certification Thailand	Brown rice, white rice
Germany	QCu.I GmbH	Rice, sugar
Germany	KRAV	Rice
Germany	BCS Öko-Garantie GmbH Control System Peter Grosch	Baby corn, sweet corn kernel
Germany	QC&I	Palm kernel, oil palm, oil
Germany	BCS Öko-Garantie GmbH Control System Peter Grosch	Jasmine rice
Germany	KRAV	Rice
Denmark	Soil Association	Asparagus, green chilli, lemongrass, maize, maize grain, canned baby corn, okra
Denmark	Soil Association	Asparagus, fine bean, Chinese broccoli, green chilli fruit, Chinese kale, lemongrass, maize, mini maize, canned maize, okra, passion fruit, pineapple
Denmark	Bioagricert srl	Coconut milk
Denmark	Soil Association	Asparagus, green chili, coriander, lemongrass, maize, mini okra, spices, herbs, sweet corn
Denmark	Soil Association	Asparagus, chili, corn, cob corn, sweet, lemongrass, maize, okra
France	KRAV	Brown rice, white rice
United Kingdom	Organic Agriculture Certification Thailand	Jasmine rice
United Kingdom	Soil Association	Asparagus, fine bean, coriander, baby corn, curly parsley

United Kingdom	Ecocert S.A.S.	Baby corn, lemongrass
United Kingdom	Ecocert	Husked jasmine rice
United Kingdom	Ecocert SA c/o Ecocert International	Asparagus, banana leaf, sweet basil, Thai basil, chili, baby corn, galangal, kale, lemongrass, litchee
United Kingdom	Soil Association	Asparagus, fine beans, runner beans, baby corn, herbs, okra, parsley, mange-tout peas, sweet corn
Italy	Bioagricert srl	Rice
Italy	KRAV	Rice
Italy	KRAV	Jasmine rice
Italy	Bioagricert srl	Fragrant rice
Italy	Bioagricert srl	Coconut juice
Italy	Bioagricert srl	Palm oil
Italy	Bioagricert srl	Palm oil
Italy	Bioagricert srl	Sugar cane, tapioca starch
Netherlands	Soil Association	Asparagus, fine beans, coriander, baby corn, sweet corn, dragon fruit, lemongrass, okra, Hawaii papaya, curly parsley, passion fruit, mange-tout peas, snap sugar
Netherlands	Soil Association	Asparagus, purple asparagus, Chinese basil, purple basil, fine beans, mung beans, runner bean, Chinese broccoli, coriander, baby corn, canned baby corn, baby corn seed, canned sugar corn, galangal, garlic chive, lemongrass, litchee, longan, mango, okra, spring onion, pak choi, Hawaii papaya, Chinese parsley, curly parsley, French parsley, passion fruit, pineapple, salad, soya bean, sugar corn, retortable sugar corn pouch, sugar corn seed, choi sum, tarragon, tatsoi
Netherlands	Ecocert S.A.S.	Brown jasmine rice, white jasmine rice
Netherlands	Bioagricert srl	Palm oil
Netherlands	Ecocert S.A.S.	Black rice, red rice
Netherlands	Skal International	Cucumber seed, hybrid sweet pepper seed, hybrid tomato seed
Netherlands	Skal International	Cucumber seed, hybrid sweet pepper seed, hybrid tomato seed
Netherlands	Bioagricert srl	Palm oil, palm stearin
Netherlands	QCu.I GmbH	Rice
Netherlands	Bioagricert srl	Sugar cane, tapioca starch
Netherlands	Bioagricert srl	refined bleached deodorized palm oil, palm olein, palm stearin
Netherlands	Skal International	Squash seed
Netherlands	Ecocert S.A.S.	Black rice, chili rice cracker, mixed rice crackers, seaweed rice crackers, tamari rice crackers, brown jasmine rice, white jasmine rice, red rice

Source: EU import statistics as of Sept 2005

5. EU import requirements

5.1. EU regulations on organic imports- Article 11(1)

The EU has developed mandatory organic certification and accreditation systems to increase consumer confidence in organic products. The EU has detailed regulations on the production, labelling and inspection of organic products and maintains a list of countries from which imports of organic products are permitted. All organic food, whether produced in the EU or imported from third countries, must come from growers, processors or importers who are registered and subject to regular inspection. Importers must prove:

- that the products have been produced following rules *equivalent* to those laid down in Articles 6 and 7 of Council Regulation (EEC) 2092/91 (as amended);
- and were subject to inspection measures *equivalent* to those laid down in Articles 8 and 9 of Council Regulation (EEC) 2092/91 (as amended) and that such inspection measures will be *permanently and effectively applied*.

Under Article 11(1) of EC regulation (2092/91), there are two conditions that must be met to gain entry to the EU market. The first is to appear on the Third countries list (EC Regulation (94/92)). The second is to have a recognized competent authority issue a certificate stating that the EU production and inspection rules were respected.

A country that wishes to export organic products to the European Union needs to have those products certified by internationally recognized control bodies. At the time being importers can apply for an import permit according to Article 11, if the country is not yet part of the “Third countries list” of the EU and the product is certified by an internationally accredited/recognized control body.

Countries on the "Third countries list" are accepted by the European Union for having equivalent regulations and control structures for organic agriculture. The main benefits accruing from inclusion in the "Third countries list" are as follows:-

- Produce can be exported without the need for an import permit to the EU, thus saving considerable time and effort on the part of the importer.
- The governmental control system is able to support the development of the organic sector through the provision of information about the number of producers, regions, volumes of produce. Such information provides a necessary basis for the development of strategies for extension services, research, marketing, etc.
- The competent authority is able to minimize fraud in the area of organic production through effective control and supervision of the control bodies and producers.

Most importantly, the government is able to defend and protect the interests of the national producers against other governments and instances, and acts to guarantee the producers' compliance with the organic standards, and also the compliance of the control bodies with the ISO Guide 65.

The requirements for application to the “Third countries list” are as follows:

- Equivalent regulations
- Governmental control system (Competent Authority that supervises and sanctions control bodies and producers/processors/traders)
- Certification bodies complying with ISO Guide 65.

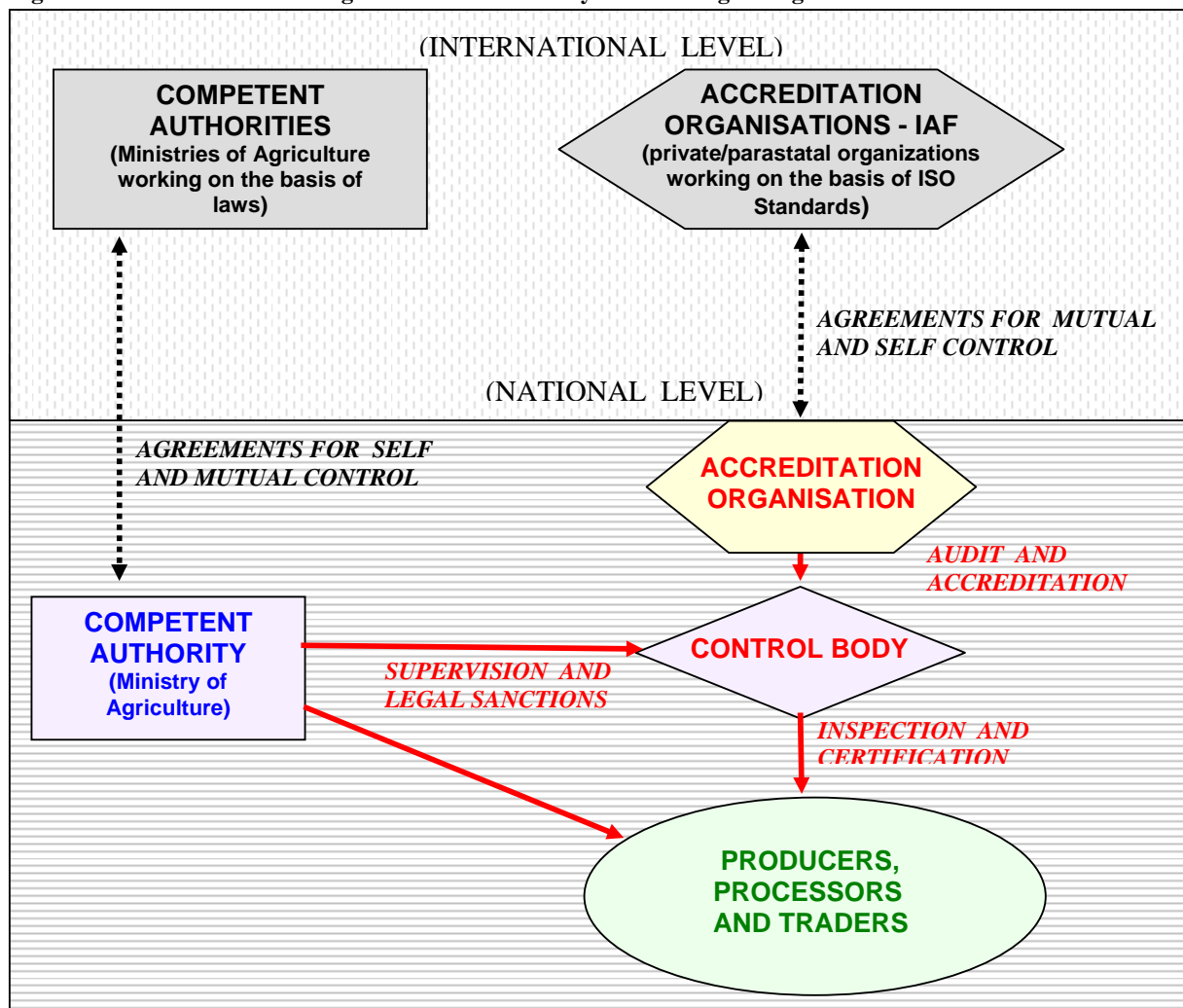
In order to be accepted by the European Union, Thailand's inspection and certification bodies have to comply with the requirements of EN45011/ISO Guide 65 standards. EN45011 is known as a 'European Norm' which contains provisions relating to the structure of inspection/certification bodies and requires for example that their certification decisions shall be free of influence from commercial considerations. As a consequence, and in order to achieve a "level playing field", all imports of produce from outside the EC for sale as organic must also be shown to be certified by bodies complying with EN45011, or its international equivalent, ISO Guide 65. Importers are required therefore to provide evidence showing that such compliance exists.

Thailand has therefore to implement a system which is equivalent to the system of the European Union. In this case, equivalence means that the efficiency of control measures must be similar to those of the countries of the European Union. For Thailand to demonstrate this level of competence, Thailand's Competent Authority has the following tasks:

- Register and supervise certifiers and operators, and conduct regular follow-up of the different operators registered by the competent authority
- To ensure the objectivity and efficiency of the registered certifiers and maintain a complete and updated database
- Promote and support the periodical updating of the Organic Agriculture Regulation
- Examine and resolve appeals, claims and objections related to registered operators and of other cases related to organic agriculture
- Apply sanctions as appropriate
- Notify, if necessary, the respective operators or those affected with any infraction or irregularity (for example, by other competent authorities)
- Coordinate and implement agreements with other governments, and to assure full compliance with the agreements.

Governmental control systems in the countries of the EU differ somewhat from each other, but most of them work according to the structure shown in Figure 4.

Figure 4: General structure for governmental control systems for organic agriculture in the EU



5.2. Control systems for organic agriculture

In order to establish equivalence with EU systems for recognition under Article 11 (1) of the EU Regulation 2092/91, exporting countries would need to demonstrate the competence of their control systems. In the case of Thailand, key components of the system are already in place:

- Regulation for organic agriculture
- Agency for standards and accreditation (ACFS)
- Structure for local certification which can support the development of the domestic market
- Local expertise to support the improvement of the local control system (accreditation, certification, enforcement)
- Private local control body, recognised at international level
- National and international organisations to support the process to develop / strengthen the control system.

During evaluation of an application for inclusion in the Third countries list, the existence of an effective, functioning governmental control system is an important criterion apart from the existence of an equivalent regulatory system. For this reason, close coordination between

stakeholders, especially locally-established certification bodies is necessary to develop sufficient local understanding of EU requirements, thereby ensuring competitiveness of local certification bodies in the long run, and avoiding over-dependence on foreign internationally-recognized certification bodies.

A full assessment of the levels of compliance of the Thai regulatory regime with the detailed provisions of the European Union is beyond the scope of this report. However, Table 13 below offers a summarized gap analysis for the key components.

Table 13: Gap analysis - compliance with EC Regulation 2092/91

EU Requirements	Current situation in Thailand
1. Organic Crop Production Standards	<p>ACFS has adopted national organic crop production standards since 2002, (Organic Agriculture, Part 1: The Production, Processing, Labelling and Marketing of Organic Agriculture, ACFS 2003). The document serves as guidelines of organic crops, livestock, and shrimp production and supposed to be used for a national organic accreditation programme by the ACFS.</p> <p>ACFS has undertaken a gap analysis of the ACFS organic standards and the EU requirements in 2004. No further action since to revise ACFS standards to be equivalent to EU requirements.</p>
2. Competent Control Body	<p>There is at least one national certification body that has been accepted by the EU competent authority under the article 11 (6) (import derogation), i.e. the Organic Agriculture Certification Thailand (ACT). There are also several EU-based certification bodies operating in Thailand who have helped to facilitate the export to EU under the article 11 (6). The competency of these control bodies is recognized by the EU commission based on the article 11 (6).</p>
3. Thai Competent Authority	<p>No Thai competent authority has been set up specifically for organic agriculture.</p> <p>The ITC project's training (4-6 Jan and 22-24 Feb 06) helped ACFS to understand the role and responsibility as well as structural requirements for the Thai competent authority.</p> <p>No further action has been reported from ACFS or any other public authorities on the establishment of the Thai competent authority for organic agriculture.</p>
4. Control System and Enforcement	<p>No control system and enforcement for organic production and inspection-certification as per requirements of the EU regulation. This is mainly because a competent authority has not yet been established.</p> <p>Similarly, the ITC project's training (4-6 Jan and 22-24 Feb 06) helped ACFS to understand the organic control system as per requirements of the EU regulation.</p>

5.3. Revision of EC Regulation 2092/91

The EC Regulation is currently under revision. Part of the import provisions of the current Regulation (EEC) No 2092/91 expires on 31 December 2006, and a proposed new import scheme should thus apply as from 1 January 2007. However, this will leave little time for its implementation, in particular as regards the recognition of control bodies competent to carry out control in those countries which are not on the list of recognized third countries. In order not to disrupt international trade, it is anticipated that the EC is likely to extend the possibility for Member States to continue to grant import authorizations for individual products until the measures necessary for the functioning of the new import scheme have been put in place. To this end a second proposal amending Regulation (EEC) No 2092/91 has been submitted to the Council.

The full proposal is available at:

http://europa.eu.int/eur-lex/lex/LexUriServ/site/en/com/2005/com2005_0671en01.pdf

With regard to trade with third countries, the proposal recommends granting access to the EU market either on the basis of compliance with the EU rules or on equivalent guarantees provided by third country authorities or certified EU approved control bodies. The equivalency assessments for the purpose of import will be based on the international standard (*Codex Alimentarius*) or on the Community Regulation. Third countries are free to add their own arrangements where needed. The current system of 'community list of third countries' will be maintained, with annual reporting and follow-up control visits with Member States involvement. Single product access to the EU market will likely be granted either on the basis of compliance with the EU standards and submission to the EU system of controls, or on the basis of equivalent guarantees certified by control bodies that have been approved by the Community for that purpose.

It is proposed that the new regulation will apply from 1 January 2009 in order to allow for the reworking and transposing of the existing detailed rules into the new Regulation. However, if approved, the new rules on imports will come into force on 1 January 2007.

The implication of the new rules for Thailand is that there would be two options for official recognition by the EU for countries exporting organic products:

(1) Direct recognition of control (certification) body by the EU Commission, provided that this control (certification) body is operating in compliance with the new EU regulations. These requirements, among other, include fulfilling the requirements of ISO 65 and subject to on-the-spot evaluation by EU designated experts. A list of recognized control bodies will be published by the EU. In other words, Thai certification bodies can apply directly to EU for direct recognition.

Or-

(2) Third country recognition whereby the exporting country whose production standards and control arrangements are equivalent to those applied in the EU, or are in accordance with the internationally recognized standards set out in the *Codex Alimentarius* guidelines. This means Thai authorities will need to establish the standards and organic guarantee system either equivalent to the system in EU or in the *Codex Alimentarius* guidelines and having local certification bodies which are subject to control system of either one of these systems. A list of recognized countries will also be published by the EU.

If the new EU regulation is approved as proposed, Thailand will have to decide which option she wants to pursue. From preliminary analysis, option one is considered better suited to Thailand's conditions for the following reasons:

- The process of recognition would be much faster, as direct recognition would take a shorter time;
- Direct recognition would require fewer resources, financial and others, to accomplish. This means that more resources can be freed up and devoted to more urgent needs, e.g. support for production conversion;
- Other major importing countries, like US and Japan, have also adopted a similar approach of direct recognition of local certification bodies.

6. Major challenges faced by Thailand's organic sector

6.1. Sector challenges

In recent years many new organic projects have been initiated by the government, private sector and the NGO community, to help producers convert to organic production. The Thai organic sector is showing signs of approaching the “take-off” stage as many organizations have announced their support for organic agriculture or announced plans for organic projects. This endorsement by the private sector as well as by the government itself could set the stage for a major expansion of organic production in the country over the next few years, in tandem with the rapid growth in international organic markets.

Nevertheless, many organic initiatives would not qualify as meeting internationally-recognized organic standards. Organic agriculture is often seen as a simple substitution of agro-chemicals with organic inputs, or the replacement of chemical fertilizers with organic materials. The basic concept of organic farming - as a positive farm management system, with its broader philosophy of attempting to conserve and rehabilitate the agro-ecosystem - is often overlooked, even by practitioners. Most organic projects in Thailand today are based simply on application of liquid organic fertilizers and the use of micro-organisms for making compost.

Also, the organic guarantee system is generally not fully understood by organizations promoting organic agriculture. In particular, accreditation and certification are frequently not properly differentiated, and regulations covering organic imports are not well understood even among practitioners. The knowledge gap can be an important constraint to the continuing growth of Thailand's organic sector in the short- and medium-term.

In common with many developing countries, Thailand considers that internationally set organic standards, including EU organic standards, are unnecessarily stringent, and there is insufficient promotion/education of the process and benefits to farmers. Small farmers in particular have insufficient capital, knowledge and resources to risk converting to organic farming if they must carry the current high compliance costs. Current policy goals place insufficient emphasis on the production process, and focus primarily on standard setting and certification, and on establishing national standards, even though these standards do not help attain recognition by Thailand's key trading partners.

The following discussion summarizes some specific issues and challenges facing Thailand's organic sector, which emerged during the stakeholder consultation process.

6.2. Conversion

The most important challenge facing organic producers is farm management during the transition period from conventional to organic production, and before farmers can obtain their organic certification. This conversion period can take 1-3 years, depending on the standards employed. In case of EU, the conversion period is 24 months for annual crops and 36 months for perennial crops.

Farmers during the conversion period typically face problems with yield losses and economic hardship. They must therefore plan and manage the farm carefully in order to achieve and sustain compliance. Farmers need to understand the appropriate technologies applicable to their crops, the ecosystem and specific market needs. Thus during this transition period it is especially important

to provide farmers with ongoing support, otherwise there is a real possibility that farmers will change their minds and abandon their efforts.

A further challenge encountered during the transition period is that produce cannot be labelled or sold as organic, and so cannot attract the organic premium in the marketplace. During this transition period farmers must comply with organic certification requirements without commensurate returns in the short term. Financial support from the government is therefore important to motivate farmers in this situation. Alternatively, traders and organic promotion projects themselves could provide financial support to assist farmers in transition to lower their conversion costs.

6.3. Production technologies

Although maintenance of soil fertility is fundamental to successful organic agriculture, there have been relatively few advances in soil improvement technologies in recent years. Researchers and extensionists tend to focus on more visible technologies such as liquid fertilizers using micro-organisms, or pelleted organic fertilizers. In reality, such technologies contribute relatively little to soil improvement in the longer term, and their main benefit is convenience in use.

Similarly, crop protection technologies suitable for organic production have seen little progress in recent years. The main focus has been to replace chemicals with organic substitutes. This approach ignores the key principle underpinning organic agriculture, which is the need to create and maintain a balance between the production system and the environment. Pest problems signify an imbalance. Attempting to find an organic pesticide that is effective, to replace a chemical product, does not address the basic imbalance in the agro-ecosystem, i.e. a holistic approach is called for.

6.4. Supply

Existing organic farming systems often cannot adequately address the fundamental problem of ensuring consistent production and regular supply of fresh produce of guaranteed quality.

Because organic farming activities tend to be concentrated in certain areas, the supply chain is vulnerable to supply fluctuations caused by extremes of weather or biotic factors (e.g. pests or diseases). With such unpredictable changes in weather or other growing conditions, organic farmers face a great deal of difficulty in maintaining a steady, reliable supply of specific crops regularly to markets. Fruit and vegetable production in particular is most sensitive to weather conditions, and producers have met with limited success in diversifying the range of available produce on the market. Furthermore, there are shortages of quality seed for planting. Oversupply can also be a problem, where unexpectedly bountiful harvests flood the market which has only a limited number of outlets, whilst the produce has a short shelf life.

6.5. Supply chain logistics

An increasingly long supply chain and longer distances from farm to shelf or outlet impose additional burdens on administration and management, ranging from harvesting, collecting and transport, etc., all of which add to costs at retail level. The situation is exacerbated by inefficiencies in the management of the business operation. Inevitably, this also has a direct impact on the quality of organic crops and produce, when finally delivered to buyer or outlets.

6.6. Quality

Produce quality is of course crucial, particularly for the export market, and has already been referred to elsewhere in this report. In general, potential buyers of organic agricultural produce or products are highly discriminating consumers from middle-income brackets. Whilst prepared to pay a premium for organic produce, they demand high standards of quality and consistency. However, in the market there is concern over the generally low quality of organic products, as well as the lack of consistency in quality, even from within the same harvest or batch.

To address the issue of inconsistent quality, it is imperative that appropriate and efficient quality control systems be adopted, starting from planting or production process, post-harvest management, processing and transport or delivery.

6.7. Processing

Processing methods are usually rather unsophisticated, conducted by local organic farmers or co-operatives, and relying mostly on basic local knowledge. Often processing is managed and operated at community level (community-based enterprises).

There has been relatively little progress in identifying appropriate post-harvest technologies, storage and processing methods to minimize post-harvest losses without using proscribed chemicals. Often, producers and entrepreneurs arrive at practical measures to reduce post harvest losses simply through trial and error. Government initiatives are perceived as academic rather than address practical issues. Farmer groups report a lack of consultation with producers or entrepreneurs by researchers, which means that the research may not ultimately match their needs.

6.8. Market promotion and advertising

Overall, the level of government and private sector investment in advertising and promotion is inadequate. Entrepreneurs tend to prefer low-cost advertising e.g. media interviews about their shops or products, or written articles on health and organics for magazines. There are few media channels directly providing information on organic agriculture, and few entrepreneurs who invest in paid advertisements. In general, promotion of organic produce focuses on food safety considerations (freedom from pesticide contamination), health and nutritional benefits, and quality/freshness. Promotions tend not to emphasize the significance of the organic certification seal or brand, perhaps because consumers have relatively little awareness of different organic standards. There is hardly any other type of promotion.

Raising of awareness and understanding among consumers in the differences between organic and 'hygienic' vegetables is an important factor in stimulating the organic market in Thailand. Entrepreneurs need to work together to achieve this as a common goal, and government also needs to invest in raising the profile of organic foods among consumers.

6.9. Inspection and certification

It seems probable that Thai organic products will continue to be imported into the EU through the "application for authorization for marketing" channel (Article 11), at least for the next 3-5 years. Pending Thailand's inclusion in the Third Country List, internationally-recognized private

certification agencies in Thailand will continue to play a key role in facilitating this channel. However, there is no government support or stimulus to develop this sector, making it difficult for Thai-owned companies to compete with foreign certification agencies.

Organic standards and certification assist in raising consumer confidence, and differentiate organic produce at point of sale. In order to ensure the credibility of certification standards, transparency and independence are key criteria. In Thailand certification is managed by both private and public sector agencies, which introduces inefficiencies into the system and constrains growth and viability of the private sector certification business.

Within the public sector agencies, overlapping responsibilities between different functions create further inefficiencies and even conflicts of interest. Supervision of control bodies and producers and (legal) sanctioning are two functions which have to be fulfilled by a Competent Authority. On the other hand, auditing and accreditation should be clearly separated from supervision and legal sanction in order to ensure transparency and public trust.

Many countries have resolved these issues by allocating the role of inspection and certification to the private sector- the government's role is then to strengthen and accredit and monitor those private sector agencies, and in enforcing all relevant standards.

Finally, in common with many other countries, the government's focus is on standard-setting, rather than to support production and strengthen the commercial viability of the sector. Whilst the organic sector is at an early stage of development, over-regulation to control production can present an excessive burden, especially for small farmers. An over-complex regulatory and standards environment will thus constrain rather than facilitate organic agriculture development and can be a big obstacle for developing the sector in the long run.

6.10. Support mechanisms: training and extension

Many organic producers do not fully understand the holistic principles or standards applicable to organic agriculture. Farmers need direct and practical support, especially during the conversion process as well as to improve post-harvest quality management. However, training and extension support mechanisms for production have been weak. Classroom training, which has been amply proven to be ineffective in enhancing farmer understanding, or even in increasing levels of on-farm adoption, continues to be the main methodology used by organic extension agencies.

Overall, there is insufficient education and competency development to enhance capacity at producer, processor, and exporter levels to better manage their organic production and certification in compliance with EU requirements. Thailand has yet to develop a national training curriculum and programme for growers which focuses specifically on EU requirements and market conditions.

Nonetheless, participatory training and extension models developed by community-based organizations have emerged as a popular alternative to conventional methods of training and extension. However, adopting this extension methodology would require substantial restructuring and retooling within the government extension system, in order to create a pool of resource persons and build competency. Nevertheless, participatory methods are gaining an increasing following, emphasizing as they do the need to shift from crop management to farm management, and reflecting specific local conditions and culture.

7. Recommendations and action plan

7.1. Introduction

This Action Plan represents the outcome of a series of group and individual consultations between the ITC's Technical Assistance Team with stakeholders in government, the private sector, academia, grower groups, and concerned NGOs, as well as international experts.

The recommendations aim to offer national-level strategies and action plans which can be implemented by the Royal Thai Government and other stakeholders in order to address the constraints and challenges identified over the past 12 months of the study, and serve to enhance the competitiveness of the organic export sector.

The recommendations themselves cover production systems and supply chain, certification and control systems, research, training and extension, domestic and export markets.

It is important to stress that the Government's current National Organic Agenda is a bold and forward-looking initiative which aims to mainstream organic agriculture within the overall policy context. This Action Plan therefore aims to build on this platform and help channel the existing momentum to stimulate and support the sector most effectively. For this to be achieved, key stakeholders must be fully involved at all stages of policy development. Implementation needs to be transparent and inclusive, and in particular, allow for meaningful inputs and even co-ownership of initiatives by the private sector and civil society groups.

7.2. Vision and principles

It is hoped that this action plan, building on existing policies and measures of the Royal Thai Government, will make a contribution towards a vibrant and thriving organic sector in Thailand. If successfully implemented, such measures will assist in the acknowledgement of Thailand in EU member countries as a prime source of high quality organic produce which meets key national and international standards. Private sector importers from EU member countries will then look to Thailand as their preferred source of produce. The measures will help the sector itself to be well-organized, ensuring a wide range of produce available both for domestic and export markets, with supplies matched closely to demand. This will be made possible by close dialogue and effective linkages between producers, exporters and the overseas markets, to ensure understanding and compliance with importer requirements and national standards.

In support of the objectives of the National Organic Agriculture Agenda, there will be clear annual targets in place for organic agriculture, together with the mechanisms and resources needed to achieve them.

The Government will play an enabling and facilitating role, with effective and transparent mechanisms in place to support and oversee the sector, open up new markets (domestic and exports) and uphold national standards as well as international obligations. Prioritization of training, research and accreditation related to organic agriculture will also serve to stimulate and support the sector, particularly for smallholders.

Through the blending of traditional knowledge and modern science, new and innovative production technologies will open up new market opportunities, revitalize rural communities and contribute to environmentally sustainable social and economic development.

The recommendations listed below are intended to support the above principles, and implementation mechanisms are proposed for each of the seven strategies identified below.

7.3. Strategy 1: Broaden the production base for organic agriculture

The major challenges and constraints to growth in organic production are laid out in Chapter 6 of this report. Many of these issues can be addressed through the formation of grower groups, which can provide an important support network for individual farmers, and enhanced access to information, technologies and markets. Two mechanisms are recommended: production clusters and contract farming, which, when well implemented, have the potential to bring sustainable benefits to communities.

Both systems are of course already practiced in Thailand in various forms, and merit further government support, especially during their initial establishment phases.

Action 1.1 Implement additional support measures to facilitate conversion to organic systems

Perhaps the greatest challenge facing farmers wishing to convert from conventional to organic systems is the long conversion period required in order to reach compliance with internationally accepted organic standards. The requirement places a financial burden on farmers which constrains growth of the organic area, and particularly limits participation of smallholders.

Relevant agencies (private and public sectors, cooperatives, NGOs and academia) will need to join hands to develop agreed and effective training curricula and programmes relevant to the practical aspects of organic farming. The training is necessary to create genuine awareness and understanding of organic agriculture among farmers as well as concerned support agencies. Government financial support for such training would be needed, whether carried out by government agencies themselves, the private sector, grower groups or NGO's.

Aside from technical training, other financial support mechanisms such as extended credit, soft loans or other incentives offered by the government will help small farmers to weather the initial conversion period from conventional to fully organic production.

Action 1.2 Support the establishment of organic production clusters in the private sector

An economic cluster is a concentration of largely homogenous enterprises within a relatively limited geographical area. Interventions aimed at improving the performance of this type of enterprise benefit from a cluster approach because of the similarity of needs and support requirements. It speeds up the dissemination of best practice because of the pervasiveness of the demonstration effect, and allows for a distribution of the fixed costs of interventions (e.g. certification and inspection costs, processing equipment etc) among a large number of beneficiaries.

Organic Grower Clusters i.e. groups of farms within defined geographic areas, and run by grower groups, offer a rational business approach for the following reasons:

- organic farming can be better achieved if farmers devote a minimum contiguous area of land, and that all growers within that area all comply with agreed standards. This brings collective and individual responsibility through peer pressure
- reduction in overall compliance costs e.g. through group certification
- effective and accountable way of channelling government support, easy to monitor and evaluate success
- effective way to address supply and quality issues
- economies of scale at many levels (production, input supplies, credit, training support, processing and transportation, and branding / marketing)
- technology transfer is more efficiently accomplished at the cluster scale.

It is emphasized that such clusters should be organized and self-governed by grower groups themselves, with government agencies, research institutions and NGOs playing a supporting and facilitating role, offering essential specialized services such as finance, marketing support, training and extension, and demonstration farms.

The EUREPGAP grower cluster in Kanchanaburi and the organic rice cluster in Yasothon Province serve as successful examples of the benefits of this approach.

Action 1.3 Support contract farming in organic agriculture as an effective vehicle for poverty alleviation

Contract farming may also be considered and applied as an effective model for poverty alleviation. However, since contract farming has often been associated with exploitation of farmers and workers, such schemes would require strict monitoring to ensure fair returns, farmer empowerment and secure livelihoods for growers. Development and adoption of appropriate guidelines for contract farming will provide monitoring groups from within the organic community itself with objective criteria to ensure that the principles of organic farming and the rights of individual growers are fully respected within the contract farming environment.

Action 1.4 Invest in technologies and processing facilities to enhance value-added and exploit new market opportunities

As the global organic market becomes more sophisticated, moving away from simple commodities to enhanced-value innovative organic products e.g. nature-based cosmetics, plant derivatives, clothing etc., new opportunities are emerging to generate additional income at farm level for Thai organic growers. Today these opportunities are generally underexploited, but such diversification would find ready markets both domestically and globally.

In exploring the above possibilities for adding value, the following interventions are considered as priorities:

- new products targeted at export markets (both food and non-food)
- innovative marketing and branding initiatives
- strategic investment in technologies and processing facilities to take advantage of identified opportunities.

For example, the Government-supported “One Tambon (District), One Product”, or OTOP scheme offers a well-established vehicle for marketing such products, both in domestic and overseas markets. Such measures offer a means of shifting the focus from primary, unprocessed commodities to secondary, processed goods with greater value added. This is of special value from a sustainable livelihoods perspective where the value addition occurs early on in the supply chain.

Action 1.5 Support the organization of growers in regard to joint distribution, storage and transport infrastructure

Producer organisations are often under-resourced and the lack of proper distribution infrastructure can constrain potential for both domestic and export markets. Since organic farming presents new and unfamiliar challenges, it is of particular importance that growers join hands and establish / strengthen grower cooperatives. Issues such as proper segregation of organic and non-organic produce, establishment of proper packing facilities, grading and sorting machinery and transport, are best addressed by grower groups. Government support for such joint efforts by producer groups would be especially valuable.

Action 1.6 Strengthen the ongoing bio-fertilizer initiative spearheaded by the Ministry of Agriculture and Cooperatives

Under the National Organic Agriculture Agenda, the government aims to stimulate the organic sector through various measures, including the establishment of organic fertilizer factories throughout the country. The programme involves 26 agencies from 6 Ministries, and is led by the Land Development Department, Ministry of Agriculture and Cooperatives. The programme will assist in addressing the shortage of organic inputs at a local level, and is strongly supported by stakeholders nationwide. However, as a multi-agency initiative, the Agenda will require ongoing political support to ensure its success in the longer term. It is recommended that priority be given to managing this initiative effectively, with appropriate participation in operational management and decision-making by the broader stakeholder community.

7.4. Strategy 2: Enhance capacity and streamline the existing regulatory structure

Government policy so far has prioritized the development of voluntary national standards, and the setting up of public certification bodies. Whereas both are important components, in their present forms they do not address the fundamental issues which are delaying international recognition. The

policy framework should therefore focus more closely on addressing and facilitating the specific needs of Thailand's exporters with respect to compliance with importing country requirements.

The regulatory system may be viewed as a tool for assisting organic producers to access export markets through equivalence agreements, but the establishment and validation of such equivalence is a longer term solution and is very resource-intensive.

If the aim is to support the export sector, it is considered sufficient to establish a government-supervised system for export of organic produce, without the need for mandatory national legislation. The key to export market access lies in competent and qualified certification agencies, and thus efforts to strengthen them should take precedence.

The government's free organic certification service is aimed to encourage uptake especially by small farmers. However the service faces shortcomings in that it does not assist exporters who require internationally-accredited certification. The service also distorts the market for Thai private sector certification services.

Action 2.1 Review the public sector certification system and improve access by smallholders

It is recommended that the current certification system be reviewed. In order to build credibility and trust the two principles of (a) separation of roles between the government's accreditation and certification services, and (b) non-discrimination, should be observed. These requirements will necessitate clear separation between the public sector certification and accreditation services, and that both public and private sector certification bodies should be subject to the same accreditation norms.

In order to avoid competing with private sector certification bodies, it is recommended that the government certification scheme should target only the domestic market, leaving the private sector to look after the export market.

Consideration might also be given by the Ministry of Agriculture and Cooperatives to ending its free certification service, and instead establishing an appropriate tiered cost structure to allow free or low-cost access by smallholders, combined with a cost recovery policy for larger operators. The government should also set aside funds to offer smallholders better access to certification services provided by Thai private certification bodies.

These measures will help enhance the competitiveness of Thai-operated private sector certification bodies rather than allow over-dependence on foreign certification bodies in the Thai market. This is important in order to develop the pool of qualified certification expertise within Thailand, and also because locally based certification bodies often play an important role in the local development of the sector and for the formulation of nationally adapted standards (which is not the case for foreign-based certification bodies).

Action 2.2 Review and strengthen the voluntary National Organic Standards to improve understanding and enhance their value to farmers

The voluntary National Organic Standards are an important step forward in establishing a benchmark for the domestic organic market; however they are not well understood and adoption has been patchy.

A review of the standards would help address these questions, and should be undertaken with the active participation of civil society, grass-roots NGO's and private sector grower groups, in addition to the respective concerned government agencies.

7.5. Strategy 3: Prioritize research into organic agriculture

Organic farming systems represent a vital scientific frontier in the development of environmentally sound agriculture. However, whilst a considerable amount of research has been undertaken in Thailand into many aspects of organic agriculture, there is no system to relate such work to inform a coherent strategy or analysis of organic farmers' needs. Growth of the organic production sector is important not only from a business or economic perspective, but also as an integral component of sustainable rural development. Unfortunately the national agricultural research system has not adequately explored this potential, and has not significantly helped improve the performance of organic farming systems in Thailand. This failure is contradictory in view of policy goals seeking reduced environmental risks in agriculture and greater diversity in cropping patterns (e.g. the Royal Initiatives, and the concept of the 'Self-sufficiency Economy'), and the adoption of sustainability as a fundamental guiding policy principle.

With this challenge in mind, the national organic research agenda must recognize and utilize the good work that already has been done. An important early task will therefore be to collate existing data on the behaviour of organic farming systems and use such work to inform the process of formulating a coherent national research agenda for organic systems.

A commitment to easing the transition to organic systems suggests two obvious areas of development. The most basic aspects of successful organic farming are 1) the build-up and maintenance of organic matter in the soil, and 2) ecological diversity on the farm and crop rotation. Simply focusing on cost-effective technological innovations in these two fundamental areas could bring enormous benefits to all segments of Thai agriculture.

Further definitive research also needs to be done on areas such as the economics of organic agriculture, consumer attitudes and innovative products, and holistic studies of the benefits of organic agriculture, using econometric techniques and quality of life indicators to account for health, social and environmental benefits, as well as broader benefits accruing from biodiversity protection.

In order to stimulate and direct research appropriately to meet real practical needs, the following actions are proposed:

Action 3.1 Identify and address the role and potential contribution of organic agriculture to national goals for sustainable development

To date there has been fairly universal acknowledgement that organic agriculture has an important role to play beyond simply satisfying a market need. However, the actual and potential contribution has not been adequately quantified at a macro level e.g. through econometric modelling. This contribution should be addressed in all its

dimensions. In so doing, the study would automatically address and quantify the impacts of any policy conflicts between organic and mainstream agriculture (e.g. impact of *de facto* subsidies for pesticides in distorting markets) to bring coherence to national agricultural and social development policies.

Action 3.2 Establish a national organic research and development centre and national organic information database

A dedicated agency for organic research would serve to collate and disseminate the latest research findings, and coordinate a national network of dedicated organic experiment stations and demonstration farms, working closely with organic practitioners in the field. A web-based national research database specializing in organic agriculture would play a key role in assisting researchers and other stakeholders to make effective use of research in their activities, and establish partnerships in implementation (both local and global, especially South-South partnerships). The agency would also link with global centres of excellence to keep Thai-based researchers updated.

Action 3.3 Earmark additional funding for multidisciplinary research in order to address key challenges

Organic agriculture has cross-cutting dimensions and so a focus on multi-disciplinary research emphasizing on-farm organic systems analysis, combining research, extension, agro-ecology, health and socio-economics is likely to advance fundamental knowledge and assist in understanding farmer motivation and related socio-economic issues. Funds should therefore be allocated to elucidating these areas.

Action 3.4 Encourage researchers to examine and evaluate traditional knowledge about pest control treatments, working in close collaboration with farmers and local communities

Academic research should focus on key challenges in organic agriculture such as organic fertilizers, biopesticides, varietal selection, pest and disease management, weed control on organic farms, strategies to reduce the soil weed seed bank, and the effective utilization of cover crops and allelopathy in organic systems. Recognizing the richness of indigenous local knowledge, researchers should involve local communities and draw on this pool of knowledge to advance our understanding and develop organic-friendly solutions in these key areas.

7.6. Strategy 4: Enhance and upgrade training and extension services for organic farmers

Extension services are well-g geared towards the needs of conventional agriculture using chemical inputs. However, organic agriculture presents new challenges for which extension services are typically ill-equipped, both in terms of understanding of the technological challenges, market and compliance requirements, and also in terms of advances in extension methodologies.

For organic agriculture to contribute to sustainable rural development, it needs to be promoted as a community-based option rather than an individual choice. This could allow organic agriculture to capture local stakeholders' interests and capacities and benefit from local or region-specific trends.

Conventional training and extension methodologies generally employed in rural development have met with mixed success. Today, development agencies and grass-roots NGO's favour participatory, community-based training methods to analyze the real issues. These 'Farmer Field School' (FFS) approaches are widely considered more effective and responsive to the community's real needs. The emergence of such methodologies as an effective vehicle for sustainable change provides an ideal opportunity for fostering adoption of organic agriculture at a local level.

Action 4.1 Promote organic agriculture through a participatory community-level approach

Community-based approaches draw on both traditional knowledge and scientific innovations, and since the focus is upon understanding and addressing the community's real needs, the impact is likely to be more sustainable in the long term. In this approach, local stakeholders are guided to work together to find common grounds for discussion and action from which new synergies and partnerships may arise. It is necessary to conduct such community-level training and extension activities on a regular ongoing basis.

This requires comprehensive training for extension workers to reorient them to participatory training methods. Trainer-training for Master Trainers in technical topics (agronomy, certification, certification, processing, exporting etc) and also in FFS methods should be undertaken to familiarize extension workers with the new concepts of organic agriculture. As part of this initiative, modular curricula, posters, leaflets, handbook and other relevant materials should be developed to support further training efforts at all levels.

Action 4.2 Initiate and support training for farmer groups to help them set up internal control systems as further options to reduce compliance costs for smallholders.

The costs of compliance with stringent protocols set by importing countries and private sector importers represent a serious constraint to adoption by smallholders. Grower groups can spread such costs over a wider production base by adopting group certification systems. Specialized training for extension workers and grower groups should address the specific procedures and options for grower groups to adopt and manage such schemes successfully.

7.7. Strategy 5: Develop the domestic market for organic goods

Most organic produce in Thailand is grown for export, with a smaller proportion reaching domestic markets. With an unstable supply and demand situation, there is insufficient promotion of organic consumption in Thailand, and confusion sometimes exists between the various private and government food labelling schemes.

The domestic and export markets cannot be considered in isolation. Development of the domestic market for organic food and products will contribute to the overall stability of the sector by easing supply fluctuations and broadening the diversity of available produce, thereby supporting the

export market. A mature domestic market also provides a ready market to absorb export surpluses and produce which falls below required export specifications. A healthy domestic market for organics is therefore important to support a viable export market.

Any intervention in the domestic market will have to be carefully balanced, and a combination of market supply and demand measures will be required. Supply measures are dealt with under the action plan for production (Strategy 1). On the other hand, market demand can be stimulated through stepping up public awareness campaigns and increasing consumer exposure to organic produce, e.g. through promotion via high-end submarkets e.g. top department stores, tourist hotels and restaurants.

Such programmes would aim to enhance consumer awareness and differentiation of organic labelling schemes, and promote consumption of organic produce. In support of these aims, the following measures are proposed.

Action 5.1 Conduct market research in order to understand consumer preferences and behaviour

In a rapidly changing market, it will be important to understand shifts and trends in consumer attitudes, perceptions, preferences and purchasing behaviour. Such studies will help both in focusing interventions in other areas, e.g. promotion of organic labels, in monitoring the effectiveness of such interventions, and in planning to accommodate future trends.

Action 5.2 Private sector stakeholders should strengthen their representation through participation and support for the Thai Organic Traders' Association

Recently established in October 2005, the Thai Organic Trade Association (TOTA) was founded by several leading organic trader and producer organizations. TOTA's main objectives are to promote organic agriculture and markets in Thailand as well as to support its member companies. Current activities include market information sharing, joint participation in overseas organic trade fairs, and discussion fora. TOTA hopes to expand its activities into market research and to launch its own domestic labelling scheme. The formation of TOTA is a milestone and should be fully supported by the private sector.

Action 5.3 Introduce a pro-organic public procurement policy by public agencies

A pro-organic public procurement policy would serve to create optimal and stable levels of demand for organic produce by appropriate sourcing by public agencies. Such a policy could incorporate the following:-

- Long term contracts with grower groups
- Minimum price guarantees
- Requirement for environmentally friendly packaging for organic foods, to promote the use of bio-based and bio-degradable packaging (e.g. bioplastics).

However, such a policy would need to be implemented phase-wise in order to ensure supplies can match growth in demand.

Action 5.4 Establish an effective market information system for organic produce

An effective supply and demand forecasting system will give confidence to growers who need assistance in matching demand to supply and deal with changing market conditions appropriately and cost-effectively. Such a market information system would help ensure supplies, maintain quality and reduce volatility in the market.

Action 5.5 Initiate public awareness campaigns to stimulate demand and promote consumption

Overall, the level of investment in advertising and promotion is inadequate. Public awareness of organic agriculture could be raised through campaigns e.g. to promote the 'Thailand Organic' brand, through TV and radio advertising, and also through the print media and public events related to food. Such official recognition and support will help boost consumer demand, strengthen the sector and enhance trust and credibility among consumers and the public.

Awareness should be addressed too on the educational front. Primary and high school curricula should incorporate teaching of organic agriculture concepts and practice as part of the national sustainable development agenda.

7.8. Strategy 6: Expand the export market for organic goods

The major constraints to increased exports of organic products include fluctuating supply levels, inadequate infrastructure, insufficient export facilitation, complex procedures, and the stringency of regulatory requirements in import markets.

Overall, there is relatively poor level of understanding of the complexities of importer requirements, combined with inconsistent supply, inadequate efforts at international marketing, and inadequate cooperation between organic exporters in their export marketing activities.

Action 6.1 Extend additional support for exporters through global marketing outreach initiatives, liaison and export facilitation processes

Organic exporters should join forces to promote their exports, e.g. through trade groups such as TOTA. Their access to export markets should be facilitated by increased promotion of Thailand in major importing markets (especially the EU member countries) as a source of quality organic produce. Such support should include encouraging greater participation by Thai growers and exporters at international organic trade fairs, trade missions (in cooperation with the Department of Export Promotion, Ministry of Commerce), support for growers in upgrading facilities to extend supply stability (e.g. through increasing production areas, new technologies, post-harvest processing, cold chain, lengthening the growing season etc) and by identifying innovative products with potential to add value and diversify the range of organic products from Thailand.

Through the DEP, the government currently provides assistance in matching producers with overseas buyers, and this support should be further strengthened. Issues such as supply fluctuations and shortages should be addressed by

introduction of appropriate measures e.g. effective market information systems and longer-range demand forecasting (see 6.3. below).

Action 6.2 Review and maximize potential of innovative marketing channels for organic produce

In recent years innovative niche marketing channels such as the Fairtrade initiative have made remarkable strides in securing markets, exploiting the brand equity of organic produce whilst ensuring equitable farm gate prices. In Thailand the government-backed 'One-Tambon (District), One Product' or OTOP scheme has achieved major success in the domestic market, and is now poised to penetrate the international market. These and other such schemes operating regionally and worldwide should be reviewed to establish their potential to support organic exports in key markets.

Action 6.3 Provide an effective global market information service for organic exporters

An emphasis on understanding current trends in the global marketplace would contribute considerably towards stimulating the sector, if combined with a coordinated national-level approach to identify and promote key innovative products for either domestic and / or export markets.

As for the domestic market, an effective market information system would assist growers to match demand to supply and deal with changing market conditions appropriately and cost-effectively to reduce volatility in the market. Government should provide financial support to academic and / or non-profit organizations to compile authoritative market information, monitor the market situation, and make such information available to the organic grower community. Such organizations may also offer export-assistance and matching services to producer organizations and exporters.

7.9. Strategy 7: Establish Thailand as a leader and centre of excellence at regional level

Bearing in mind that other countries in the Southeast Asian region face challenges which are broadly similar to Thailand's own, there is a strong case for regional cooperation between governments, e.g. for harmonization of national regulatory regimes and certification systems, and also for training, where training exchange could be facilitated at the regional level. Thailand stands to benefit considerably from taking a leadership role in the region.

Action 7.1 Lead initiatives to foster cooperation between governments in Asia on harmonization of national regulatory regimes and sharing of experiences on key issues

As the leading exporter of organic produce in the ASEAN region, Thailand can make an important regional contribution. Thus the government should participate fully and additionally support the participation by private sector representatives in relevant regional and international fora such as the *Codex Alimentarius*, IFOAM, IOAS and the ITF in order to contribute to international harmonization and multilateral recognition of various organic conformity assessment and guarantee systems.

Regional cooperation in marketing, standards, conformity assessment and R&D would also be included as part of this regional responsibility. Such participation would be expected to enhance Thailand's credibility as a responsible leader and thus further serve to facilitate access to its markets not only within the Asian region, but with its other global trading partners.

Action 7.2 Foster regional collaboration among private sector certification bodies.

Such collaboration would focus on standard setting, inspection, certification and international regulatory recognition. Thailand can offer to organize and host regional training and meetings so to establish herself in a regional leadership role in this area.

Action 7.3 Develop training courses for organic conversion schemes at regional level.

Regional training events can draw on both regional and global expertise in order to share best practice and build competencies within the region.

Action 7.4 Establish a regional organic trade association.

Such a body could be beneficial for all countries in the region as interregional trade could be promoted and "ethical" or "fair" trading could be further developed in Asia.

7.10. Implementation

The seven strategies described above are inter-dependent, and complement each other. The Action Plan itself will therefore bring greatest value and create benefits to the extent that there is effective coordination and cooperation between the stakeholder groups in implementing each strategy, bearing in mind the broader context of the Action Plan within the National Organic Agenda.

The TA team recognizes the existing roles and activities of the many agencies (public, private, grass-roots NGO, academic and commercial) involved in developing the sector, all of which have their individual roles to play. The intent of this report's recommendations is therefore to support existing initiatives and the national agenda- not to try to replace them. Accordingly the recommendations are positioned at strategic level and do not attempt to prescribe specific grass-roots activities or detailed time-frames. The responsible agencies themselves are best equipped to identify and plan specific activities in support of the Action Plan so that they are (a) practical, (b) cost effective, and (c) dovetail with existing programmes and budgets.

Coordination in implementing these strategies will be key to success. At present the Department of Land Development, Ministry of Agriculture and Cooperatives, is responsible for coordinating the activities of public sector agencies under the Government's organic agenda. In order to achieve the necessary level of coordination, it is proposed that this coordination role be extended to include participation by the broader stakeholder community.

This could be achieved either by building on the existing structure, or by establishing a new Office for Organic Agriculture under an agency such as the National Social and Economic Development

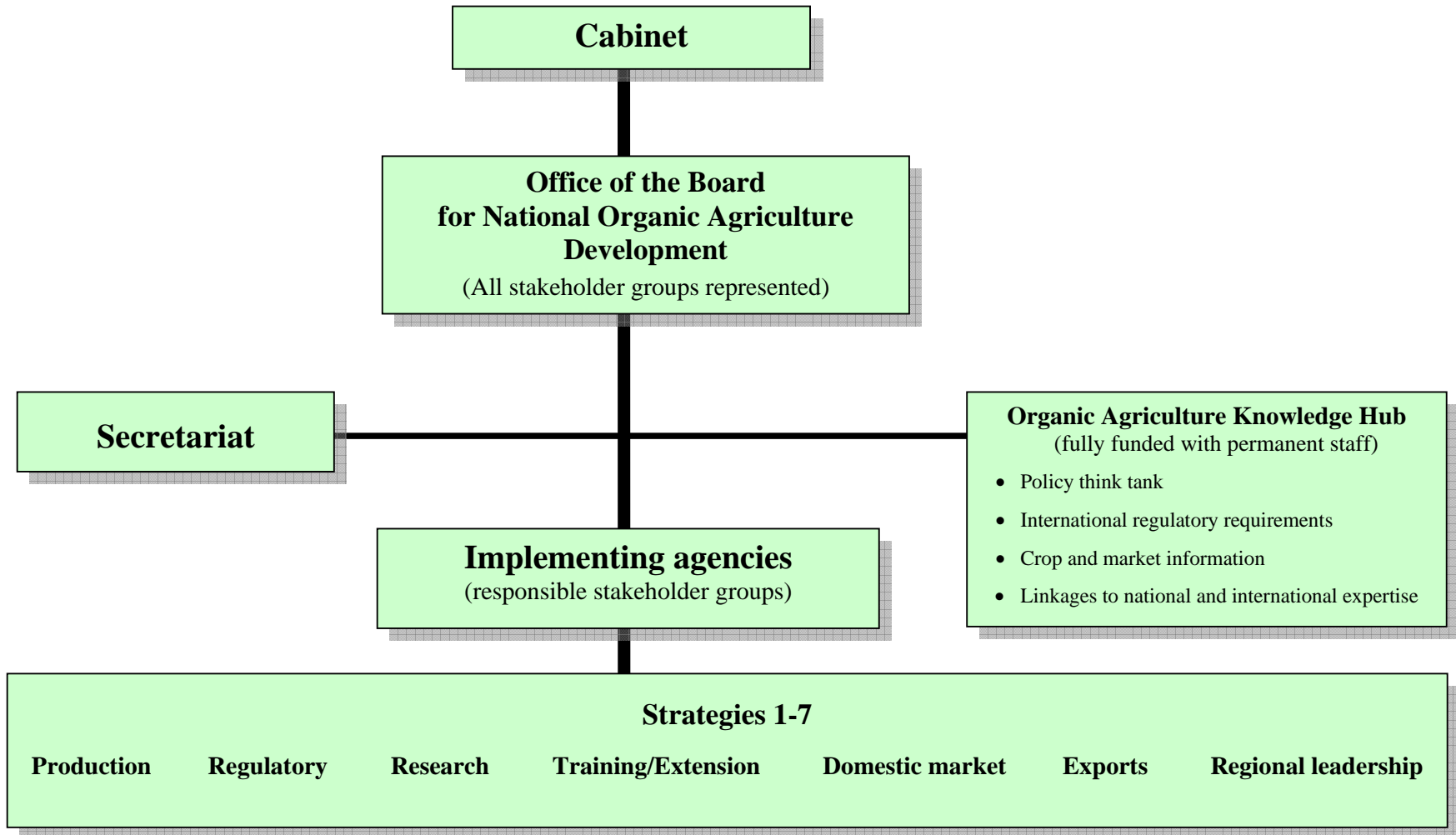
Board (NESDB). Given its cross-Ministerial mandate and the importance attached to sustainable agriculture for the newly-launched 10th National Social and Economic Development Plan period, NESDB is considered an appropriate organization to host such an Office for Organic Agriculture for a clearly defined period.

Either option would need to meet a number of criteria in order to fulfill its intended roles:

1. A Cabinet mandate
2. Full representation for all stakeholder groups in decision-making
3. Effective technical support from an organic knowledge hub (strategies 3.2, 5.4).

A possible structure for implementation is shown below in Figure 5 below.

Figure 5: Possible structure for implementation



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Appendix II: Project fact sheet

Strengthening the Export Capacity of Thailand's Organic Agriculture

Beneficiary country:	Thailand
Project No:	THA/A1/01A
Counterpart institutions:	National Innovation Agency, Ministry of Science & Technology Ministry of Agriculture and Cooperatives
Objectives:	(i) To develop an innovative National Organic Action Plan for organic agriculture in Thailand and thus facilitate the development of organic agriculture and trade with a special focus on access to EU markets. (ii) Prepare Thailand to establish a relevant control system for organic products that could eventually allow the country to apply for inclusion in the EU's "third country" list.
Brief description:	An international expert will carry out a literature review and conduct wide ranging stakeholder interviews to produce a benchmark survey that provides an overview of the organic industry supply chain from farm production processes through certification, traceability, other regulatory issues and logistics. Building on this survey, the project team will draft a National Action Plan for organic agriculture in Thailand with a particular focus on facilitating exports of high quality organic produce from Thailand to the EU. It will be presented and discussed at a technical workshop of key stakeholders, and after revision presented to the Thai Government during a roundtable meeting. In addition, government agencies stakeholders will receive comprehensive training in information and skills required to strengthen government control systems for organic agriculture.
Starting date:	August 2005
Duration:	12 months

For more information:

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Appendix III: Organic companies

1. Top Organic Products and Supplies Company Limited

Products:	White rice, jasmine brown rice, raw coffee, instant coconut milk, organic shrimps.
Address:	CM Tower Building 126/104 Krung Thonburi Road, Klongsarn, Bangkok 10600
Telephone:	02 439 4848, 02 439 7373
Fax:	02 439 4883-4
Organic agricultural area:	6,659 rai
Certification:	BioAgricert

In 1991, Nakorn Luang Kha Khao Company Limited, Siam Chaiwiwat Company Limited, and Reiseria Monferrato S.R.L. of Italy joined with the Department of Agriculture to establish an organic jasmine rice project. The project now has 138 growers, planting crops on a 4,509-rai area in a district between Chiang Rai and Phayao in northern Thailand. Their purpose was to produce organic jasmine rice which was certified by Bioagricert. This is generally acknowledged as the first major organic agricultural project in Thailand. Its produce is exported mainly to Europe, Scandinavia, New Zealand, and Singapore, and is also distributed domestically.

Later, in order to expand its production and export of organic products, and also to broaden the available range beyond products from jasmine rice, the company co-invested with Reiseria Monferrato S.R.L. of Italy to establish the Top Organic Company in 2002. The new enterprise distributed and exported organic produce, mainly to the European Union countries, USA, Australia, New Zealand, Hong Kong, Singapore, and Japan.

Top Organic Products has also collaborated with the Fisheries Department in developing organic production methods for shrimps, mainly in Chachoengsao, Chonburi, Chantaburi, and Trad provinces.

Moreover, the company has developed over 2,000 rai of coconut groves in Chantaburi- the area received organic certification in 2002. The company cooperated with Merit Food and NB Value Link to develop instant coconut milk and organic coconut milk products which are exported to Europe, USA, Australia, and New Zealand.

In 2000, the company established an organic coffee project on an area of over 150 rai on Doi Luang Mountain in Chiang Rai. The company received organic certification of the farms and production in 2002. Most of its exports are destined for European Union countries.

Note: Top Organic Products is registered by Capital Rice Co to manage its organic business.

2. River Kwae International Food Industry Company Limited

Products:	Baby corn, green roselle, asparagus, and Thai herbs
Address:	Thaniya Plaza Building 21 st floor, 52 Silom Road, Bangkok
Telephone:	02 231 2934 – 43
Fax :	02 231 2944
Organic agricultural area:	679 rai
Certification:	Soil Association

River Kwae International Food Industry Company Limited was founded in 1986 to produce canned fruits and vegetables for export. It operates a vegetable processing factory in Kanchanaburi. Today, it produces vacuum-packed corn, sweet corn beverages, fresh vegetables and fruits, as well as ready-to-eat vegetables, including organic vegetables. However, its major produce is canned supersweet corn products for export. The company exports to over 50 different countries in South America, Europe, the Middle-East, Asia, and the Pacific.

The company foresees increasing demand for organic produce in the international market and is expanding its production. Its current organic area in Kanchanaburi is 679 rai (Baan Kao Farm, 600 rai, Lard Thong farm, 79 rai). Residues from the canned sweet corn manufacturing are used as organic fertilizer in the company's farm, which has been registered and certified by the Soil Association of England and by OMIC (Japan). The main exported products are baby corn, asparagus, roselle, and Thai herbs. They are mostly exported to the EU and Japan.

3. Rai Plook Rak Farm (Thai Organic Farm)

Products:	Almost 50 kinds of vegetables
Address:	130 Moo 1, Petchkasem Rd, Tambol Wong-yen, Bang Pea District, Ratchaburi
Telephone:	
Email:	ganesh_neo@yahoo.com
Web:	www.thaiorganicfood.com
Organic agricultural area:	60 rai
Certification:	Office of Organic Agricultural Standards, ACT.

Rai Plook Rak Farm started operations in 2000 with a cultivated area of approximately 60 rai in Ratchaburi Province. Certification was granted by the Office of Organic Agricultural Standards for the past 2 years. The farm produces almost 50 different types of vegetables, mostly salad and leaf vegetables, but also some tomato, chilli, cucumber, pumpkin, and gourds.

Being one of the country's largest internationally-certified organic farms, Plook Rak Farm daily supplies approximately 1,000-1,500 packages of organic produce from its Ratchaburi farm to Bangkok's supermarkets, including The Mall Department Store, Villa, Emporium, and Lemon Farm. Plook Rak Farm also has a vegetarian restaurant ("Anotai") in Bangkok, which sources its products from the farm for cooking, including herbal and flower teas.

Although Rai Plook Rak currently only serves the domestic market, it has plans to start exporting soon. Recognizing that Europe is the largest organic market, the company has participated in the BioFach Organic Trade Fairs at Nurnburg, Germany, for the last 2 years. In future, the company intends to export fresh vegetables, herbal teas and fish sauce, mainly to Southeast Asian markets.

All organic products are certified by the IFOAM-accredited Organic Agriculture Certification Thailand (ACT).

4. Rangsit Farm

Products:	Fresh vegetables
Address:	15 Moo 1, Bueng Kham Proy, Lam Look Ka District, Pathum Thani 12150
Telephone:	02 577 2682
Fax:	02 577-2782
Organic agricultural area:	145 rai
Certification:	Department of Agriculture

Rangsit Farm started in 1996 as an organic agricultural project on previously fallow garden land. Prior to this, the company had experimented with natural agriculture without using chemicals for more than 10 years at its Malee Land Rangsit fruit plantation project. The company was also attentive to the development of organic agricultural production systems in other countries.

Today, Rangsit Farm produces and distributes organic vegetables and fruits, and is certified by the Organic Crops Institute of the Department of Agriculture. The company uses the brand name “Organic Siam” for both domestic and overseas markets.

Rangsit Farm’s organic agricultural area is divided into 2 zones: Thung Rangsit on a 45-rai area located at Klong 7, Bueng Kham Proy Sub-District, Lam Look Ka District, Pathum Thani, and Khao Yai on a 100-rai area, at Baan Suan Hom, Wang Nam Kheaw Sub-District, Wang Nam Kheaw District, Nakorn Ratchasima.

Apart from producing and distributing organic produce, Rangsit Farm also acts as host for field experiments and research on organic agriculture. This is an ongoing cooperation between the company, the government and private sectors, both in Thailand and overseas. Examples of such projects are research projects from USA, Switzerland, Japan, New Zealand (collaborating with the Thailand Institute of Scientific and Technological Research), a research project on aquatics in organic agricultural plots (cooperating with the Asian Institute of Technology), and beekeeping in organic agricultural plots (cooperating with the agricultural technology department of Thammasat University’s Rangsit Campus).

5. Sampran Food Company Limited

Products:	Fifth month wild honey, apple-cider vinegar, sesame seed, sesame butter
Address:	18/4 Moo 2, Orm Yai, Sampran, Nakorn Pathom 73160
Telephone:	02 420 6076
Fax:	02 420 3194
Website:	www.healthmate.com
Certification:	Office of Organic Agricultural Standards.

Starting as a consumer concerned over healthy food, Chantima Tiyawatcharapong founded the company initially to import organic apple-cider vinegar. Because the apple-cider vinegar is usually mixed with honey, Sampran embarked on a long search for good quality honey in foreign countries, but realized that Thai fifth month wild honey was superior to any imported honey. Sampran therefore collects fifth month honey from royal honeycombs in the forests of Nan Province, and focuses on producing and distributing organic honey, mainly for export.

Today, the company employs farmers who collect wild honey from an area of approximately 30-50 rai in the highlands of Nan Province. The company’s wild honey products are certified as organic by the Office of Organic Agricultural Standards.

In 2003 the company built an organic products processing facility in Kanchanaburi. This was the first dedicated facility of its kind in Thailand. At the same time, the company invested in planting organic crops to supply the factory. The primary focus is on garden vegetables- chilli, garlic, galangale, and lemon grass, etc. However, there are plans to produce processed products from sesame, pickled giant garlic, chilli sauce, plum and honey sauce, chilli paste, and salad dressings.

6. Swift Co Ltd

Products: Asparagus, baby corn, mangoes, mangosteen, ginger, galangal, lemon grass, legumes
Address: 65/2 Moo 6 Tambon Donkhoi, Kampaengsaen, Nakhon Pathom
Telephone: 034 351025-6
Fax: 034 352 576
Email: exotic@thaifreshproduce.com
Web: www.thaifreshproduce.com
Certification: BCS, JAS, Department of Agriculture

Swift was established 1988 as a fresh produce trading company. In 1990, Swift partnered with Exotic Farm Produce (UK) in a joint venture to create an export arm - Exotic Farm Produce (Thailand) Co. Ltd.

Swift has its headquarters in Kampaengsaen. Its 470 sales, production and administrative support staff oversee all produce procurement, transportation and sales efforts. Swift currently owns and operates two processing facilities (pack houses) in Kampaengsaen and Petchabun which were specifically designed and structured to conform to HACCP principles. Its main areas of operation can be summarized below:

- Organic farms at Kanchanaburi (baby corn) and Sra Kaew (asparagus)
- Selected legume production at Petchabun
- Added-value prepared fruits and vegetables
- Novel cuts and presentations for the food service and retail sectors
- Microwaveable vegetarian food.

Swift is one of Southeast Asia's leading fresh produce exporters within the niche market of quality Asian and Southeast Asian organic, chemical free, as well as EUREPGAP-compliant, conventionally farmed vegetables and fruits. Its core product line includes asparagus, baby corn, mangoes, mangosteen, ginger, galangal and lemon grass. Products are either exported fresh or processed / heat-treated and packed for sale to retail and foodservice markets. Swift works in partnership with local producer groups on a contract-farming basis, and offers assistance to its growers in converting from traditional farming practices to GAP and organic farming practices, by providing technical advice and interest-free financial assistance.

The company first exported to EU (Germany) 2 years ago. The crop was asparagus, destined for a UK distributor serving the UK retail market. The company's principal export destinations now include the United Kingdom, the Middle East, as well as Japan and Australia.

Swift is also actively involved in helping local communities, temples and schools throughout Thailand. Swift generates a direct income of over 200 million baht (over US\$5 million) for the local community per year. Pilot farms in different universities have been set up by a joint venture between Swift and the Ministry of Agriculture and Cooperatives to actively promote EUREPGAP farming in Thailand. The Ministry has recognized Swift as an outstanding company in supporting and developing farm communities.

Swift currently has certification from BCS, JAS and the Thai Department of Agriculture.

7. Urmatt Co Ltd

Products: Jasmine rice
Address: 9th Fl. PB Tower, 30/1000 Sukhumvit 71, Klongtan, Bangkok 10110
Telephone : 02 713 0239 to 42
Fax : 02 713 0243
Email: customerservice@urmatt.com
Certification: Ecocert Germany

Urmatt has been producing and marketing organic jasmine rice for many years. Its organic farm is located in Chiang Rai, northern Thailand. Currently, Urmatt jasmine rice is sold at local discount chain-stores in Bangkok and to Carrefour under the 'Quality Line' brand, and is also exported worldwide. Urmatt's organic rice is certified by Ecocert Germany for EU and US markets. Urmatt produces its own seed and has in-house processing facilities to guarantee quality.

8. Southeast Asia Organic Co. Ltd

Products: Cassava starch, sugar
Address: 89/170 Moo 3, Chatamard Bldg, Viphavadee-Rangsit, Bangkok, Bangkok 10210
Telephone : 02-5512058-60
Fax : 02-5527222
E-mail : marketing@sea-organic.com
Certification: Bioagricert Co Ltd

Established in 2003, Southeast Asia Organic Co. Ltd. (SEA-O) specializes in organic cassava starch and sugar. SEA-O is active in export markets, and only recently started to market its products domestically.

The company has a long history with conventional production and trade on tapioca starch, and saw opportunities arising from organic markets. However, their conventional trading partners were not so interested in this emerging market, and so the company explored the market themselves by sending a delegation to the Biofach organic fairs since 2002. By following up with contacts at Biofach, SEA-O was able to start its exporting in 2004.

Currently, SEA-O exports to EU and US markets. SEA-O has 2 exported organic products (cassava starch and sugar), and has exported these products to EU since 2004. SEA-O is in the process of developing several new products for export markets, including tapioca pearl and a sweetener derived from tapioca starch.

All organic products have EU and US organic certification via Bioagricert, an Italian organic certification body.

Appendix IV: Grass-roots organizations

1. Earth Net (Sai Yai Pan Din) Foundation

Address:	6 Soi Piboonupatam-Wattana Nivej 7, Suthisarn Road, Huay-Kwang, Bangkok 10310
Telephone:	02 277 9380 - 1
Fax:	02 277 9654
E-mail:	info@GreenNetorganic.com
Website:	www.GreenNetorganic.com
Organization:	Non-government organization

Founded in September, 1993 at the same time as Green Net, and registered as a foundation on October 12, 2000. Earth Net's main goals are to promote and support production, management, marketing, and consumption of organic agricultural products, and healthy and environment-friendly products. The foundation has a village leader, Wiboon Khemchalem (leader of sustainable agriculture) as its president and Rewadee Prasertcharoensook (secretary of the NGO's coordinating committee) as its vice-president.

After working on promoting organic agriculture to rice farmers in the Northeast for several years, in 2000 the Earth Net Foundation initiated a project to extend to new crops and to expand its membership of organic farmers. Working with local NGOs and other agricultural organizations, the Foundation's projects encourage and assist farmers to change to organic systems. In 2003 the number of certified agriculturists was more than 1,000 families, representing 25% of the certified organic agricultural area in Thailand.

In 2004, the Earth Net Foundation cooperated with 12 producer groups in several provinces. Some groups were certified, some were in the process of applying for certification, and others had not yet intended to apply for certification. Members mostly produce jasmine rice and also other products (fruits and vegetables, baby corn, soybean, pineapple, longan, 'Tom Yam' soup herb set, sesame, herbal medicines, egg, coffee, tiger prawns, silkworm, and textiles).

Table 14: Organic producer groups in the Earth Net Foundation Network

Name of Participating Organization	Province	Main Crop	Organic Certification
Nature Care Club of Kut Chum Farmer Organization	Yasothon	Jasmine Rice	Certified organic
Bak Rua Farmer Organization	Yasothon	Jasmine Rice	Certified organic
Leng Nok Ta Farmer Organization	Yasothon	Jasmine Rice	Certified organic
Rice Fund Organic Cooperative Surin	Surin	Jasmine Rice	Certified organic
Isan Mulberry Silk Network	Khon Kaen	Mulberry green tea and silk	Certified organic
Agriculture Development Cooperative	Chiang Mai	Soybeans	Certified organic
Mae Ta Sustainable Agriculture Cooperative	Chiang Mai	Baby corn and Longan	Certified organic
Organic Agriculture Group Sanam Chaikhet	Chachoengsao	Rice	Certified organic
Forest Network of the East	Chachoengsao	Diverse crops	Does not yet have a certification policy
Organic Agriculture Society, Suphanburi	Suphanburi	Fruit and vegetables	Certified organic
Dong Bang Herbal Group (Together with the Chao Phraya Apaipubej Hospital Foundation)	Prachinburi	Herbs	Certified organic
Organic Agriculture Development Group Bang Saphan	Prachuab Kirikhan	Coconuts	Certified organic

2. Green Net Cooperative Limited

Products:	Jasmine rice, baby corn, fresh vegetables, fruits, herbs
Address:	6 Soi Piboonupatam-Wattana Nivej 7, Suthisarn Road, Huay-Kwang, Bangkok 10310
Telephone:	02 277 9380 - 1
Fax:	02 277 9654
Website:	www.greennetorganic.com
Certification:	Organic Agriculture Certification Thailand (ACT)

Green Net is a non-government organization, founded in October 1993 as a cooperative by a group interested in organic agriculture and concerned over pesticide residues in food. Recognizing that marketing is a major stumbling block in the development of the organic movement, Green Net aims to raise both production and consumption levels of organic foods through the establishment of direct producer-consumer links in the market place.

Green Net's main objective is to promote organic agriculture through developing indigenous knowledge and participatory technology development. Its activities include seminars, training and farmer field schools. Currently, the Green Net Organic Agriculture Programme works in 13 provinces in Thailand.

Green Net's main goals are as follows:

1. To offer market outlets for farmers practicing organic farming as an additional incentive for farmers to continue farming organically
2. To mobilize local funds, through organic food sales, to support activities and initiatives of relevant NGOs
3. To raise consumer awareness in urban areas over the impact of their consumption on the environment and on the livelihood of small farmers.

Green Net distributes organic agricultural products, environment-friendly fabric goods, and other natural products of high standard and high quality. Green Net Cooperative embraces a Fair Trade policy in its domestic and export businesses. The Green Net is certified by the Organic Agriculture Certification Thailand (ACT) for handling and processing

Today, the cooperative sources from 12 groups of producers in Thailand, and distributes almost 100 different items of organic agricultural and natural products, e.g. vegetables, fruits, jasmine rice, cereal, dried foods, teas and herbal beverages, naturally dyed local fabrics, and herbal products. It also provides support to the organic movement and local community businesses.

Green Net's fair-trade rice export programme started around 1988, and has since grown fast. It exports local rice products and organic rice to Europe through the fair trade network of the European Fair Trade Association (EFTA). Today Green Net is among the largest exporters of food products to the EFTA, and is the official partner of Claro, a Swiss-based fair trade organization, which supplies rice to other EFTA members.

3. Bak Ruea Farmer Group Network

Products:	Jasmine rice
Address:	118 Moo 4, Bak Ruea Sub-District, Maha-chanachai District, Yasothon 35180
Organic agricultural area:	6,207.25 rai
Certification:	Organic Agriculture Certification Thailand (ACT)

The Bak Ruea farmer group was established in 1972 by Mr. Thawatchai Tositrakul. In 1996 he organized a “community development of toxin-free rice project” with funding from the then Ministry of Science, Technology, and Environment’s Environment Foundation. The project encouraged farmers to have mixed agricultural production. The group produced and sold its produce (paddy) and operated a rice mill enterprise, including growing organic jasmine rice. Subsequently, farmers began to join hands with other farmer groups from other sub-districts of Yasothon. Their shared experiences in creating and operating a cooperative community business finally resulted in the establishment of the Bak Ruea Farmers’ Group as a Yasothon farmer group’s network.

Group members started to apply for organic agricultural standards certification for the first time in 2000. Later, when the membership expanded, they established an organic agricultural promotion project and also arranged an internal control system. The work area covered the Kham-Khuean-Kaew, Maha-Chanachai, and Khorwang District in Yasothon. Furthermore, this farmer group has a rice mill of 7-ton production capacity per day, which is certified by the Institute of Organic Agricultural Standards.

Bak Ruea farmer group’s network is supported by Earth Net Foundation in promoting organic agricultural systems, and in the development of effective internal control systems. Organic rice from the project is distributed through Green Net Cooperatives for both domestic sale and export.

4. Rak Thammachart Club

Products:	Jasmine rice
Address:	57 Moo 2, Naso Sub-District, Gudchum District, Yasothon 35140
Organic agricultural area:	5,669.25 rai
Certification:	Organic Agriculture Certification Thailand (ACT)

In 1990, Mr. Masanobu Fukuoka, a Japanese farmer and author of the book “Revolutionize the Era with a Piece of Straw,” visited Thailand. He visited the Rak Thammachart Club and gave a speech on the topic of natural agriculture. Most of Soke Khoom Poon’s village leaders attended the speech, and were inspired to start a natural farm. In the following years, more and more natural farms sprung up.

At the end of 1990, the Rak Thammachart Club’s rice mill was established. This was considered the first mill owned by farmers, and aimed to purchase produce that benefitted growers, consumers, and the environment, and also to prevent exploitation by middlemen. Also, it created employment in the community by building a second mill in February of the following year. Later, they cooperated with the Naso farmer group of Gudchum District, Yasothon, which earned the group a supporting budget from the government for a bay building and a scale purchase.

In 1995, the Rak Thammachart Club’s rice mill arranged activities for organic rice farming promotion and today, the Rak Thammachart Club’s rice mills process paddy from over 900 community members, destined for both domestic and overseas markets.

5. Surin Farmer Support (SFS)

Address: 88 Moo 7, Baan Thanong, Gae Yai Sub-District, Muang District, Surin
Telephone: 04 451 4206
Organization: Non-government organization

The project was founded in 1989 to educate and strengthen a village organization originally funded by the Surin Local Development Fund. The project's working area covers 3 districts in Surin: Muang, Prasart, and Garb Cherng districts. SFS aims to promote natural agriculture, processing, marketing, community organization development, and promote the role of women.

The project initiated the Surin Natural Agricultural Group in 1990, with 87 founding members. Its targets are to promote chemical-free agriculture, to reduce production costs, and to strengthen community organizations. The group's products are sold mainly through overseas fairtrade market channels through Green Net Cooperatives.

In 1998, the project cooperated with Green Net Cooperatives in organizing an organic agricultural promotion project. It started off with members of the Natural Agricultural Group and steadily grew in size over the years. Since 2000, the project and the governor of Surin organized a project "Surin's way of organic agriculture" which today trains agriculturists and manages an internal control system which undertakes organic standards inspection.

6. Rice Fund Organic Cooperative Surin

Products: Jasmine rice, light yellow rice, red jasmine rice, groundnut
Address: 88 Moo 7, Baan Thanong, Gae Yai Sub-District, Muang District, Surin
Telephone: 04 451 4206
Organic agricultural area: 4,422.50 rai
Certification: Organic Agriculture Certification Thailand (ACT)

A concern for natural agriculture which underlines the relationship between farmers and the environment prompted the establishment of the Surin agriculturists' efficiency promotion project in 1990. The project promotes natural agriculture that reduces use of synthetic chemicals.

In 1992, the Surin Natural Agricultural Group founded a rice foundation in order to manage marketing. The foundation purchases rice from the members, mills it, then distributes it in domestic and overseas markets. Initially, there were only 87 family members, but the number increased steadily. Until 2001, the rice foundation offered agriculturists in other allied organizations within the sustainable agriculture network of Surin to hold its shares and join as members. Such alliances include Tha Toom natural agricultural group, the brown rice ladies group of Lamduan District; the agricultural revival group of Si Khora Poom, and the Nhong Yor community forest group. Today, the rice foundation has 423 families in its membership, and manages a community business of organic paddy processing for distribution in both domestic and overseas markets.

7. Mae-Tha Sustainable Agricultural Cooperative

Production: Baby corn, vegetables and fruits, spicy soup set, herbal tea
Address: 162 Moo 5, Baan Pa Nod, Tambon Mae Tha, Mae-On Sub-District, Chiang Mai
Organic agricultural area: 368.27 rai
Certification: Organic Agriculture Certification Thailand (ACT)

Mae Tha community is located around Huay Pong Ga basin in the upper Mae Tha river area which is close to Mae Ta Krai and Khun Tarn National Parks. The villagers' way of life centres on agriculture and collecting wild products. The community's main cash crop is baby corn, which the people have been encouraged to grow since 1981. However, agrochemical usage has caused the farmers many problems, including deteriorating soil conditions, high production costs, health problems, and debt.

The community organization development project has promoted sustainable agriculture in the Mae-Tha community since 1986. Many agriculturists have turned to farming mixed agriculture. Later, the farmers jointly founded the Mae-Tha Sustainable Agricultural Cooperatives Limited in 2001. They also started an organic agricultural project to promote the organic methods to its members.

Members mainly produce local leafy vegetables, for sale in the Mae-Tha community and once a week at the Im Boon weekend market.

8. Alternative Agricultural Network

Address: 912 Soi Ngamwongwan 31, Ngamwongwan Road, Muang District, Nonthaburi 11000
Telephone: 0-2591 1195-6
E-mail: annet@ksc.th.com
Organization: Non-government organization

The Alternative Agricultural Network is a national network of producer organization, NGOs, and academics from the North, Center, Northeast, and South of Thailand. AAN's goals are to develop an alternative agricultural system which is in harmony with the local ecosystem and the community's way of life, and to help small-group farmers to achieve economic self-sufficiency.

By 1996, the network had extended its role to the policy arena. The network participated in planning the Eighth National Economic and Social Development Plan and identified sustainable agriculture as the agricultural system to be implemented and supported by government. It also played an active role in encouraging the Ministry of Agriculture and Cooperatives to adjust its plan to comply with the Eighth National Economic and Social Development Plan and to allocate a budget to develop sustainable agriculture for small groups of agriculturists. This sustainable agriculture pilot project is administered by the villagers' organization to create a model agricultural system that is suitable for the local ecosystem.

9. Institute of Sustainable Agricultural Community, Community's Potential Development Foundation

Address: 363 Moo 4, Chiang Mai-Mae Jo Rd, Nhong Jom, Sun Sai District, Chiang Mai 50210
Telephone: 053 354053-4
Fax: 053 354053-4
Organization: Non-government organization

Founded in 1993, the Foundation's goal is to initiate development and extension of sustainable agriculture, and to research and develop sustainable agricultural technologies and policies. The Institute also provides training to farmers and farmer groups, and supports many groups of farmers in Chiang Mai to change to sustainable agriculture methods and systems.

10. Lemon Farm Cooperative

Address: 210 Sukhumvit 64, Phrakonong, Bangkok 10260
Telephone: 02 335-4999
Fax: 02 335-4009
Email: prd_pr@bangchak.co.th
Website: www.lemonfarm.com
Organization: Non-government organization

The Lemon Farm Cooperative was set up in 1999 to provide marketing outlets for selected products from rural communities. Using the Lemon Green mini-mart type of supermarket attached to petrol stations owned by Bangchak Petroleum Plc as a model, several mini-marts were established. The programme was successful, and Lemon Farm shops are now established at over 120 Bangchak petrol stations nationwide. The shops sell natural agricultural products from rural community organizations, providing health benefits to consumers as well as the producers themselves. The subsequent establishment of Lemon Farm Pattana Cooperatives, Ltd provided a mechanism for Thais to help each other establish enterprises and provide benefits to society.

Lemon Farm Coops are also engaged in several social welfare activities, including the provision of training and promotion of naturally produced or chemical/toxic-free vegetables, fragrant rice, cane sugar, pork, fish, and other products.

Since its inception, the Lemon Farm Coops now has 23,000 members/shareholders distributed all over the country. Its Lemon Farm mini-marts serve as direct market outlets for products from some 4,000 families from 300 rural communities in 50 provinces.

11. Santi Asoke

Santi Asoke is a splinter Buddhist Theravada sect set up in 1975. It is socially engaged, and focuses on self-sufficiency through organic gardening and agriculture as well as recycling. Santi Asoke has 5 main centres for agricultural production, each ranging from 50 to 100 rai in size. The centres are based in Sisaket, Nakhon Ratchasima, Nakhon Pathom, Nakhon Sawan and Ubon Ratchathani provinces. The produce from these centres allows Santi Asoke to be completely self-sufficient in vegetables and rice. The surplus is sold through small shops near their rural centres as well as in vegetarian restaurants around the country.

Although Santi Asoke grows organic farm produce for sale in their own vegetarian restaurants and shops (the income from these activities is used to fund Santi Asoke's charitable and spiritual activities), the farmers of Santi Asoke are primarily concerned with practicing a form of agriculture

which is in harmony with their belief in Buddhist and Santi Asoke philosophy i.e. no killing, no industrial inputs and working to enhance and protect the farm's natural ecosystem. Given that practicing a farming system in line with Buddhist beliefs is their main goal this system can be said to have a low degree of market orientation.

Santi Asoke's produce does not fall under any organic certification scheme.

Appendix V: Persons / organizations consulted

Affiliation	Title	Contact	Job Title
Agricultural Co-Operatives Federation of Thailand Ltd	Kh	Verasak Chuaypat	General Manager
Agricultural Co-Operatives Federation of Thailand Ltd	Kh	Kraisit R Kasetchai	Deputy General Manager
Agricultural Co-Operatives Federation of Thailand Ltd	Kh	Panida Vanichanont	International Trading Division
Agricultural Research Development Agency	Prof Dr	Montri Chulavatnatol	Executive Director
AGT Bio Co Ltd	Kh	Thirachai Nithipathrarat	General Manager
APZ Co Ltd	Ms	Kanit Suwanprasit	Chief Operation Officer
Asian Institute of Technology	Prof	Athapol Noomhorm	Professor
Asian Institute of Technology	Dr	Porntip Sirisoontarak	Project Researcher, Food Engineering and Biotechnology Program
Bio-Eco Link Co Ltd	Kh	Jindarat Twiltermsap	Managing Director
BioAgriCert Ltd	Dr	Riccardo Cozzo	President
Bioherb Co Ltd	Dr	Birgitt Boor	Consultant
BSC Oko-Garantie gmbh	Mr.	Jorg Rosenkranz	Regional Representative
Bureau Veritas (Thailand) Ltd	Kh	Chanittha Jiranantapart	Food Business Line Manager
Capital Rice Co.	Kh	Wanlop Pichpongsa	Managing Director
Cencar Co. (Carrefour)	Kh	Patcharin Chitaurjaisuk	Manager, Carrefour Quality Line Product
Chiangmai University	Prof	Pittaya Sruamsiri	Department of Horticulture
Chulalongkorn University	Kh	Itthipol Srisaowaluk	Lecturer
Chulalongkorn University	Asst. Prof. Dr.	Charit Tingsabadh	Director
Department of Agricultural Extension	Kh	Supote Chaivimol	Director
Department of Agricultural Extension	Kh	Apichat Pholkerd	Subject Matter Specialist, Organic Agriculture Sec
Department of Agricultural Extension	Kh	Kasem Srishompoo	Senior Expert- Organic Crops Project
Department of Agriculture	Dr	Somkid Disthaporn	Organic Crops Project
Department of Agriculture	Kh	Paitoon Poolsawat	Organic Crops Project
Department of Agriculture	Kh	Krish Poomkacha	Organic Crops Project
Department of Science Service	Mrs	Sumalee Tangpitayakul	Head of Biological Testing
Department of Export Promotion	Mrs	Chantra Purnariksha	Director General
Earth Net Foundation	Mr	Michael Commons	Rice Chain Coordinator
Environmental Education and Human Resources Development Center	Dr	Ampai Harakunarak	Director
European Commission	Ms	Sylvie Graffe	Trade and Economics Counsellor
European Commission	Mr	Pekka Penttila	Business Information Coordinator
European Commission Delegation Bangkok	Mr.	Andrew Jacobs	Head of Operational Section
Exotic Farm Produce (Thailand) Co.	Mrs	Paphavee Suthavivat	Managing Director
F&B Organics Co Ltd	Kh	Pornsri Pitakkwanskul	Owner
F&B Organics Co Ltd	Kh	Arthi Pitak	Production Consultant
Federation of Thai Industries	Kh	Sommart Prapertchob	Chairman, Food Processing Industry Club
Federation of Thai Industries	Kh	Churairat Arpanantikul	Deputy Secretary General, Food Processing Industry Club

Affiliation	Title	Contact	Job Title
Food and Agriculture Organization of the United Nations	Mr.	Hiroshi Hiraoka	Soil Fertility Officer
Food and Agriculture Organization of the United Nations	Mr.	Gamini Keerthisinghe	Senior Plant Production Officer
FXA Group	Ms	Wanida Trirapongpichit	Product Marketing Mgr
FXA Group	Mr	Chatta Udomwongsa	Country Manager
German Development Cooperation (GTZ)	Mr	Burghard Rauschelbach	Director, Programme-Component Eco-Efficiency
Green Net & Earth Net Foundation	Kh	Walailuk Sriwichan	Administrative Officer
GreenNet	Kh	Vitoon Panyakul	Director
GreenNet		Kanlayanee Puangpanya	Export Coordinator
GTZ	Mr	Daniel Vildoza	ITC Technical Assistance Team
International Institute for Trade & Development (ITD)	Mr	Krirk-Krai Jirapaet	Executive Director
International Institute for Trade & Development (ITD)	Mr	Pakpoom Teranantana	Deputy Director
International Institute for Trade & Development (ITD)	Dr	Watcharas Lelawath	Researcher
International Trade Centre (ITC)	Dr	Xuejun Jiang	Programme Coordinator
International Trade Centre (ITC)	Dr	Alexander Kasterine	Senior Market Development Adviser
IQA-Norwest Labs	Ms	Prapasri Arunpong	Marketing Technician
Kasetsart University	Dr	Pramote Saridnirun	Assistant Prof
Khon Kaen University	Dr	Supanee Pimsamarn	Associate Professor
King Mongkut's Institute of Technology North Bangkok	Kh	Penja Jitjumroonchokchai	Instructor
King Mongkut's University of Technology Thonburi	Kh	Taksaon Boonchoo	Researcher
King Mongkut's University of Technology Thonburi	Kh	Rattanawan Jansasithorn	Researcher
King Mongkut's University of Technology Thonburi	Kh	Intira Lichanporn	Researcher
King Mongkut's University of Technology Thonburi	Dr	Hataitip Nimitkeatkai	Researcher
King Mongkut's University of Technology Thonburi	Ms	Supatana Sakpiyaphan	Researcher
King Mongkut's University of Technology Thonburi	Kh	Jammaree Singkaew	Researcher
King Mongkut's University of Technology Thonburi	Dr	Sirichai Kalayanarat	Head, Division of Postharvest Technology
King Mongkut's University of Technology Thonburi	Dr	Songsin Photchanachai	Asst Prof
King Mongkut's University of Technology Thonburi (KMUTT)	Dr	Pongphen Jitareerat	Lecturer, Plant Pathologist
Koson Trading Co.	Kh	Teerapol Jearapunpong	General Manager
Land Development Department	Kh	Chaiwat Sittibush	Director General
Lanna Agriculture Co Ltd	Kh		General Manager
Maejo University	Dr	Danuwat Pengon	Associate Prof of Agronomy
Mahidol University	Dr	Mayuna Srisuphanunt	Assoc Prof
Marchwell Ltd Part.	Kh	Petcharee Ekboonyern	Export Manager
Ministry of Agriculture and Cooperatives	Kh	Banphot Hongthong	Permanent Secretary

Affiliation	Title	Contact	Job Title
Ministry of Agriculture and Cooperatives	Dr	Apichart Pongsrihadulchai	Deputy Permanent Secretary
Ministry of Agriculture and Cooperatives	Kh	Wimolporn Thitisak	Director, Foreign Agricultural Relations Division
Ministry of Commerce	Kh	Chirath Isarangkun Na Ayuthaya	Trade Officer
Ministry of Science and Technology	Kh	Nitaya Patanarat	Director
Ministry of Science and Technology	Dr	Saksit Tridech	Permanent Secretary
Ministry of Science and Technology	Kh	Chotirak Yingsaree	Office of Technology Promotion & Transfer
Ministry of Science and Technology	Ms.	Pornthipa Luengwatanakit	Chief of Technology Transfer Support
Ministry of Science and Technology	H.E. Dr	Pravich Rattanapian	Minister
National Bureau of Agricultural Commodity and Food Standards	Dr	Samaporn Chirapanda	
National Bureau of Agricultural Commodity and Food Standards	Ms	Patasorn Jiravatrungsi	
National Bureau of Agricultural Commodity and Food Standards (ACFS)	Kh	Yutthana Norapumpipat	Office of Commodity and System Standards Accreditation - Officer
National Bureau of Agricultural Commodity and Food Standards (ACFS)	Dr	Sanayh Kroakaw	Senior Standards Officer
National Bureau of Agricultural Commodity and Food Standards	Dr	Montri Klitsaneephaiboon	Director, Office of Commodity and System Standards Accreditation
National Bureau of Agricultural Commodity and Food Standards (ACFS)	Ms	Kannipa Pittayanukul	Veterinarian
National Bureau of Agricultural Commodity and Food Standards (ACFS)	Kh	Apisit Prakarnkamanant	Veterinarian
National Bureau of Agricultural Commodity and Food Standards	Kh	Oratai Silapanaporn	Assistant Director
National Bureau of Agricultural Commodity and Food Standards (ACFS)	Kh	Patrathip Vacharakomolphan	Standards Officer
National Bureau of Agricultural Commodity and Food Standards (ACFS)	Ms	Wibulwan Wannamalee	Senior Standards Officer
National Bureau of Agricultural Commodity and Food Standards (ACFS)	Kh	Chavalvut Chainuvati	Secretary General
National Food Institute	Kh	Sittisak Vattanasirin	Information Specialist
National Innovation Agency	Mr	Supachai Lorlowhakarn	Director
National Innovation Agency	Kh	Kunawut Boonyanopakun	Project Coordinator
National Innovation Agency	Dr	Wantanee Chongkum	Assistant Director
National Innovation Agency	Kh	Teera Damrongkijkarn	Consultant
National Innovation Agency	Kh	Chanwit Rattanasri	Project Coordinator
National Innovation Agency	Kh	Sura-at Supajaturas	Project Coordinator
Natural Agriculture Foundation	Kh	Wiwat Salayakumtorn	Chairman
Natural Agriculture Foundation	Kh	Tira Wongcharern	
Natural Agriculture Society	Kh	Aniwat Somchevittra	Manager
Nuevotec Co Ltd	Kh	Suradej Ekpanyuaskun	President

Affiliation	Title	Contact	Job Title
Office of Agricultural Economics	Dr	Pinit Korsieporn	Deputy Secretary General
Organic Agriculture Association of Thailand	Kh	Ueychai Weeravan	President
Organic Siam Co Ltd	Kh	Prinya Pornsirichavattana	President
Pakfood Public Co.	Kh	Panisuan Jamnarnwej	Managing Director
Pranfruit Products Co Ltd	Kh	Nuchjaree Ruplek	General Manager
Rangsit Organic Farm	Kh	Prinya Pornsirichaiwattana	President
River Kwai International Food Industry Co Ltd	Kh	Orakamol Athatamsuntorn	Marketing Manager
River Kwai International Food Industry Co Ltd	Kh	Soonthorn Sritawee	Vice President
Royal Chitralada Palace	Kh	Akuar Boonyasiri	Chief, Agricultural Technology 2
Royal Project Foundation	Assoc Prof	Nipon Jayamangkala	Assoc Prof
Royal Project Foundation	Kh	Pedcharada Yusuk	Head
S&T Contemp Co Ltd	Dr	Wiboonkiet Moleeratanond	Deputy Managing Director
Sa Kaeo Provincial Hall	Mr.	Sanit Naksooksri	Vice Governor
Senate Committe on Environment	Kh	Nuengnam Navabooniyom	Member
Specialty Natural Products Co Ltd	Dr	Panvipa Krisdaphong	General Manager
Sukhothai Thammathirat Open Univ	Assoc Prof	Chayaporn Wattanasiri	Chairperson
Sustainable Agriculture Foundation	Kh	Chanuan Ratanawaraha	Vice Chairman
Swift Co Ltd	Kh	Paichayon Ua-Taveekul	Chairman
Swift Co Ltd	Kh	Anchalee Lueasap	Sourcing Officer
Swift Co Ltd	Kh	Papavee	
Swift Co Ltd	Kh	Wutichai Thongdonae	Agronomist
Swift Co Ltd	Kh	Adisak Pimkote	
Swift Co Ltd	Kh	Niyom Panaudom	
Swift Co Ltd	Kh	Thatthanapol Buangam	
Swift Co Ltd	Kh	Sakgee Suebkamkaew	Agric Officer
Swift Co Ltd	Kh	Prayad Chaisirininirund	Inspector
Swift Co Ltd	Kh	Anurak Knogton	Inspector
TCC Agro Agribusiness Group	Kh	Tip Lekakul	Director
Thai Organic Agri Co.	Kh	Sermpong Tantipakorn	Managing Director
Thai Organic Farm	Kh	Kanes	
Thai Wisdom Kanchanaburi Co Ltd	Kh	Somchai Visamongkolchai	Managing Director
Thai-German Partnership Programme for Enterprise Competitiveness	Mr	James Tomecko	Director, Business and Financial Services Component
Thai-German Partnership Programme for Enterprise Competitiveness	Ms	Gotchakorn Wattanakeeree	Sector Manager, Business and Financial Services Component
Thailand Institute of Technological and Scientific Research (TISTR)	Dr	Paramee Pengpreecha	Industrial Marketing and Testing Group
TISTR	Dr.	Suriya Sassanarakkit	Biotechnology Laboratory
TISTR	Dr	Siriwan Tungsanprateep	Technologist
Thailand Research Fund	Prof Dr	Vicharn Panich	Special Advisor
Thammasat University	Dr	Suthichai Somsook	Asst Prof
TIPCO Foods (Thailand) Ltd		Weerapong Poswang	Ag Extension Officer
Top Organic Products and Supplies Co.	Ms	Sirina Natecharatsang	Business Coordinator
UN ESCAP	Ms	Margot J L Schuerrman	Economic Affairs Officer
UN-ESCAP	Mr.	Miguel Perez-Ludena	Assoc Econ Affairs Officer
Urmatt Ltd	Mr	Arvind Narula	Managing Director
Vet Superior Consultant Co. Ltd	Dr	Winai Chottianchai	Managing Director
Xongdur Thai Organic Food Co Ltd	Mrs	Benchawan Yammeon	Managing Director

