

1. Introduction

In recent years, organic trade has experienced an outstanding expansion, mainly driven by consumers' concerns with safe food and environmentally friendly production. Certification provides consumers with the confidence that organic products ensure food integrity, from seed through sale. Certification also guarantees that production and processing are managed under a holistic approach that enhances ecosystem health. In developed countries, economic incentives and enabling policies and regulations have boosted the establishment of organic standards. In developing countries, on the other hand, smallholders still face institutional and economic constraints to reach the stage of certified organic producers.

Despite the outstanding growth of the organic market in the last decade, certification costs and stricter standards from the developed world have prevented many smallholders in developing and transition countries from entering this market. Farmers seeking to sell organic products must hire an organic certification agency to annually inspect their farms and confirm that they adhere to the standards established by various trading partners. Smallholder group certification is envisaged as an alternative to reducing certification costs while enhancing capacity building. Another alternative explored is participatory certification or the Participatory Guarantee System, an initiative also largely coming from the developing world.

FAO has conducted an economic study on the certification costs under the above-mentioned certification schemes, which was guided by the following key questions:

- What are the implications in terms of management and costs for small farmer organizations wishing to obtain an organic certification?
- What skills and knowledge do farmers need in order to comply with the certification procedures?
- What additional costs have farmers incurred in organic production, marketing and certification? What are the social and economic benefits of producing organically?
- Does any step of the certification process require additional institutional support and further skills and knowledge development?

Specific objectives of this study are to:

- Appraise key factors and constraints in managing certification schemes by farmers' organizations.
- Appraise the costs incurred by farmer organizations to implement inspection and certification procedures.

- Identify the abilities needed by farmers to comply with the certification scheme procedures.
- Appraise the cost/benefit involved in organic production, marketing and certification by farmers.
- Identify the main constraints for farmers and farmer organizations in the certification process that require additional institutional support and further skills and knowledge development.

2. Methodology

The methodology used in this study combined the following: review of secondary information, documentation of case studies, information analysis, drafting of findings at the national level, and preparation of a synthesis report. The report appraises the organisational structures, technical and business support services, managerial skills and assesses the gross margin ratio for each case study. By gathering information from a combination of diverse sources and using a value chain approach, it was possible to gain insight into the feasibility of setting up and maintaining certification mechanisms through different schemes and in different realities, rather than simply evaluating the cost of certification.

Secondary and primary information

Data on organic farming and trade are usually scarce and hard to find. The secondary information gathered for this report was collected by consulting reports from previous studies, PhD research, data provided by certification agencies, associations of producers, trade bodies (government and private), and regional farmers' networks.

Documents on policies, procedures and rules that govern the organic sector were collected from governmental institutions, certification agencies and farmers' networks. The preparation of the case studies included interviews with farmers, focus groups and other stakeholders.

Case studies

The five developing and transition countries selected for the case studies have different legislation and organizational structures relating to organic certification, that allows to illustrate different alternatives. More than a strict statistical costs analysis, therefore, the overall study aims to better understand the alternatives in organic certification and the economic implications for farmers and their supportive organizations. In trying to narrow down the scope of the analysis, the case studies were selected according to the following criteria:

- Producers were small-scale farmers.
- Producers participated either in certified organic rice chains or certified fruits and vegetables chains.
- Producers took part either in third party certification as individuals in groups, or in participatory schemes linked to export or domestic markets.

In Thailand, the author of the case study first selected eight organic rice projects that qualified as potential case studies – one private commercial project and seven development-based projects. Six out of these eight projects produce jasmine rice, including the private commercial

project. This commercial project and one development-based organic jasmine rice project were then chosen: the first project comprises 133 certified farmers, and the second, 244 farmers. Both of them are located in the northern part of Thailand.

The Indian case studies were selected from the Uttranchal (also called Tarai) region in the Himalayas. The ecological conditions and history of informal organic cultivation in this lowland favoured the cultivation of traditional organic Basmati paddy only. Two case studies were selected – the first is implemented by a private firm together with 190 farmers and the second forms part of a governmental programme aimed at promoting certification and trade in the *bio-villages*. Forty-nine farmers from one of these bio-villages participated in the survey.

In the selection process of the Hungarian sample, representation was sought according to the region and the production structure. Vegetables, fruits and vineyards represent a small fraction of the cultivated area (two to three percent in total) but a sizable percentage of the total number of farms, since these products are usually produced by small farmers. Farmers were selected from a list published in the *Official Journal of the Ministry for Agriculture and Rural Development*, consisting of beneficiaries of area payments for organic farming in 2001 and 2002. The sample analysed included 70 farmers, i.e. 14 percent of the total of 496 certified farmers in Hungary in 2001-2002.

In the Czech Republic, information for this report was collected through electronic communications and/or personal interviews with organic farming experts, farmers, the Czech certification agency *Kontrola ekologického zemědělství* (KEZ) and officials from the PRO-BIOS association (a non-governmental and non-for-profit organization) and the Alliance of Organic Farming Advisors (EPOS) accredited by the Czech Government. At the moment of the study, there were about 40 organic vegetable and fruit growers, eight of which were interviewed (20 percent of the universe of organic farmers).

In Brazil, a sample was selected from the list of members of Ecovida, a network that integrates more than 2 300 farmer families and their groups in southern Brazil, and leads a participatory certification scheme for organic products. A total of 82 farmers were selected from five groups from Santa Catarina, Rio Grande do Sul and Parana States, answering to various criteria (e.g. diversity of production and targeted markets, degree of participation in the value chain, and time of involvement in the network).

Research tools

Research tools included standardized questionnaires for farmers, farmer group surveys and key questions for particular stakeholders.¹ The field data was cross-checked with available records whenever possible. Key persons were also interviewed, including staff of NGOs, certification agencies, local and regional government institutions, farmers' associations and private firms that provide technical support to individual farmers or farmer groups. Focus group techniques

¹ The authors of the case studies designed their own questionnaires following the guidelines suggested by FAO on the required information.

were also conducted with relevant stakeholders in order to identify alternative ways of supporting farmers' organizations to manage certification procedures.

After completing the data collection, the information was entered into a relational data management system and subsequently processed. Reports of the results were written for each case study.

Analytical approach

A value chain management approach is considered when calculating the costs associated with supplying certified organic products. The key element that links organic chain stakeholders is the setting up of quality assurance systems. Organizational structure and objectives pursued in each certification scheme determine the quality assurance measures and the recording systems to monitor product quality to be applied. Decision-makers at all levels need to work together to ensure that quality product assurance is continuously maintained. Regardless of the scheme, compliance with organic standards and procedures involves making management changes at the production, processing, certifying and marketing levels. To ensure lasting quality, managerial and technical skills are developed along the chain.

The analytical approach takes into account the main food chain actors involved in the certification and their costs to ensure organic quality of produce. This approach differs from previous studies where the emphasis was placed on the impact of social and environmental certification, either from a farm economic (Dankers and Liu, 2003) or a macro-economic (Wynen, 2004) point of view.

3. General features of the organic sector in the case studies

3.1 PRODUCTION AND MARKET

Following the worldwide trend, the increase in organic production and in number of organic producers in the analysed countries has been notable in the previous years, but especially from 2000 onwards. Supply- and demand-driven forces explain this trend. Although still at an infant stage, organic agriculture definitely took off in the worldwide market system. What was just a niche market some years ago has now entered as important segment in mainstream markets.

In 2004, the value of the world market for certified organic food was estimated at US\$27.8 billion. Since then, it has been growing at roughly nine percent per year (Sahota, 2006). However, trends and characteristics in terms of volume, turnover and organic products vary at the individual country level depending on commodity, location, government support and strength of the organic market.

In the domestic markets, organic products have made dramatic inroads into conventional distribution channels (Raynolds, 2004). Organic items sold in alternative outlets such as box schemes or small food cooperatives continue to come largely from small, often local, producers oriented towards domestic and civic movement values (DeLind, 2000; Marsden *et al.*, 2000). In recent years, however, mainstream distributors have greatly increased the availability of domestic and imported organic commodities throughout the North, with supermarket sales representing the most dynamic area of market growth (Yussefi and Willer, 2003). The most prevalent marketing channel is determined by geographical location and commodity, but most importantly, by the stage of development of the organic market in the country. A comparison of the organic production and market features in the analysed countries was carried out.

Brazil: The number of farms with some kind of organic certification has increased from 700 in 1997 to over 14 000 in 2003 (Lernoud, 2005), and farm sizes have grown from approximately 275 000 ha in 2001 to 803 000 ha in 2003. Sugar cane, coffee, soybean, and fresh and processed fruits and vegetables are among the diversity of products to highlight. By the early 1970s there had already been social movements fostering the use of agro-ecological principles and the recovery of traditional practices as key elements for sustainable agriculture. Nowadays, the organizations that fostered that movement are active participants in the formulation and implementation of the Brazilian Law on Organic Agriculture. Stakeholders from the conventional certification industry are also actively providing services to the Brazilian organic agriculture. Roughly speaking, from 2000 to 2004 the growth of the Brazilian organic production was calculated at between 30 and 50 percent annually.

There has been a rapid growth in the number of certified organic farms in the country. Most producers are small-scale (90 percent) and their production is highly diversified, providing a large number of fruits and vegetables to local and regional markets. An exceptional case is small agroforestry enterprises that export organic certified exotic fruits and palm hearts (Pacheco *et al.*, 2002). The largest organic area is farmed by large-scale producers (ten percent) who specialize in a few crops and are well connected to export companies.

The size of the Brazilian organic market is very widely discussed. According to certifying bodies, it ranges from US\$250 million to US\$300 million, depending on system productivity and commercial margins applied by wholesalers. According to certification bodies, 85 percent of Brazilian organic production is exported, especially to Europe, the United States and Japan. The remaining 15 percent is distributed in the domestic market. Major export products are coffee, orange juice, soybean and sugar, as well as a number of other smaller products. There is a growing export business of organic meat and an increasing demand of organic soy from EU and Japan (Pacheco *et al.*, 2002).

Internal markets are very dynamic and involve a wide number of actors and marketing systems. Individual sales at weekly fairs are the most prevalent distribution channel in small towns. Arrangements among farmers are often carried out in order to maintain the supply of fresh fruits and vegetables throughout the year. In some municipalities, specialized stores have been set up to cover the demand of the regional market. Other main distribution channels include sales points in local towns and delivering of processed ecological food to public schools and ecological baskets in poor neighbourhoods. Large markets comprise large retailers, processing industries or deliveries to restaurants and hotel chains.

A driving force for change is the recent entry of supermarket chains and several wholesalers into the internal organic markets in the larger towns. Most are limited to selling fresh produce, although they increasingly include processed food with value added such as pre-cleaned vegetables and ready-to-eat salads. Processed food is frequently supplied to large-scale retailers. Although it is considered an opportunity for some farmers to sell to supermarkets, it also involves high market risks associated with the stringent procurement systems of supermarkets. Since there is no premium price for organic products in Brazilian supermarkets, there is no incentive to run these market risks.

Nearly half of the national organic produce is consumed in São Paulo and nearby cities, and there is a great potential for market development. Consumer awareness of healthy products and confidence in the compliance with organic standards by farmers are important elements in this market. The potential market represented by a 35 million middle to upperclass people with an increasing awareness on health concerns (e.g. diet markets) is estimated at US\$1.3 billion

Thailand: In 2005, an estimated 21 700 ha of farmland was under organic management, representing around 0.15 percent of total farmland, of which an approximate estimate of 80 percent (17 328 ha) was organic rice (EU-ITC Asia Trust Fund, 2006). Social movements and farmer organizations were the first, in the 1980s, to provide a discussion forum for experience

sharing and policy advocacy for sustainable agriculture, including organic farming. They formed the Alternative Agriculture Network (AAN), an umbrella organization that aimed at developing organic farming technologies and conversion programmes. AAN in alliance with other actors, such as consumers and environmentalists, fostered the establishment of a certification body in the mid-1990s (Panyakul, 2006).

The predominant organic products in Thailand are rice, vegetables (fresh vegetable and baby corn) and fruits. There are a few honey and herb tea operators and one certified organic shrimp producer, but no organic livestock production yet. Most fresh vegetables are sold in Thailand, while all baby corn production is exported. Almost all organic rice is marketed in industrialized countries – mainly the EU and the United States with a smaller amount sold in Asia (Hong Kong, Singapore, Thailand and China) – via three different channels: dedicated organic distribution, conventional rice traders and the fair-trade network.

In recent years, the trade of organic products has experienced an outstanding expansion. Organic agriculture is listed as an important national agenda item to promote safe food and national exports, yet organic farming does not receive much concrete government support. The development of organic agriculture is mainly in the hands of farmers and the private sector.

The growth of the Thai organic domestic market is slow and no studies have been carried out on its size. There are three main marketing channels where such products are sold, i.e. supermarket chains, specialized shops and direct marketing. There is also a fourth, very small-scale marketing channel where several producer groups sell their produce locally.

In supermarkets, organic and/or health food products are sold in the same way as conventional products, i.e. on the same product shelves. Main products sold through this channel are fresh fruits, vegetables and rice. However, imported products, which are increasingly noticeable in Thai supermarkets, add to the product range and varieties available.

In specialized shops, organic and health foods are their main products. However, due to a limited assortment of organic products, these shops have to carry many conventional health food items. Organic products are still much more predominant, but there is a lack of clear identification or labelling to separate the different products. Direct marketing is also carried out for organic products, but only for fresh vegetables at this stage. The logistics of schemes vary, but in general, customers are delivered a pack of vegetables on a regular basis (e.g. one/week) to a designated location (home/ office).

India: At the moment of the study there were 2.5 million ha of certified organic land and many more non-certified organic land with production for the domestic market. Most of the certified land, 2.3 million ha, were grassland.² Public and private interests encouraged institutional development already in the 1996 as a basis to expand organic trade. Although this development appears to be relatively recent, organic agriculture in India dates back to ancient

² See APEDA's website: www.apeda.com.

traditional systems. Public and non-governmental organizations supported organic practices in different ways, which have proven to be sustainable in the course of time.

India does not import organic products; however, the export market was estimated to be worth approximately US\$700 000 in 2000-2001, with the EU as its main destination (FAO, 2002b). India is one of the largest producers and exporters of basmati rice in the world. Other major organic items exported include cotton, spices, tea, rice, pineapple, honey, rice, sesame seeds, walnuts, vanilla and ginger. The main actors in international trade of organic produce are the EU, the United States, Canada, Australia, New Zealand, Israel and Dubai.

The organic market for agricultural produce in India, in particular, the market for organic basmati, is disorganized and at a rudimentary stage. The total gross domestic organic market in the country is not more than US\$110 000. Although many companies are planning to foray into the organic basmati market and have been allocating budgets for promoting this concept among consumers, awareness has not reached the desired level for inducing business to initiate a changeover to organic production systems. Since organic products are considered mostly export-driven, more emphasis should be given to the promotion of internal and domestic markets.

At present, Indian organic products sold on the domestic market receive a premium of about 20 to 30 percent over conventional products, and are usually sold directly from the farmer or through specialized shops and restaurants (UOCB, 2005). Installation of market centres in each district by the Government of Uttaranchal is an example of a marketing channel. They enable small farmers and rural artisans to sell their produce at the district level market centre. Market centres have sales outlets for organic products such as organic basmati rice, kidney beans, pulses, wheat flour and spices from local producers. Only one mill in the state has organic certified rice-processing for export.

Health parameters are considered the main factors leading consumers to purchase organic products. Many organic producers in India are therefore trying to label their organic products in this direction. There is growing appreciation for organically grown food, especially since it provides additional value to production, yet domestic markets need to be developed and supported (ITC, 1999). It was felt, however, that consumer awareness has not reached the desired level for business enterprises to initiate a changeover to organic production systems. Awareness campaigns at all levels in the supply chain of any organic food commodity should be undertaken at an intensive scale with focus on the consumer's delight in buying the product.

Hungary: By 2004, the organic area had already reached 129 000 ha (1.75 percent of the agricultural land) with over 1 400 producers. This means a growth of about 13 times in area and ten times in the number of enterprises from 1988 to 2004. The main products are cereals sold as raw material. The Agro-Environmental Programme, which aimed at supporting sustainable agriculture practices, plays an important role to boost this development. A milestone in Hungarian organic agriculture was the foundation of the Biokultura Club in 1983,

which started out as a professional organization seeking market opportunities and became a nationwide organization in 1987 (Juhász, 2005). It works as a framework that links producers and domestic and export markets.

Around 90 percent³ of organic production in Hungary is exported, the most important products being wheat, corn and sunflower seed. Important EU target markets are Germany, Switzerland, Austria and the Netherlands. Hungarian market access to the EU was made easier in 1996, with the entry of Hungary into the accepted third countries' product list. Further growth in the main EU export markets is expected with their long history of organic agriculture and increasing consumption.

Export possibilities and contacts with the organic sector outside of Hungary encouraged the first state farms to convert to organic agriculture as soon as Hungarian trade companies were founded, with the aim of establishing a domestic market for organic products. However, the lack of demand for these products hindered the further development of the domestic market.⁴ The Hungarian domestic organic market is small (0.1 percent of total food consumption) compared to export volumes (35 million euro in 2001 [AMC, 2003]), but domestic consumption is growing slowly but steadily. Just a few organic farmers export directly (approximately 3.5 percent); 35 percent export via integrator companies, most of which sell to wholesalers-exporters (Kurthy, 2001, cited in AMC, 2003).

In the domestic market, the main marketing channels for organic products are the special organic shops and markets. The biggest concentrated market of organic foods can be found in Budapest and its agglomeration, where most of the organic shops and organic markets are situated. The markets are usually open once or twice a week in separated locations where a widespread range of products can be found. A selling condition is that the products must be controlled and labelled as organic food. Organic shops are small retail shops that sell organic and other healthy foods. There is a limited number, however, and consumers must travel to reach these shops. They have a mixed profile, also selling "reform food" and "healthy food", which confuses consumers about the concept of organic product. In the last few years, modern retail formats (super- and hypermarkets) have also started to sell organic food, mainly processed products such as baby food, dairy and bakery products.

The consumer profile of those who buy organic are regular buyers, educated, middle-aged (40 to 50 years old), health-conscious, urban and usually women. The educated, urban, younger generation is also interested in the organic food consumption, but tends to be less able to afford it. However, from previous surveys there are indications that the prices on the domestic market are too high to be acceptable for the general consumers (Anikó, 2005). A public authority, Agrármarketing Centrum (AMC), assists the marketing of Hungarian organic products with publications, market research, organization of events, participation on international exhibitions and markets.

³ See www.organic-europe.net/country_reports/hungary/default.asp.

⁴ See www.amc.hu.

The Czech Republic: The Czech organic sector has developed strongly since EU accession due to a generous government support scheme, EU subsidies, rising demand from domestic and foreign markets, the opening of new organic shops and processing facilities, and more supermarket chains offering organic. The government is supporting market development through its Organic Action Plan.

In 2004, 263 299 ha (6.16 percent) of the utilized agricultural area was cultivated by organic methods. This represented a growth of 3.46 percent compared to 2003. Arable land comprised 7.50 percent; permanent grassland, 89.40 percent; orchards and vineyards, 0.40 percent; and other land types, 2.70 percent (Václavík, 2005).

Ten percent of the Czech organic production was exported in 2003 to Austria, Germany and Slovakia. The main export products were buckwheat, spelt, rye and barley. No vegetables were exported at the time of this study, although some organic fruit growers were exporting mainly to Germany, Austria and Italy, taking advantage of higher prices. Most processed products were imported, due to lack of development of local processing facilities, with the exception of herb, tea and spices.

The number of organic farms remains low, with horticultural producers, mostly small family farms producing organic vegetables and/or fruits for the local market, with only one known organic vegetable producer able to meet supermarkets requirements (potatoes, red beet, onions and carrots). Organic fruit and vegetable production still comprises less than 0.3 percent of the total Czech horticultural production.

The main domestic distribution channels for organic food are multinational retailers, with the largest volume of sold organic food. Supermarkets have about a 65 percent share and offer an assortment of organic produce, most of the dry produce imported, but local sourcing of potatoes, root vegetables, apple juice, herb teas, milk products and meat.

Health food shops and specialized organic shops have a 25 percent share, with up to 80 percent of organic produce, and offer the largest selection of organic food on the market. Several new shops opened recently, with more planned in the larger cities. A small percentage of organic products are sold directly at the farm. This is either through pick-your-own schemes, farmers' markets or box delivery by post or train to final consumers or distribution centres, retail outlets or restaurants. There are six organic and natural food wholesalers operating in the Czech Republic, with only three operating regionally and all of them dealing with dry goods only.

Awareness-raising campaigns to promote organic agriculture have been running nationally since 1990, with publications, information provided in schools, sales exhibitions, television and radio programmes. In addition, since 2000, information campaigns have been carried out in supermarkets (FAO, 2006). Total spending on organic food rose by 40 percent between 2003 and 2004 and more growth is expected due to rising demand fuelled by this increased information. However, organic food still comprises only 0.1 percent of total food consumption.

3.2 ENABLING ENVIRONMENT AND INSTITUTIONS

This section describes the policy and institutional framework developed for organic agriculture in the case studies. In general, institutional development includes promulgation of legislation, definition of standards and setting up of programmes, certification bodies and control system. In general, institutional development in these countries is relatively recent. Most of the legislation and standards developed at the beginning of 2000, as shown in Table 1.

Table 1: Type of policies and institutions involved in organic agriculture

Country	Type of legislation	Name and year of issuance	Responsible institutions	Aims
Brazil	Legislation	Law 10,831/2003	Ministries of Agriculture and of Agrarian Development	Definition of organic agriculture, recognition of different certification systems.
India	Standards	National Standards for Organic Products/2001	Several ministries with the lead of the Ministry of Commerce*	Quality assurance systems for certified products.
Thailand	Standards	Standards for Organic Crop Production/2000	Ministry of Agriculture and Cooperatives, Ministry of Commerce	Promote safe food and national export.
Hungary	Government Decree	Government Decree 140/1999 and 144/2003	Ministry of Agriculture and Rural Development and of Environmental Protection	Organic agriculture and marketing rules.
Czech Republic	Legislation	Act No. 242/2000	Ministry of Agriculture	Rules for organic agriculture along the whole chain

Brazil: The need for regulations on organic production was identified in the early 1990s. Regulations were specified as a response to the growing external demand on organics and proliferation of standards. However, Law 10,831 (published on 23 December 2003) came into effect after a long discussion process, with the participation of the agro-ecological movement and the public sector. The law defines organic production along the value chain and recognizes that there may be different types of organic certification and that organic but uncertified products may be sold directly if under some social organizational control. Recognizing all the conformity assessment procedures in the legislation, it is intended to provide a basis not only to enable the country to export, but also to develop a strong organic domestic market. Discussions on the implementation of this law have followed with participation of the organic movements, both from the private and public sector.

Institutional support: The National Department of Agriculture has recently created the Organic Agriculture Sector Board as an advisory body for the Ministry of Agriculture. Organic agriculture has been defined as one of the five priority policies. The national organic movement is participating actively in the creation of a policy to enhance social organization around organic production (Santacoloma, 2005). Technical assistance, research and extension

are provided mostly by NGOs interested in promoting agroecology, sometimes jointly with research and educational institutions from the private and public sector.

There are some financing mechanisms that stimulate the adoption of alternative agriculture. Public as well as private banks are making resources available for loans to organic farming producers, where certification is considered collateral. Fundo Nacional do Meio Ambiente (FNMA) created in 1989, acts as the financial agent of the Ministry of Environment for implementing the National Environment Policy (PNMA). It has invested close to US\$30 million throughout the country to date.

India: The Indian Government has developed and implemented organic regulations since 2001 through the National Steering Committee for Organic Production (NSCOP). In NSCOP, led by the Ministry of Commerce, members are drawn from the Ministries of Agriculture, Commodity Boards, Food Processing Industries, Forests and Environment, Science and Technology, Rural Development and Commerce, and Trade and Exports (APEDA, cited by FAO, 2006). NSCOP set down the National Programme for Organic Production (NPOP) with the main focus to regulate the export of certified products. Consequently, NPOP aims mainly at enhancing quality assurance systems required for certified products. Its main objectives include setting up the National Standards for Organic Products, formulating policies and programmes for accreditation and certification, facilitating certification, and encouraging development of organic farming and organic processing.

Since the national certification bodies are not yet recognized as equivalent by EU regulation,⁵ exporters must rely on approved external certification bodies. The Indian Government initiated discussions to be recognized by the EU as a *third country* under Article 11 of EU Regulation 2092/91. Additionally, exports are required to have individual import licences, which increase bureaucratic procedures and transaction costs. Similar problems will be faced when attempting to export to other countries, such as the United States and Japan.

Institutional support: Organic agriculture and export opportunities at the national level are promoted by the Agricultural and Processed Food Products Export Development Authority (APEDA). Most of the 26 Indian States take part in organic programmes including training, financing, research and support to certification. NGOs have been very actively participating in organic production promotion. Activities include: organizing farmer groups; training in farm practices and documentation for certification purposes; input supply; and linking farmers to export and domestic markets. These programmes, sponsored by governmental or development agencies, particularly aim to improve market access to organic farmers by facilitating compliance with certification requirements. In turn, the interest of the private sector in organic production is increasing, mostly represented by export firms that facilitate the establishment of farmers' organizations and pay certification fees under contract farming schemes to ensure availability of certified organic product (FAO, 2006).

The Uttranchal Organic Commodity Board (UOCB) was established in June 2003 at the same time as the Centre for Organic Farming (COF), which was funded by the largest national

5 Inspection bodies should have been performing according to equivalent procedures as prescribed in the EU Regulation.

funding organization (Sir Ratan Tata Trust, Mumbai). Today, the Centre is responsible for human resources; technical and marketing support is therefore currently covered entirely by the COF (UOCB, 2005).

Thailand: Standards for Organic Crop Production first came into force in 2000. The first draft was prepared by the Thailand Institute for Scientific and Technological Research, Department of Export Promotion, Ministry of Commerce, and the Ministry of Agriculture and Cooperatives. After a review by the Department of Agriculture and a public meeting to collect comments (May 2000), the final draft was adopted in October 2000 (Panyakul, 2006). Establishing certification and accreditation systems are also considered for developing organic agriculture. The government's main objective is to promote safe food and national export. The reduction of import of fertilizers, pesticide and medicine is another target pursued by the regulation.

Institutional support: Institutional initiatives pursuing safe food and promoting export have been established, focusing on research programmes on organic production and capacity building for inspection and certification. Although formulated in governmental plans, these initiatives have served only as long-lasting advocacy from NGOs and farmers' organizations (FAO, 2005).

A significant institutional development has been the IFOAM accreditation of the Organic Agriculture Certification Thailand (ACT) in 2001. It is the first Asian and the only Thai organic certification body that can offer internationally recognized organic certification services. ACT's members include producer organizations, consumer groups, NGOs, environmentalists, academic and the media. ACT has extended inspection and certification services to organic producers from Southeast Asia, which means that they are able to also gain export markets from local certification without further external control.

Hungary: Before Hungary's accession to the EU, organic agriculture was already strictly regulated. The first step in legislating on organic agriculture was the 140/1999 Government Decree. It refers to the organic production and marketing of agricultural products and foodstuffs. It was almost an adaptation of 2092/91/EC. The 2/2000 Common Decree of the Minister of Agriculture and Rural Development (FVM) and the Minister of Environmental Protection (KÖM) contains the detailed standards of the above general regulation. Further amendments and decrees⁶ contain the animal husbandry standards, which were also completely harmonized with EC Council Decrees. Regulation on organic agriculture continues to be stricter than the EU even after being recognized as a third country under Article 11 of EU Regulation 2092/91. Although such strict procedures may be safe, they can make administrative tasks lengthy and slow.

Institutional support: Organic farmers in Hungary have been able to apply for subsidies for the conversion period since 1997, which had an incentive effect. After 2001, organic agriculture was supported within the National Agri-Environmental Plan (NAEP), which was integrated into the National Rural Development Plan (NRDP) in 2004. The aim of these policies is to conform

⁶ The amendment of 2/2000.FVM-KÖM Decree and the 82/2002 FVM-KvVM Common Decree.

to EU good agricultural practices (GAP), which recognize agriculture's multifunctional role in environmentally sound and healthy food production. In fact, from 2004 to 2006, resources for subsidies to organic agriculture are planned to increase from 80 million to 123 million euro, where EU resources cover 80 percent of the total (Juhász, 2005). Due to differences in quality criteria and delays in the payments, however, most applications for subsidies are from grassland owners rather than from agricultural producers.

In 1987, Biokultura became the first organization to assist with organic agriculture in Hungary. It was initially formed as a nationwide club and later became a nationwide association. It is currently composed of 32 local groups and 1 400 producers. It acts as a framework linking producers to export and domestic markets. Some of its noteworthy functions include promoting organic agriculture, providing information to consumers, contacting international organizations and certification. The latter is done through an independent organization created explicitly to undertake this task. Technical assistance, research and extension are available from private businesses only.

The Czech Republic: Since 1993, the Ministry of Agriculture established the organizational framework for organic agriculture in an internal order entitled, the *Methodical Instruction for Organic Farming*. Although this order had no legal status, it established a binding framework to orient farmers interested in entering the system. Further legal texts contained provisions on the labelling and packaging of organic food (Food Act 110/97), or established a basis for granting support to farmers in non-productive functions of agriculture (Governmental Decree 24/99). More complete legislative framework was set up with the adoption of Act No. 242/2000, which lays down the rules for organic agriculture for the whole system, including requirements for production, processing, importing, labelling and inspection. It also regulates the certification system and labelling as well as control and supervision of compliance with this law. This Act entered into force on 1 January 2001. It was prepared by the Ministry of Agriculture in co-operation with the Ministry of the Environment.

The implementing regulation was Regulation No. 53/2001, which came into effect on 15 September 2003 and was amended by Regulation No. 263/2003. This amendment mainly concerned the implementation of Commission Regulation 1788/2001, an update of the list of fertilizers and plant production products, a list of raw and ancillary materials that can be used in the production of bio-foodstuffs, and the list of countries and their inspecting bodies whose certificates are acknowledged as equal to those issued under the law (Juhász, 2005).

The Czech Republic achieved equivalency status with Article 11 (1) of EC Regulation 2092/01, as recognized in the list of *third countries* under Commission decisions for non-processed and processed foods of both plant and animal origin (FAO, 2006).⁷ As the Czech Republic has been an EU member since 2004, Czech legislation on organic products is subordinated to the EU Regulation.

The Structural Policy and Ecology Department of the Ministry of Agriculture (*Ministerstvo zemědělství*) is the competent authority for organic farming in the Czech Republic. The central

⁷ See FAO webpage on organic agriculture: www.fao.org/organicag.

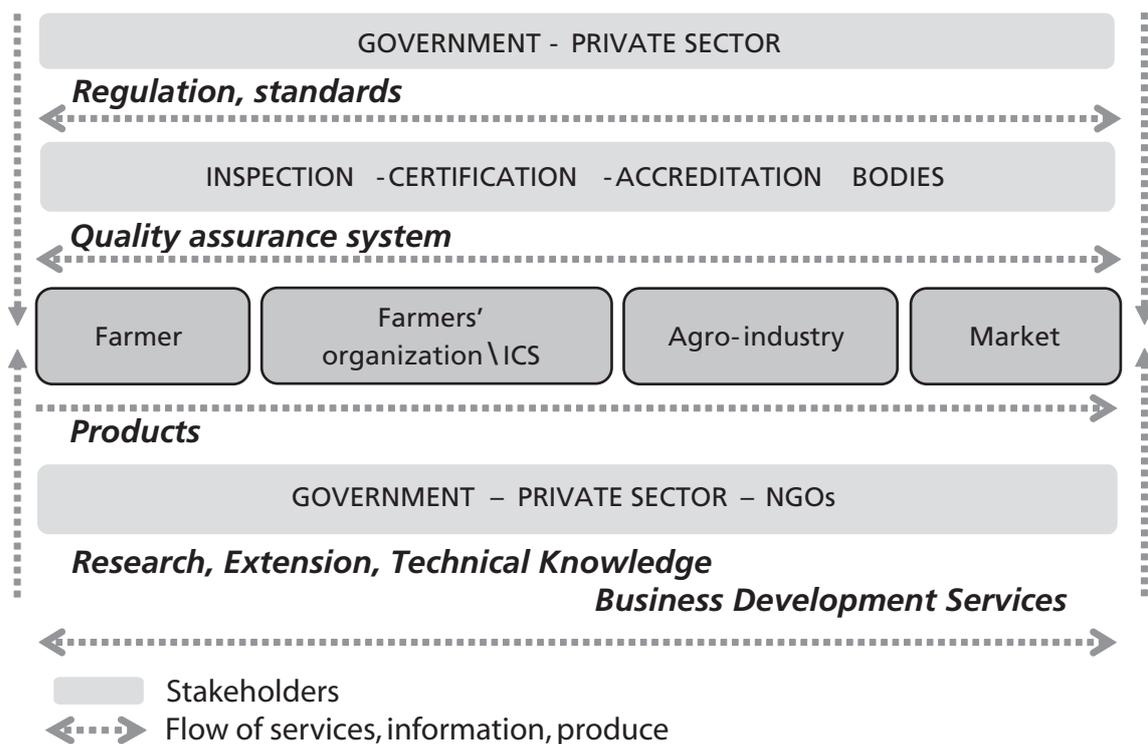
body, KEZ, provides education and training to inspectors and certifies products for export and domestic markets. In 2003, it issued 911 export certificates for bio-products and bio-foodstuffs, covering approximately 9 254 tonnes.

The Czech Government's goals for organic agriculture are increasing organic area to ten percent of total agricultural land by 2010, higher subsidies for production on arable land, increased quality of processing, marketing and export support, and education of consumers on organic farming merits. From 2004 to 2006, US\$12 million per year were earmarked as financial aid to organic producers under the *Horizontal Rural Development Plan* (HRDP) prepared by the Ministry of Agriculture, the Czech Republic is able to draw financial funds for support of rural development from the guarantee section of the European Agricultural Guidance and Guarantee Fund (EAGGF). The amount of EAGGF co-financing may cover up to 80 percent of calculated payments. The organic farming subsidies programme is one of the agro-environmental measures and represents a follow-up on the subsidizing policies implemented by the Ministry of Agriculture prior to the entry of the Czech Republic into the EU (Václavík, 2005).

4. Marketing strategies and organizational structures

The previous chapter highlighted the general features of the organic sector in the case studies. The core of this chapter is the analysis of the organizational structure required to comply with organic certification standards and procedures, both in terms of the conformity assessment system, and the business and technical development services. The stakeholders driving this process may be NGOs, governments or business companies. Figure 1 below illustrates the different actors in this structure and the relationships between them along the organic supply chain.

Figure 1: Stakeholders and linkages in the organic food chain



In the organic supply chain, institutional development is required both for providing business and technical services, and establishing the quality assurance system. Diverse stakeholders take part in the chain with different functions. Farmers are responsible for the production of certified organic produce. Processors/exporters/NGOs are responsible for coordinating farming activity, monitoring procurement, and processing and exporting the organic produce. They are also occasionally responsible for ensuring inspection and the certification process. The inspection agency conducts the inspection and grants certification. National or international organizations give accreditation to certifying agencies and supervise the development and implementation of organic standards and policies for organic products. The importing country verifies the imported produce by a declaration document sent by the exporting country. Finally, the inspection agency in the importing country might conduct an inspection for certification of the imports as per the standards of the importing country (US National Organic Program [NOP] and EU–EEC 2092/91) (Panyakul, 2006; Katyal, 2005; OUCB, 2005).

The case studies are clustered in two groups for easier analysis: the first considers the Thailand and Indian case studies on exporting organic fragrant rice, while the second analyses the Brazilian, Hungarian and Czech case studies in fruits and vegetables targeting mostly domestic markets.

4.1 CASE STUDIES ON ORGANIC FRAGRANT RICE

Rice is one of the world's most important agricultural commodities and one of the most significant for farmers in developing countries. Rice is usually cultivated in Asia on very small farms averaging 0.8-1.3 ha. Asia's fragrant rices today account for less than ten percent of global rice production (FAO, 2006).⁸ However, Basmati from India and Pakistan, Thailand's jasmine rice, and hundreds of little-known locally adapted varieties appear to hold great promise. Export markets in Europe and North America are expanding rapidly and local demand is also strong (FAO, 2006).⁹

Traditional fragrant rice varieties are usually unresponsive to fertilizer, hence they yield around two tonnes per ha, which is well below the 5-6 tonnes per ha produced by high-yielding varieties. The planting area of aromatic rice is therefore very small compared to the national rice acreage. However, the sustained higher prices obtained when the fragrant rice is sold in organic markets create certain expectations in rice exporters. Thailand, the world's biggest rice exporter, expects overseas sales of the aromatic varieties to rise in the coming years.¹⁰ In turn, India exports around 950 000 tonnes of Basmati rice a year, with the Middle East, the United States and Europe as the main buyers.¹¹

The organic food chain for fragrant organic rice is analysed using case studies from Thailand and India. The stakeholders participating in this supply chain are similar in both countries

8 See www.fao.org/AG/magazine/0207sp1.htm.

9 See www.fao.org/AG/magazine/0207sp1.htm.

10 See www.basmati.com/aromatic/index.shtml.

11 See www.basmati.com/aromatic/index.shtml.

– farmers, the processor/exporter or development programme, the inspection-certification agency and the importing country.

The rice case studies are introduced below. Table 2 summarizes the main characteristics of their organizational structure. The complete reading of the studies is advisable, however, for a better understanding of the complex net of interrelationships.

Thailand case study 1: Bak Ruea Farmer Organization (BRFO) with support from the Green Net-Earth Net Foundation (GNEN) in Thailand

BRFO, a registered producer group, is located in the Mahachanachai District, Yasothon Province, in the northeastern region of Thailand. It currently has 244 farmer members certified as organic rice producers on a total area of 1 082.88 ha. BRFO owns a rice mill that processes organic rice and has an organic conversion scheme to support its members to convert to organic rice production. BRFO's organic rice project is part of the larger national organic network Green Net-Earth Net Foundation (GNEN).¹² GNEN helps build the capacities of BRFO extension staff and sets up the project's ICS. GNEN provides technical assistance and monitors the product flow through processing and packaging.

BRFO buys in the organic paddy from its members according to an agreed premium price set in consultation with Green Net Coop (GN). BRFO then mills the paddy with GNEN's technical assistance and delivers milled rice to the packing facility operated by the Rice Fund Organic Agriculture Cooperative (RFC). RFC is sub-contracted by Green Net Cooperative to pack the organic rice. All of the organic rice from BRFO is exported by the Green Net Cooperative. Certification is done by ACT, the local Thai non-profit foundation that IFOAM has accredited since 2000 (Panyakul, 2006).

Thailand case study 2: Top Organic Products and Supplies Company Limited (TOPS)

Capital Rice Company Limited (CRC), a registered Thai company, together with its Italian commercial partner Riseria Monferrato, identified the export of organic rice as a business opportunity. A project currently engages 130 farmers in the northern region of Thailand on the border of Chaing Rai and Payao Provinces. The farm sizes range from 4.2 to 4.6 ha. The project is handled by TOPS, a subsidiary of CRC. Chai Wiwat Agro-Industry Company Limited (CWA) is a local rice mill contracted by CRC to participate in the organic rice project by providing extension services to the targeted group of farmers and by organizing the milling service for the organic grain. CRC does the packing for the organic rice under subcontract with TOPS, while marketing is done by TOPS.

Currently, TOPS sells organic rice locally under Thai brands as well as exporting the organic rice overseas, mainly through its Italian trading partner. The certification is done by Bioagricert Company (BAC), an Italian-based company that IFOAM has accredited since 1996. The development of production technology is organized by the Parn Rice Research Station, a public

¹² Green Net-Earth Net Foundation is made up of a cooperative, Green Net, mainly aimed at export and marketing of organic and natural products, and an NGO, Earth Net, which promotes and supports organic agriculture. See www.greennetorganic.com/content.

research station. Also, many of the agencies under the Ministry of Agriculture and Cooperative provide additional free services to this organic project, including on-farm extension, monitoring and control of the farm production and mill operation (Panyakul, 2006).

Indian case study 1: Sunstar Overseas Ltd.

This project is located in northern India, extends over the Himalaya Tarai region. There are 190 farmers with a total acreage of 1 250 ha. The size of the rice plot is 0.25-0.50 ha. Monocropping low-input Basmati rice was the tradition before this project started in 2001. Since then, the farmers have been delivering millet and cleaned rice directly to the export trade firm, Sunstar Overseas Ltd. (“Sunstar”).

To facilitate certification and marketing, the trade firm that leads the project is involved as part of the ICS. The trade firm provides a premium price in the conversion period, technical assistance and inputs supply to farmers. Farmers are under contract farming for five years. Sunstar also processes and packages the rice for export. Farmers are collectively certified but market individually with the firm. The inspection and certification is done by SGS, Switzerland, and ECOCERT, Germany, following EU standards for inspection and certification. The certification belongs to the export firm (Katyal, 2005).

Table 2: Comparison of organizational structure in the Asian organic fragrant rice case studies

	TOPS case study 1 Thailand	BFRO/GNEN cast study 2 Thailand	Sunstar case study 1 India	UOCB case study 2 India
Internal Control System (organization and farm control)	TOPS and farmers’ organization	Farmers’ organization with support from GNEN	Sunstar and farmers’ organization	Farmers’ organization UOCB support
Infrastructure (transport/data processing facilities)	TOPS	BFRO supported by GNEN	Sunstar	UOCB (data processing facilities)
Extension services (training/technical assistance)	Sub-contracted to governmental agencies	GNEN	Sunstar	UOCB-COF
Processing (monitoring product flow)	Sub-contracted to CWA with assistance from governmental agencies	BRFO mills the paddy with technical assistance from GNEN	Sunstar	Local certified mill
Packaging	Sub-contracted to CRC	RFC	Sunstar	COF
Marketing	TOPS	Green Net Cooperative	Sunstar	COF-Rapunzel

Indian case study 2: Uttranchal Organic Certification Body

The Bio-Village Programme initiated by the Diversified Agriculture Support Project (DASP) was founded by the Uttaranchal Government in 1998. After completion of the last DASP project in 2004, an Organic Basmati Production Program was adopted by the Uttaranchal Organic Commodity Board (UOCB), a regional government initiative, and renamed the Organic Basmati Export Program (OBEP). Today, the Uttaranchal Government has over 1 200 bio-villages that have matured into organic commodity production units that are covered under ICS, and internally and externally inspected for certification. In the state, nearly 693 ha of cultivated land area involving 1 792 farmers in 162 villages is under various organic projects.

A Centre for Organic Farming (COF) was set up by the largest national funding organizations and plays a technical as well as marketing support role. The Uttaranchal State Seed and Organic Production Certification Agency (USS & OPCA) carries out internal inspection and certification. The Uttaranchal Organic Commodity Board supports processing with the only certified rice-processing mill and monitoring product flow for export. COF facilitates the export contract with a German company, Rapunzel, for organic Basmati rice. A total of 428 farmers were included in the 2004 programme year. Other farmers sell their produce at the district level in the market centres established in each district (UOCB, 2005).

4.2 CASE STUDIES ON ORGANIC FRUITS AND VEGETABLES

The organic fruits and vegetables chain is analysed through examples from the participatory certification in Brazil and the Hungarian and Czech Republic horticulture sectors. These supply chains have little in common. The Brazilian case study corresponds to a short chain that supplies local markets, where consumers and producers participate in the quality assurance system. The latter case studies correspond to traditional chains where individual farmers market individually to middlemen, the quality assurance system is government-driven, and organizational structures hardly exist. A summary of the characteristics of their business models is presented in Table 3.

Brazil case study: the Ecovida Network in southern Brazil

The Ecovida Network integrates more than 2 300 farmer families and their groups, 20 support organizations, 15 consumers' cooperatives, eight market enterprises and seven agro-industries in the south states of Brazil. The area of influence covers 170 municipalities in the Rio Grande do Sul, Santa Catarina and Parana States. Farm size covers a broad range from 8 to 40 ha. The network is the result of a long-standing process among grassroots organizations working in the agro-ecological movement. Its main aims are to promote farmer sustainability and enhance group empowerment, rather than fulfil market needs. For this reason, strengthening relationships between producers and consumers to enhance local market development is crucial in the overall approach.

The basic unit of decision-making is the *nucleus*, which is made up of groups of farmers and consumers. Each farmer-consumer group establishes an ethical council, which is a technical decision-making body where technicians also participate. Its functions comprise inspection, monitoring, evaluation and advice to farmers inside the nucleus. The organic produce is

marketed in more than 100 ecological fairs and other alternative distribution channels such as consumers' and/or producers' cooperatives and specialized stores to cover the regional market's demand. Other marketing strategies include delivering processed ecological food to public schools and ecological baskets to poor neighbourhoods. Non-government support organizations offer a wide range of technical services such as technical advice, agro-ecological research, social organization, generation of technology, agro-processing and commercialization. Technical support could also be provided by extension agents from the local government. Ecovida provides certification as well as the right to use the logo (Santacoloma, 2005).

Table 3: Comparison of organizational structure in the organic vegetables in the Brazil, Hungary and the Czech Republic case studies

	Brazil	Hungary	Czech Republic
Internal Control System (organization and farm control)	Consumer and farmers' organization	No	KEZ o.p.s.
Infrastructure (transport/data processing facilities)	Farmers' organization	Farmers	Farmers
Extension services (training/technical assistance)	NGO+ farmers' field schools	Biokultura Association	KEZ o.p.s.
Processing (monitoring product flow)	Farmers + farmers' organization	Agro-processors firms/farmers	Agro-processors firms
Packaging	Farmers' organization Farmers +	Agro processors firms/farmers	No
Marketing	Farmers + farmers' organization	Agro-processors firms/farmers	Farmers

The Hungarian case study: the Hungarian vegetables sector

In Hungary, two groups of organic farmers can be distinguished: the smaller farms with a wide product range (fruits, vegetables, animal products) concentrating on the Hungarian market, and large monoculture farms (usually cereals, industrial crops) exporting to the EU market. A sample of 21 small-scale farmers from different Hungarian regions was selected for the study. The total number of organic farmers is 1 400, of which less than five percent produces fruits and vegetables. The average size of the farm considered varies from 7 to 50 ha; the supply chain is short. There are almost 200 000 companies in Hungary that process organic food, but only a few produce a considerable amount that reaches consumers throughout the country and even in foreign markets. Some of the processors also produce and trade with organic food. The largest concentrated market of organic foods can be found in Budapest and its agglomeration.

The most important distribution channels of organic foods are the *organic shops* and the organic markets, both mainly found in Budapest. The most important market is *Ökopiac*, which is a non-profit organization founded and operated by the Biokultura Association. The market is open twice a week and offers a widespread range of products. The farmers/ processors/traders pay a minimum fee to hire a stall. The organic shops are small retail outlets that sell organic and other health food; their numbers are limited and consumers must travel far to reach them. Most of them are settled in Budapest and only a few can be found in larger country towns. The products have

to be controlled and labelled organic foods. The national certification body *Biokontroll Hungaria Kbt*, founded by Biokultura Association, acts in compliance with Hungarian regulations and EU Council Regulation (No. 2092/91) and has been IFOAM-accredited since 2004.

The Czech case study: the Czech vegetable sector

The organic fruit and vegetable production in the Czech Republic is still in its infancy and encompasses less than the 0.3 percent of total agriculture production. It is produced by 40 out of the 814 farmers engaged in organic production. A group of eight organic horticulture farmers were selected to assess the situation. The size of the farms varies but all are under 50 ha. Most of the horticultural farms are situated in Moravia and around Prague, the capital. There are two main vegetable production systems: the commercial production of chiefly root vegetables by large farms and the garden production of a wide variety of vegetables by small-scale farmers.

There are very few certified processors, which is a weak point in the development of the Czech organic market. A significant part of vegetable producers sell directly in local markets, particularly through farmers' markets and retail outlets, although box schemes, direct sale from the farm, distribution centres and other schemes are also in place. Organic certification is an important way to distinguish organic products from competing non-organic products and to justify the organic price premium. Inspection and certification of organic products and food is under the organization KEZ. An ICS supported by KEZ controls compliance with the law at the farm level, although there is no organic farmers' organization involved in organic certification. Producers are authorized to use the Czech Republic organic logo, which is officially registered with the Czech Government since February 2005 (Vàclavik, 2005).

4.3 SOME CONCLUDING REMARKS

- In the organic rice chain, producers are vertically integrated or linked in the supply chain targeting export markets. In the organic vegetable chains, producers in the Ecovida Network are horizontally linked in a fairly short supply chain targeting local and regional markets. In Hungary and the Czech Republic, producers participate individually in short supply chains driven by a promising domestic demand.
- Drivers in the organic rice chain are either exporters or NGOs that provide most of the business and technical support services required by the farmers; public-private schemes may contribute with technical development and technical advice, as in the TOPS case study in Thailand, or participate in the ICS as in the UOCB case study in India.
- In the Brazilian Ecovida Network, farmers, consumers and technicians participate together in the quality assurance system with support from non-government and occasionally governmental organizations, which also offer a wide range of technical, business and commercial services.
- The organic vegetables chains in Hungary and the Czech Republic are at their early stages and there are no farmers' organizations; quality assurance systems are rigorously controlled by social and governmental organizations.

