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Rehber E.

in

Nikolaidis A. (ed.), Baourakis G. (ed.), Isikli E. (ed.), Yercan M. (ed.).
The market for organic products in the Mediterranean region

Chania : CIHEAM
Cahiers Options Méditerranéennes; n. 61

2003
pages 97-118

Tackling the Market Obstacles for Organic Products

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1. Introduction

Organic agriculture is defined as a holistic production system whose primary objective is to optimize the health, productivity and diversity of interdependent communities within the agro-ecosystem. To clarify the forthcoming discussions it might be helpful to underline that organic agriculture refers to the production system, not to the product itself. But when the concern is marketing or markets, the product also must be considered. The other important feature of organic agriculture is that it includes agricultural systems that promote the environmentally, socially and economically sound production of food and fibers. By respecting the natural capacity of plants, animals and local conditions, it aims to optimize quality in all aspects of agriculture and the environment (public good aspect).

Organic farming is becoming of growing importance in the agriculture sectors of many countries, irrespective of their stage of development although it is still fairly a small industry. In countries like Argentina, Sri Lanka, Turkey, Costa Rica and Mexico organic production has grown fast in the last years and exports are in many cases, substantial. In other countries, organic agriculture is not so market oriented but rather linked to a sustainable rural development, where organic agriculture plays an important role due to the reduction of erosion, reduced water consumption, nutrient recycling, health benefits (no poisoning of people, animals and water) etc. Organic farming has been developed in the most western countries such as the USA, Canada, Japan and the European Union, because of the awareness of the whole society about the hazardous effects of highly industrialized conventional agriculture on the health of human beings and nature. In the 1980s, the demand for organic products rose considerably among ordinary consumers. Some governments began to support organic farming.

There is a remarkable gap in developed countries between the supply and demand of organic food and fibers not only because of the insufficient supply but also because of the dependence on the importation of some agricultural products, which are not produced domestically. The rapidly growing demand in many markets cannot be met by local supply, at least in the short to medium term. Hence, the availability of market opportunities in the developed nations has created an organic farming movement in the developing countries.

Because of organic agriculture intends to supply a product which is grown in production systems based on the primary goal to optimize health and productivity of soil, plants, animals, and people, there is a set of strict rules and complicated practices that allow for the marketing of certified foods and fibers. Marketing of organic products has to be organized in a strict manner through vertical coordination among farmers, processors, specialized retailers and consumers. Organic farming practices are well defined. In fact, organic farming practices are so unique that a complete set of certification procedures governs organic farming, from the soil to the consumer table (Rigby and Caceres, 2001).

These holistic and more strictly governed structures of organic farming have created some opportunities but also some challenges in the organic sector around the world.

The object of this paper is to outline the major challenges in the organic sector from producer to final consumer. In order to determine related problems in the whole chain, first of all, brief information about the production and marketing of the organic products is presented. Then, the main market obstacles of the organic products are discussed and some possible solutions are proposed.

2. Production and Supply

According to the SÖL survey (February 2001), about 15.8 million hectares are managed organically worldwide. Presently the major part of this area is located in Australia (7.6 million hectares), Argentina (5.5 million hectares) and Italy (about 1 million hectares). When we consider the breakdown of the total acreage among the continent, Australia has the highest share with about 50 %, followed by Europe and Latin America with shares of 23.6% and 20%, respectively (Figure 1).

In the EU, EFTA countries as well as Bosnia-Herzegovina, Croatia and Yugoslavia have more than 3.7 million hectares under organic farming, which correspond almost to 23.6 % of the total area (Willer and Yussefi, 2001).

In North America, more than 1 million hectares are managed organically and growth rates are very impressive. In many Latin American countries the organic land area has reached about 0.5 % of the total agricultural land and growth rates are remarkable. For example, in Argentina organic land has boomed between 1992- 2000 from 550 hectares to 5.5 million hectares, i.e. it increased 550 fold in a period of less then ten years.

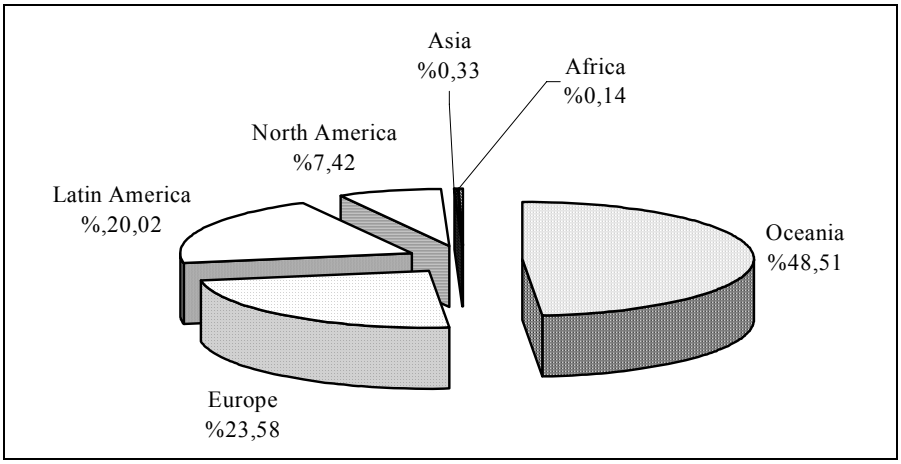

Figure 1. Share of Each Continent of Total Area Under Organic Management (%)
Source: Organic Agriculture Worldwide, Statistics and Future Prospects, February 2001.

In most Asian countries the area under organic agriculture is still very low. While the total area is assumed to be 50000 hectares, despite the fact that the reliable data are not available, no country has reached 1% yet.

In Africa, the reliable data are not yet available but there has been considerable growth. It is estimated that the total continent has 0.14 % of the total world organic area.

The statistical data show that organic farming is practiced in many countries around the world, and the area under farming is continually growing. Worldwide, approximately 130 countries produce organic food and beverages in commercial quantities, including 30 developing coun-

tries in Africa; 30 countries; including 12 developing countries in Asia and about 30 developing countries in Latin America and the Caribbean. Five countries (including 1 developing country) in Australia and the Pacific; about 20 countries in Europe and 7 transition economies; and finally in the USA and Canada. These figures show that at least 90 developing countries, of which about 15 are less developed countries have an important share in the total world supply (Olesen, 2000). The main organically produced product groups which are traded internationally are: fresh fruit and vegetables, dried fruits and nuts, processed fruit and vegetables, coffee, tea and cocoa, spices and herbs, oil crops and derived products, sweeteners grains, dried leguminous vegetables, meat, dairy products, eggs, alcoholic beverages, processed food/food preparations.

In addition, some non-food products, e.g. feeding stuff, seed grains and cotton, should also be mentioned. Developing countries are very important exporters of many of these product groups, e.g. fresh fruit and vegetables, spices and herbs, coffee, tea and cocoa. On the other hand, they are insignificant suppliers of meat and dairy products, alcoholic beverages and food preparations.

2.1. Production Management

Many developing countries have a potential comparative advantage in meeting demand for many organic products in major markets. First of all, due to the climatic constraints, some products cannot be grown profitably in mostly industrialized countries. Second, in a number of developing countries, which are using less agro-chemicals and do maintain soil fertility in a rather suitable way, to convert the traditional production system to the organic system may be much easier than in the countries that have more specialized production systems based on intensive input use (Rehber, 2002). In fact, declining government budgets have forced many developing nations to re-structure their agriculture sector. Liberalization and privatization policies open the way for a greater role for entrepreneurs and producers' organizations. These trends are an impulse for private initiatives for organic agriculture in those countries.

While the environmental and economic benefits are generally perceived in both developed and developing countries, there are reservations as regards the ability of organic agriculture to respond to other social needs, namely to secure food needs. It is always questioned whether such systems practiced by smallholders can yield enough to feed the world's increasing billions.

Farmers will probably experience some loss in yields when converting their operations to organic production. There is a period of time between the lowering of synthetic inputs and sufficient biological activity being restored to the land (Reijntjes, 1994). The review of the Commission on Sustainable Development (CSD) of the agricultural sector (March, 2000) indicated that there could be limitations and risks in the organic production of food in developing countries, and expressed that organic farming should not be considered as a solution for developing country needs. The main idea behind these views is the availability of a number of ecological agriculture techniques that could be applied to enhance traditional and other agricultural practices to promote sustainable agriculture and rural development.

The degree of yield loss varies, however, and depends on factors such as the inherent biological attributes of the farm, farmer expertise, and the extent to which synthetic inputs were used under the previous management system. In most of the developing countries, organic production practices may demonstrate the potential to double or triple average yields because of the very low initial yields on the same lands (Scialabba, 2000).

Most studies find that organic agriculture requires significantly greater labor input than conventional farms. This is especially true in areas of low ecological potential, but also several studies have shown that labor requirements vary depending on the type of crop grown. The

Berardi's study (1976) on organic and conventional wheat production in New York and Pennsylvania found that organic farmers' labor input averaged 21 hours per/hectare compared to nine hours per hectare for the conventional farmers. In terms of labor productivity, the average for conventional farmers was significantly greater, 13 bushels per hour of labor, compared to six bushels per hour of labor for organic farmers (Knoblauch et al., 1990). According to some other studies, in corn and wheat production, organic techniques were found to have 22 to 55 percent lower labor productivity than conventional practices (Knoblauch et al., 1990). According to the study of Pfeffer (1992), most of the New Jersey farmers surveyed think that it is difficult to reduce chemical inputs because additional labor is hard to find, and their own labor inputs would have to increase. Labor supply is less elastic for farmers who hire no labor (Comte, 1994). It is a fact that developing countries have some advantages related to higher labor requirements of organic practices because of the availability of unused and unpaid family labor.

When we consider the profit lost, in general, especially in the transition period, along with the public good aspect of organic agriculture, producers need to be supported. However, especially in the EU, organic farmers have been supported (Lampkin, 2002). In the EU, to reach the organic area target of 10% of the total area in the EU in 2006, 9.43 million hectares need to be converted to organic farming. This would require 6950 million Euro conversion subsidies, and 7749 million Euro maintenance subsidies (for the period of 2001-2006). With the 1992 CAP reform, the EU has begun paying farmers for income loss because of the price decreases (Verschuur and Well, 2001). That means a conversion subsidy of 737 Euro per hectare and a maintenance subsidy of 136 Euro per hectare per year.

Five instruments were used:

- 0% tariff on VAT on organic products; this instrument enhances the pull of organic products in the market.
- Pesticide levy; this instrument reduces the competitive advantage of conventional farming, and the levy could be used to stimulate organic farming.
- Cross compliance; in the scheme, farmers having applied for direct payments but not complying with the environmental conditions will be penalized. These revenues could be used to stimulate organic farming.
- Modulation; Member States may voluntarily modulate direct payment with a maximum rate of 20%. This amount could also be used to stimulate organic farming.

Most of the developing countries suffer from a number of constraints, such as the lack of technical know-how (e.g. on production methods), lack of storage and processing facilities, poor logistics. Lack of information is an obstacle to organic conversion. For example one of the survey results show that 63 % of the Sub-Sharan African farmers and 73% of the North American (US and Canada) organic farmers cite a lack of knowledge as the greatest barrier to adoption (FAO, 1999). There is a big challenge for the developing world related to adoption and dissemination of organic practices. Required studies related to organic production methods and practices are so scarce and farmers themselves and even extension personnel rarely receive adequate training and some studies have shown that they sometimes discourage farmers from converting. Furthermore, institutional support in developing countries is scarce and not effective (FAO, 1999).

In the western developed countries, in the last two decades a lot of research projects have been carried out with organic fertilizer, composting, crop rotation design, nitrogen fixation in arable crop rotations and weed regulation (Niggli, 1999). There are more research needs especially including the field of horticulture and animal husbandry and also integrated research projects focused on regional development, landscape and socio-economics aspects of organic farming.

There should be an intensive exchange of information between researchers and advisors. In addition, a permanent feedback from the fields through advisers is crucial. As in the other fields of agriculture, the research in organic farming must take place at least partly on the farm. Each research group should have a network of reference farms or several on-farm projects for gauging results or insights derived from isolated scientific works (Niggli, 1999). The results and the practical findings of the researches of the Western World must be conveyed to the developing countries.

Land tenure is also critical to the adoption of organic agriculture. It is highly unlikely that tenant farmers would invest the necessary labor and sustain the difficult conversion period without some guarantee of access to the land in later years when the benefits of organic production are attainable (FAO, 1999). Availability of the unsolved land tenure problems is inhibiting investment in soil fertility.

Another main problem for developing countries are poverty and very low purchasing power, dominance of small holders with very low initial and working capital. Therefore, farmers in developing countries need some financial and technical supports to use production techniques to meet required standards and get a desired result from organic farming practices. The role of the government can be considered two fold. First of all, the enforcement of the legislation and regulation supervision of the inspection system can be considered permanent responsibility of the governments. On the other hand, research, education and provision of information are important instruments of the governments' policies. Especially at the beginning stage, governments have to support the whole system to have a sound and well functioning production chain, which will enable operation without government support.

The governments have to give special importance to organic farming in their general agricultural policies. For example, in the USA, private and state schemes for certified organic food reached a point where authorities were requested to establish federal rules and control systems to guarantee consumers' confidence in organic products (Klonsky and Toute, 1998). In the European Union (EU) the demand for sustainable agriculture, and organic agriculture in particular, represented a perfect match to governments' priorities to reduce surplus food. In fact, EU organic agriculture policy reconciles agricultural and environmental policies as it represents a viable option for extensification and an alternative to land set-aside (Sylvander and Wadel, 2000).

In our industrialized world, of course, some kinds of vertical coordination between producers and processor or directly exporters and wholesaler/retailer have been required to remedy the production and marketing problems (Rehber, 1998; Rehber, 2000).

3. Marketing

In developed countries, farmers and consumers' demand for environmental and health quality created the organic agricultural movement. Demand for organic foods in the USA, Europe and other developed parts of the world is growing rapidly yet market shares remain quite small (Thompson, 1998). The currently small share of organic products in the food and beverage trade in all these markets indicates a large long-term potential. Expectations of growth are based on not only strong and increasing consumer awareness of health and environmental issues, but also on the more goal-oriented and aggressive marketing and promotion being undertaken by the major retail groups. Product development and innovations in packaging by food processors and manufacturers, as well as supportive government policy in many countries, will also push up world demand. The important factors that affect consumer demand for organic products in-

clude awareness and knowledge of organic commodities, motivation and willingness to pay (Zygmont, 2000). It is a fact that there is not enough accurate data about the production, demand and consumption of organic products. However, some estimations have been derived by the International Trade Center (ITC), and by some other personal studies.

Retail value, market share, import share, and projected market growth rates are typically used to evaluate a country's organic markets. The retail value is the estimated total sales of organics in the country, including both domestic produce and imported foods. Total retail value is the product of price and quantity and indicates the size of the organic market. The retail share is referred to as a market share of the organic product to whole food sales. It is estimated by dividing the retail value with the total value of all food. A recent estimation based on the mainly ITC sources is presented in Table 1.

Table 1. Organic Retail Sales and Import Share in The World Markets

Market	**Retail Value** (Million USA Dollars)	**Retail Share** (% of sales)	**Import Share** (% of organic)	**Annual Market Growth** (% of retail value)
Austria	250	2,25	30	12,5
Belgium	85	2,00	50	n.a.
Denmark	245	2,75	25	35
France	650	2,25	10	20
Germany	1700	1,35	40	7,5
Italy	825	1,75	40	20
Netherlands	290	1,25	60	7,5
Spain	34	1	50	n.a.
Sweden	155	1,8	30	35
Switzerland	350	2	n.a.	25
U. Kingdom	450	1,2	70	30
Japan	3000	1	10	15
China	6	n.a.	0	n.a.
Taiwan	9,7	n.a.	100	200
Australia	125	0,2	10	400
United States	6600	1	n.a	20
Canada	350	1	80	15
Mexico	12	n.a.	0	n.a.

Source: Adapted from: Factor Affecting International Demand and Trade in Organic Food Products (Luanne Lohr, 2001); Changing Structure of Global Food Consumption and Trade (ERS/USDA, 2001).

The continuous growth in the organic sector is more remarkable since overall food sales are experiencing either slow growth or stagnation. It is a fact that the market for organic food and beverages is growing rapidly in most countries in Western Europe, North America, Japan and Australia, with retail sales of organic food and beverages reaching an estimated $16 billion in 2000 (Table 1).

The major markets in the world are in the USA, Europe and Japan. However, the share of these countries in terms of total retail sales worldwide, is about 75% (Table 1). In some developing countries, local markets for organic products are also evolving, but not at such a fast rate. Trade in organic foodstuff has become an important global agribusiness. Organic trade is of particular interest in a development context because of the spectacular growth that has taken place in re-

cent years. The organic food trade has been become a major activity in the global food market. The growth rate in the trade of organic foods is also very high, which is rarely observed in food markets. The annual market growth is the expected annual percentage change in organic retail sales over the next 5 years and it has a value ranging between 3.5 and 400 % (Table 1). Each country has its own figures depending on the structure of the sector. For example, in the USA, according to a survey conducted by The Natural Marketing Institute, in partnership with the Organic Trade Association, retail sales of organic products have grown steadily for the past ten years depicting a compounded annual growth (CAG) of 22.74% over that period. Growth rates have been similar over the past five year (22.61%) and three year (24.72%) periods. Assuming a steady growth at a conservative rate of 20%, retail sales of organics in 2001 are projected at $9.3 billion. By 2005, sales are expected to reach nearly $20 billion.

It seems clear that, at least in the short and medium term, an insufficient supply of organic products will be the main problem rather than lack of demand. Though domestic production is growing rapidly in many Western markets, demand appears to be expanding even faster. This opens up opportunities for exporters in developing countries, not only for those already in the business, but also for others who would like to start production.

The import share is the value of imports divided by the total retail value and is a function of domestic production as well as demand for organics. It has been changing between 10% and 100% as can be seen from Table 1.

In developing countries, policies for organic agriculture seek to earn foreign exchange through export. Under conditions of excess demand for organic products, there should be good market opportunities for production of both developed and developing countries (Scialabba, 2000a). For example, the Dominican Republic and Mexico have become the world's leading exporters of fresh organic bananas, accounting for some 75 percent of the world supply. Argentina has become a significant exporter of organic products through becoming one of the third countries that can market their products in the EU without additional inspection (Haen, 1999).

Although the overall picture looks highly positive, a number of potential risk factors should be borne in mind when evaluating future developments in the organic food business. For example, occasional oversupply of a given product may not only have immediate but also more long-term negative effects. Furthermore, other forms of environmentally friendly and sustainable agriculture are likely to result in increased competition in the future. Reduced price premiums for organic produce and insufficient profitability among farmers and other operators are also important factors, which must be considered.

There is no doubt that the world markets for organic food and beverages will continue to offer developing countries profitable export opportunities. According to the ITC Organic Food Reports (1999), there are sound market opportunities for developing countries in most major markets especially for the products that are not produced in Europe, North America or Japan. All of the major markets under review offer good prospects for suppliers of organic products that are not produced domestically: examples are coffee, tea, cocoa, spices, tropical fruits and vegetables and citrus fruits. Such opportunities exist not only for off-season produce (such as fruits and vegetables), but also for many other products like in-season fruits (e.g. apples and pears) and vegetables, cane sugar, grains, cereals, pulses and seeds, for the simple reason that the rapidly growing demand in most markets cannot be met by local supplies, at least in the short and medium term. On the other hand, some multinational companies such as McDonalds, Danone, Lufthansa, Swiss Air, Nestle and Novartis have already entered the organic market (Geier, 2000).

Market demand for organic agricultural products has created incentives to change agricultural production policies towards market oriented and more sustainable directions. Organic agriculture offers a specialized market and an opportunity to diversify into new commodities that have a high demand and price premiums.

Because of the export oriented market structure of the organic produce, development of market capacity mainly depends on foreign import companies and their domestic branches or partners. To improve the access capacity, organic producers have to act together under their own organization such as cooperatives. In developed countries, organic standards have been developed over a period of 25 years. The main forces in this development have been the organic producers themselves. Lately, governments have also become engaged in organic standards. Having high standards, on contrary may create trade barriers for the developing countries to some extent.

Another problem is inadequate market information (for example, which products to grow, which markets and distribution channels to choose, competition and market access) and insufficient financing. Reliable market information is almost always difficult to obtain. In particular, no projections and systematically identified markets for the country's exports have been available in developing world.

We have to mention about fair trade practices when discussing marketing of organic products. The fair trade movement started 25 years ago. The terms of trade developed very much in favor of a developed country at that time. The fair trade started to counter this development in establishing special criteria for sustainable trade with mainly smallholders, starting with products like coffee, tea and cocoa. The criteria are mainly created to protect small farmers, farmers' cooperatives and farm workers community, providing a price premium, advance payment and a long-term trade relationship (Cierpka, 1999). Among food items currently eligible for "*Fair Trade Labels*" are tea, bananas, cocoa, and chocolate. The fair trade certification is different from organic certification, although 65-85 % of the Fair Trade imports also carry organic certification (Lohr, 2000).

3.1. Marketing Channels

Structure of the marketing channel has been varying from country to country. In developing countries, organic production is mostly export oriented and the main part of production are marketed through exporters to the main markets such as the EU, the USA and Japan. Generally, there is a simple chain between producers and processing companies or products are directly distributed to importers. In this section, the marketing channel in the EU is presented in Figure 2. Consumers buy organic product from the producers, or natural food stores, the Reformhaus (traditional health-food shop in Germany) and increasingly, from the conventional retail groceries (supermarkets and mainstream stores).

Local producers sell some of their products directly on the farm, often in a "farm shop" or at a stand at the weekly farmers' market and, sometimes consumers travel to buy those products. Another way is to deliver the products directly to private houses. A considerable part of the organic products are processed before they reach the consumer. The wholesaler's role in the natural food and Reformhaus trades involve more than distribution. Wholesalers often assist the retailer giving training or some advisory services.

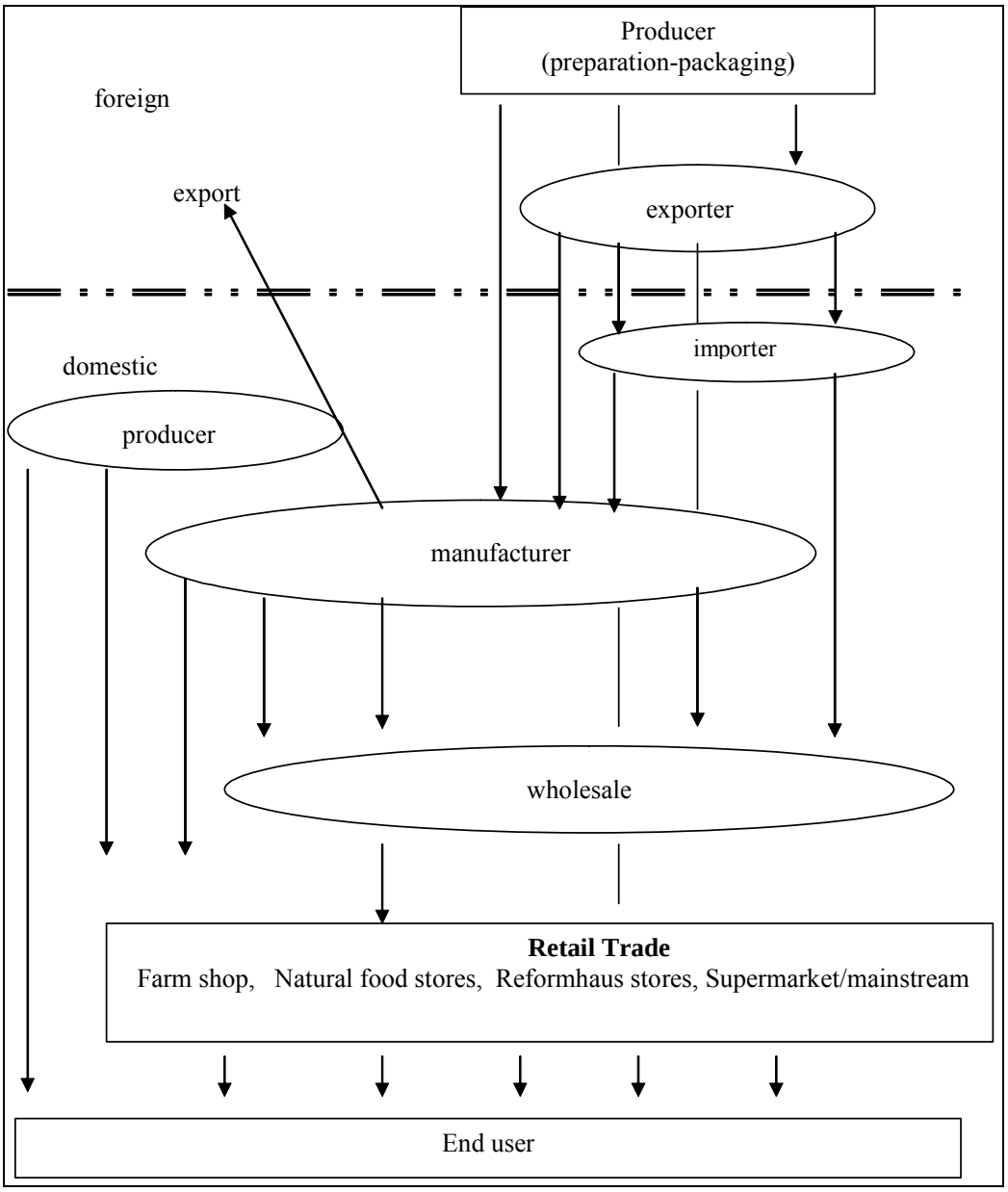

Figure 2. Marketing Channels in the EU

Source: Export of Organic Products: Marketing Manual (Edited by Katherine Clark), M. Buley, P. Grosch and S. Vaupel (1997), Protrade, Dept. of Organic Products and Fine Foods, German Technical Cooperation (GTZ), Second Edition.

They distribute advertising material such as brochures, produced by manufacturers or themselves. The conventional retailers, e.g. supermarket and mainstream chains, usually buy directly from the manufacturer/processor or from wholesalers and/or importers. Their marketing functions include more than retailing such as shelf stocking, staff training and advertising.

Finally, it may be necessary to mention the minor role of the restaurants and cafeterias (Gastronomic trade) in marketing of organic products. Recently, some universities cafeterias and some European airlines have been offering organic meals and snacks.

There is almost a similar food distribution chain in the United States with the European Union. Traditionally, organic food products have been sold outside the conventional distribution system through alternative channels, e.g. farm gate sales, open-air markets, specialized grocery

shops and natural food retailers. Likewise, most processing and packaging were performed by small and medium sized companies rather than by major food manufacturers.

However, as organic food markets have been growing strongly in recent years, sales have also moved into mainstream retail trade, and the conventional food industry is becoming increasingly involved.

Furthermore, the organic food sector is undergoing a consolidation process through acquisition, merger and alliances (Olesen, 2002). Organic products are commonly distributed through natural food stores, cooperatives and conventional supermarkets beside farmers via direct sales. The history of the natural food stores in the USA goes back to the 19th Century. For example a Nature Food Center was opened in Boston and still operates now with a chain of 101 stores on the East Coast. Most of them are based on a vegetarian philosophy and sell neither meat nor poultry products. Some small stores have specialized in vitamins and supplements and only offered some fresh and processed organic foods.

Natural food stores differ from the conventional stores by the quality of food and costumer services. A costumer usually finds an opportunity to learn some detailed information and events about the foods and items supplied.

The first retail cooperatives were formed during the great depression of 1930s. Their number is now decreasing as competition has been increased due to the many privately owned natural food supermarkets. In 1997, there were about 300 natural food retail cooperatives.

Table 2. Shares of the Retail Markets by Distribution Channel (%)

Market	Supermarkets	Specialty Stores	Direct Sales by Producers
Austria	77	13	10
Denmark	70	15	15
France	45	45	10
Germany	25-33	33	33-42
Italy	25	45	20
The Netherlands	20	75	5
Sweden	90	5	5
Switzerland	60	30	10
United Kingdom	65	17.5	17.5
United States	31	62	7

Source: Factors Affecting International Demand and Trade in Organic Food Products (Luanne Lohr, 2001); Changing Structure of Global Food Consumption and Trade, (ERS/USDA).

Sales of organic foods in conventional supermarkets have been steadily increasing. The range of organic products in this chain is limited as in Europe, changing between 2 and 12 items. Some of them supply organic products alongside conventional and in a separate section. Several supermarkets use the "store within the store" concept to set organic and natural foods apart from mainstream products (Buley et al., 1997). As it can be seen from Table 2, supermarkets have important shares in the main European and US markets, ranging between 31-90%.

One of the important issues in the marketing of one product is the share of the marketing actors in the price paid by the final consumers. The shares vary from product to product depending on the marketing system. The amount of the marketing margin may easily be misunderstood.

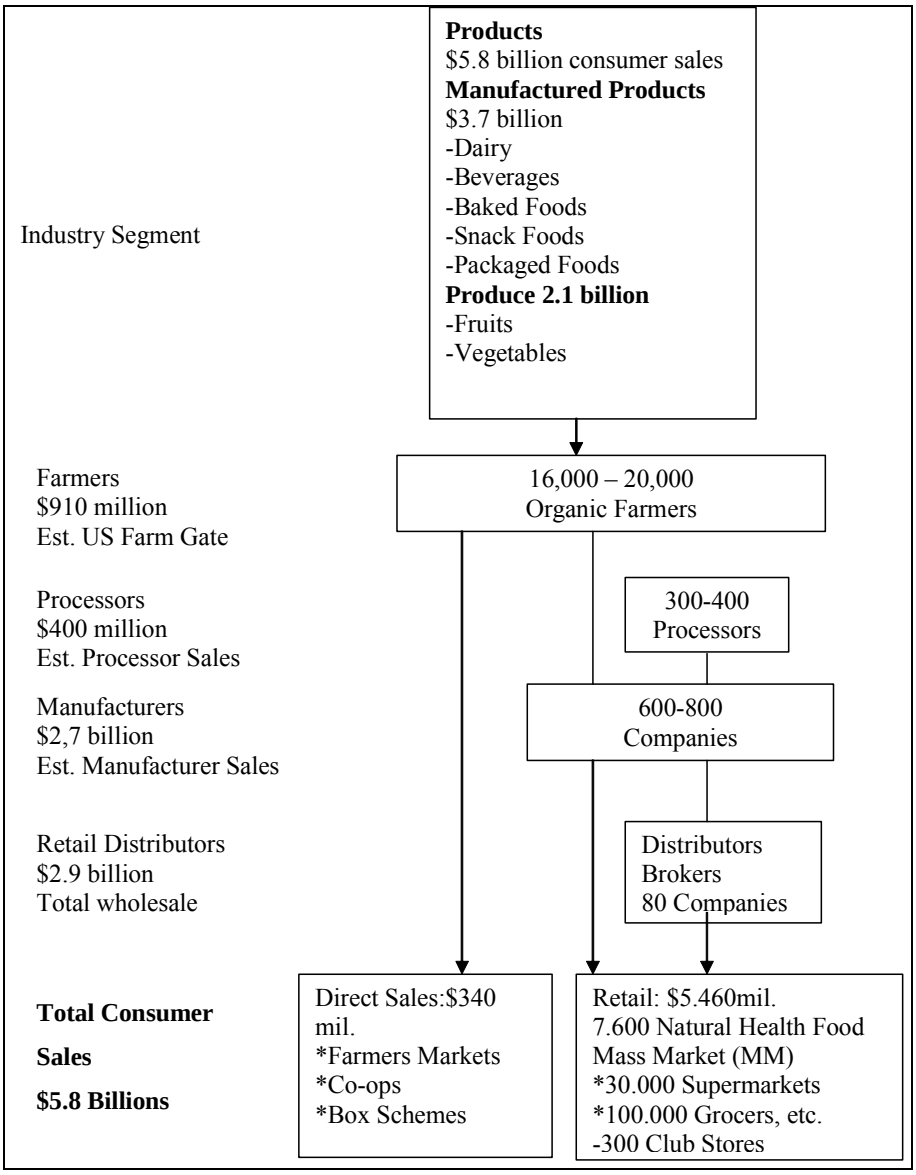

Figure 3. The US Organic Industry Value Chain (2000)
Source: NBJ's USA Organic Food Industry Report, 2001.

There is a general preconception that wide margin means high prices to consumer and low prices and income to producers. This is not a correct approach in terms of market efficiency[1], but the price-received by farmers compared to the price paid by the consumer are the important denominators for the producer's point of view. A remarkable result is presented here about the value of the market chain in the entire US organic market (Figure 3). According to the report from Nutrition Business Journal, the total value of the organic products received by the farmers is about 910 million dollars, of which 340 million dollars is the value of the direct farmers' sales. A farmers' share is only about 10%, if a comparison was made between the values of received by the farmers ($570 billion) and the total value of retail sales ($5460 million).

In general, there are a number of problems to overcome (Buley *et al.*, 1997).

[1] An accurate measure of market efficiency is the percentage figure obtained by dividing the total value of products sold by the total cost (estimated in work hours and other costs spent on the marketing processes by all the middlemen involved and by the producers and consumers of the products) (Shepherd and Futrell, 1982).

i. Limited ability of producers and wholesalers to supply consistent quality and quantity.

ii. Problems related to consumer attitudes who distrust the origin of the organic products.

iii. Higher pricing of organic products compared with conventional ones can pose an obstacle; there is a need for some information service to explain the differences.

iv. Lack of staff information and motivation in the conventional retail grocery stores.

v. Wholesalers are not well equipped technically in the supermarket delivery.

3. 2. Consumer Trends and Pricing

Demand conditions in Europe, Japan and the USA in terms of consumer share and price premium are presented in Table 3. Consumer share is defined as the percentage of consumers who buy organic food items at least once a week, and price premium is expressed as the percentage by which the price of the organic product is above the price of the similar conventional products. As it can be realized from Table 3, the percentages of consumers who claim to buy organic products regularly have been changing between 4 % in Italy and 40 % in Switzerland. According to the same survey, some consumers claim to purchase occasionally, "once a month" or at least once in the last 6 months (Lohr, 2001).

It was argued that profitability of organic methods usually depends on price premiums. It is generally expected that the prices of organic products must be higher than the conventional ones. This expectation is one of the important initiatives encouraging organic movement. At present, prices of organic products are clearly higher than prices of conventional products.

It is clear that differences in premiums across product categories depend on the availability and frequency of purchase. The price premium has been changing between 10% and 100% in different countries (Table 3). But there are several researches that indicate vastly different levels of premiums. In 1999, 13% of the retailers surveyed in Atlanta, Georgia believed that they could not sell organic foods, if they charged a price premium and only 17 % believed that they could charge more than 20 % over conventional prices.

An analysis of the OMNIS (Organic Market News and Information Service) shows that between May 1989 and February 1990 the wholesale price for organic lettuce ranged from 28 to 256 percent. The price premium for the red cherry tomatoes ranged from 15 to 281 percent during the same period (Hall *et. al.*, 2001).

Consumer price observations in 14 conventional groceries in Europe reported average price premiums as 35, 43, 53, 54, 64, and 67 % in Denmark, Austria, France, UK, Italy and Germany, respectively. A 1988 study found that 25 % of respondents living in Canada's eight main urban centers would be willing to buy primarily organic vegetables if they were no more than 25 % more expensive than conventional produce. Fifty-three percent (53%) of respondents making at least occasional purchases said that they would be willing to pay 25% more. Moreover, 15% would be willing to pay 50 % more. One of the interesting findings of the study was that the most common differentiating sociologic characteristic of purchasers was their family status (young families with small children), not their income group (Hill and MacRae, 1992).

According to the Schmid and Richter (2000), average price premiums in the 14 surveyed retail chains are 20 % for cheese, 31 % for cereals, 42 % for milk, 52 % for meat, 61 % for vegetables, 70 % for fruits.

There are a number of reasons for these higher price levels. For farmers in industrialized countries, production costs are higher mainly due to the higher labor prices because organic produc-

tion is based on higher labor use. On the other hand, the yields are declining because of the less chemical use. But in emerging countries, where labor is generally cheaper, chemical and synthetic material use are relatively low and also prices are too high, producers have cost advantages compared with the counterparts in the developed world.

Processing costs are also higher, since presently, there are few and small scaled processing units. The number of the outlets for the sale of organic products makes distribution cost higher, although the organic products have also been included in the conventional food distribution channels.

Table 3. Consumer Share and Price Premiums in Key Demand Centers

Market	**Consumer Share** (% Buying regularly)	**Price Premium** (% Above conventional)
Austria	20	25-30
Denmark	32	20-30
France	10	25-35
Germany	32	20-50
Italy	4	35-100
The Netherlands	5	15-20
Sweden	15	20-40
Switzerland	40	10-40
United Kingdom	25	30-50
Japan	4-36	10-20
United States	9-19	10-30

Source: Factors Affecting International Demand and Trade in Organic Food Products, (Luanne Lohr, 2001); Changing Structure of Global Food Consumption and Trade, (ERS/USDA).

The cost of inspection, particularly abroad, is relatively high, that is why more certifiers have been trying to establish certification systems at the national level. Thus, labor incentive production methods, lower yields, cost-intensive logistics and trade structure, and the costs of inspection and certification all lead to higher consumer cost.

The questions of what prices farmers argue for their products, and whether it is worth converting to organic agriculture are issues addressed by small landholders in developing countries. Even if there is demand for organic products from developing countries, small-scale farmers often have difficulties entering to the organic market. Price calculation has to be started from the calculated expenses; a realistic price estimate for importers can be prepared. Without solid cost accounting, the price offered may not take all the expenses into account. In these cases, the economic feasibility of organic agriculture is often jeopardized. It is important to develop a joint cost accounting system. Due to the fact that farmers have developed the cost accounting system by themselves, they identify much more with it. If, for instance, the agricultural extension officer or leader of the producer organization or cooperative does the data evaluation, comparisons can be made between the different farms within the group.

Owing to the fact that for cost accounting purposes data has to be collected, it is very useful to prepare it in conjunction with an internal quality control system in which benchmark figures like agricultural inputs and harvest quantities are gathered.

Furthermore, producers whose products are already certified face an important problem: they want to enter the market, but do not know what prices are being paid. The fact that data on world market prices are lacking, is particularly problematic for small landholders who are not familiar with the costs generated during the production of the export products while negotiating the price. This stems partly from the high levels of illiteracy that are still common for developing countries.

It was argued that, market size (with large organic market shares) and the availability of the supermarkets in the market chain have downward pressure on consumer price premiums through reducing distribution costs. On the other hand, availability of organic foods in supermarkets has an impact in the fastest way to convert occasional buyers to regulars ones in the major markets (ITC, 1999).

Retail market shares in the distribution channels are presented in Table 2. Comparing these data with the information presented in Table 1 and 2 has shown some interesting findings that those countries with the highest share distribution through supermarket such as Denmark and UK have the highest retail shares of regular buyers, but not necessarily the lowest average premiums. The USA and the Netherlands have the lowest average premiums, but the highest percentages of sales in specialty stores among the countries, which maintain highest percentage of regular buyers. This situation supports the hypothesis that availability of supermarkets rather than lower price premiums stimulates consumers to become regular buyers (Lohr, 2000).

A further concern about worldwide adoption of organic farming is the potential for the shrinking of premium prices as supply increases, leading to reduction in farm incomes. There are some views that this may not happen in the near future. Generally, four main reasons have been considered for rejection of organic products. The first one is higher prices. The second reason is the low number of outlets for organic products, meaning consumers often have to go out of their way to buy organic. Thirdly, the range of products is often limited and especially fresh products supply is not sufficient. Finally, despite availability of strict official inspection and certification systems as in the EU, consumers still have doubts about the origin and the genuineness of the organically cultivated products. Moreover, information symmetry is not available between producers and consumers.

4. Certification

The meaning of organic products and related issues about labeling and certification are mostly confused. When the definitions and discussion move to a world scale, the topic becomes even more clouded. However, more frequently the consumer does not know what the exact meaning of “ecological”, “green” or “organic product” is. These terms are often considered synonymous. Considerable confusion is caused by product label like controlled, integrated or untreated products derived from conventional agriculture. True organic products are those certified as produced which clearly defined organic cultivation methods (Buley et al., 1997).

For example, green food is defined in China as contamination-free, safe, high quality and nutritious food certified by the China Green Food Development Center. Products are not strictly organic.

The new Japan Agricultural Standards (JAS) for organic foods are in some respects, less stringent than those in the US. Products are not evaluated on an "organic/non-organic" scale like in the US., but are classified by the degree of organic farming employed. While the JAS certification lends official credibility to claims of low-chemical farming methods, exporters should be aware that under current Japanese law, manufacturers that do not obtain the JAS seal and might

still label their products as "organic." JAS is a voluntary system rather than a truth in advertising law. However, the benefits of having the Japanese government's official seal backing up an imported food product's safety and healthiness are obvious in making the product more attractive to consumers and the Japanese trade.

Organic agriculture has special needs for production, planning and management beyond the traditional farming because of the limitations imposed by the terms of organic registration and certification (Gaskell, 2000). Certification of organic agri-food products must be a credible process to ensure consumer confidence and international market access. Why accreditation is necessary and important in marketing of agricultural products can be explained by interpretation of the Akerlof's model (Casson and Gangadharan, 2000). In the organic produce market a moral hazard problem exists because it is difficult for consumers to observe whether a product is organically or conventionally grown (Ward and Hunnican, 2001). The process of establishing and maintaining standards, verifying that standards are followed by third party inspection and record keeping, and providing impartial certification approval, are essential components to ensure the sustained growth of the organic industry.

Certification is generally a system by which the conformity of products to applicable standards is determined and confirmed. This confirmation theoretically can be done by all involved parties; producer (supplier), customer or an independent body. Both products and services can be certified. In recent years certification of the system according to ISO 9000 and GMP (Good Manufacturing practices) have been widely used (Rundgren, 2000).

Organic production has a special certification system. Certification of organic production is primarily concerned with a production system. Furthermore, the certification is involved in handling and processing, related to the marketing. The "organic" quality of a product can not be verified through product testing as in the other products that are subject to special certification system. However, testing can be used in some cases to determine whether a product is produced according to the standards. Principles for organic certification programs are developed by the IFOAM. In addition, there are regulations that have to be followed demanded in the countries of operation as well as in the countries to export. Certification of organic production is generally realized in three steps.

i. **Producer**: The producers and the fields and facilities used in the production.

ii. **Production system**: Production, handling and processing methods.

iii. **Products**: Finally, products are labeled.

The certification programs must be carried out efficiently. There must be a clear regulation about labeling and the use of certificates. A certification program should inform the public about its standards, inspection and certification program, since certification is complex to understand and does not provide much information to consumers.

An organic certification system normally has the following four elements:

- **Standards**: There must be standards, which are clearly formulated and communicated among all parties of the certification system as well as the parties concerned.

- **Contracts** and **legal framework**: All producers within a certification system should be bound by written agreement. The whole system must be handled by a body that has legal status for registration and certification.

- **Inspection**: It must cover production, transactions, storage, processing, labeling and certification.

- **Certification**

In 1999, the Codex Alimentarius Commission adopted guidelines referring to the production, processing, labeling and marketing of organically produced foods and some sections were included for livestock and livestock products, bee-keeping and bee products in 2001. Codex is not an international or national valid legal regulation. It is a worldwide guideline and reference for the elaboration of national regulations and contributes to an international harmonization. The Codex not only guarantees protection for the consumers but also facilitates international trade. In developing countries, policies for organic agriculture seek to earn foreign exchange, through exports for other development needs. Therefore, they have a greater influence in stimulating regulations rather than the desire to protect consumers in the home market. It was reported that a total 56 of countries have now, fully implemented (32), finalized but not fully implemented (9) and initiated the drafting of organic regulation (15) (Commins, 2002).

Although single standard or equivalency of the standards across the nations is difficult to obtain due to the diverse characteristics developed by organic farmers, as the worldwide import markets have been expanded, some degree of harmonization (with international organic principles) is expected (Krissoff, 1998).

The entire production chain from the agricultural producer up to the exporter and importer has to be inspected by independent and neutral bodies ('certification bodies') that are operating according to specific guidelines. During the inspections, not only the quality of the final product but also the production system is being reviewed. The inspection and certification of organic products in developing countries is often being carried out by internationally operating certification body's headquarters in the European Union, the USA or Japan, which is associated with high costs for the small-scale producer. Nowadays, certification bodies, operating locally or regionally and headquartered in developing countries, increasingly offer their services.

Even the work of the certification bodies is verified through an accreditation or evaluation. The basis for international equivalencies is established by compliance with the quality management standards ISO-Guide 65 / EN 45011. ISO/IEC Guide 65 prescribes the criteria for any organization certifying products to technical standards. ISO/IEC Guide 65 requires that a certification body develop a transparent administrative structure based on a quality management system of documentation, record keeping, application and evaluation processes, oversight, appeals, and with certification and inspection personnel free from conflict of interest.

Farmers and marketing firms seeking to sell their products in developed countries must usually apply and hire an organic certification agency for annual inspection and confirmation of adherence to the standards established by various trading partners. The cost for this service can be expensive, especially since few developing countries have their own certification agencies. Even though they have their own national certification bodies, they should also apply for certification according to the destined country rules, because of the various legislations and regulations that rule organic products in different countries. This situation presents additional obstacles (i.e. additional costs incurred) to obtain almost similar certifications (multiple certification). In some cases, different certification requirements might need modification of some production practices and might create additional costs (Gitli and Arce, 2001). All the costs of the certification should be transferred to the price of the product.

International certification organizations from the USA and Europe have been working as the accreditation body into Latin America, Asia and Africa. Apart from this, in some countries there

are very few local certification bodies established in developing countries. It is a big task to establish local certification bodies as long as they are aiming to export. Furthermore, international nonprofit organizations such as FAO and ITC are devoting resources to assess and announce opportunities for developing countries to supply organic products to the major consumer markets (Zygmont, 2000). For example, in the EU, a farmer in a non-member country (third country) has to be registered in his own country register, which has a legislation containing regulations that are equivalent to the EU regulation. A third country can apply for the registration in the third country list only after dismissal and transposition of this legal regulation through its diplomatic representative in Brussels. An exporter in a non-member country has to apply for import authorization concerning organic products (Neuendorf and Koschella, 2001).

In practice, there are three types of certification.

i. Direct certification

ii. Co-certification

iii. Local certification

Direct certification: In this way, farms or small scale farming cooperatives, as well as processors and exporters of organic products are to be inspected by supervisors from inspection bodies accredited in the EU or USA. The international inspection body can also employ local staff in the case of direct certification.

In the Import Authorization system of the EU, the inspection body authorized in the EU is listed in the application from the importer as inspection body in the third country. This inspection organization confirms the equivalence of production and inspection regulation, and in the case of imports, provides the required product certificate according to the EU regulation.

Co-certification: In the case of co-certification, an inspection body is not recognized at the importers' location. Therefore, third country takes action. These inspection bodies can be operating certification organizations either locally or internationally. The required inspections are carried out on production, processing and export level by an independently working inspection organization operating in a third country, not recognized in the importing country. The certification of an inspection body in a third country has to be examined by the co certifying body by means of another certification decision and will be confirmed if all requirements are fulfilled.

In the request for an import authorization in the EU, usually only the co-certifying inspection body is mentioned. This inspection body provides the required confirmation and the product certificates.

Local Certification: Inspections and certifications in third countries can also be carried out by local inspection bodies (local certification), which are responsible for the following activities.

- Operates without capital participation of international organizations or at least with international capital participation below 50 %.
- Takes decisions on certification in the third country fully and independently and
- They are recognized in the import countries without the formal collaboration of internationally operating certification bodies.

Inspection and certification of agricultural production as well as processing and export are then independently implemented on the basis of equivalent production rules and inspection measures. In the EU, the local or regional inspection body in the third country is referred to as the re-

sponsible institution in the request for an import authorization. It confirms the equivalence in the framework of the application and issues the necessary product certificates

Supervision of Inspection Bodies in Third Countries

In the beginning of 1998, the supervision authorities in the EU introduced a supervision program of all inspection bodies active in third countries. This supervision must be proved by each inspection body, which works in non-EU Member States. They are internationally active with authorization in the EU or the USA, as well as regionally active with headquarters in third countries.

Usually, the supervision system is carried out in reference to the inspection bodies. Herewith, the organizational implementation of the inspection system, the existing documentation, the staff and the bookkeeping are checked at the inspection body (*office-audit*). Spot check inspections on production, processing and export-business with involvement of local inspectors add to this evaluation (*witness-audit*). The inspection is realized on the basis of a standardized checklist stipulated by the EU-inspection authority.

Experts that work individually or on behalf of accreditation bodies have to fulfill the following requirements:

- Practical and theoretical experience in the application of the EC Council Regulation;
- Successful final examination of a training-course about the ISO Guide 65 / EN 45011 held by an accreditation institution, that is member in the EA and the IAF, respectively;
- Declaration on the independence towards the inspection body to be evaluated and to operators to be certified by that body;
- Exclusion of competition: in the concerned countries and regions, the expert is neither allowed to link with enterprises and accreditation bodies to carry out inspections/certifications in the field of organic agriculture nor to offer consultation services.

Planning and Realization of Inspections

In plant production, when changing from conventional to organic farming, a so-called conversion or transition period of a parcel or a whole farm is very important. The length of the period varies depending on regulations. According to the EU regulation, this period is three-years, while it is only two years for annual crops. However, products of annual and perennial crops can be marketed after a twelve-month period with completion of the transition (conversion) period. The conversion period begins with an inspection contract between an inspection body and the producer. This conversion period could be shortened in consideration of the previous practices depending on the decision of the inspection body. For the animal production, a conversion period is also considered according to the EU regulation.

In the taking up of the inspection system, it is important to consider the inspection of the whole chain-from the production over the processing to the exporter. This has to be proved by appropriate reports and certifications.

The inspection begins with a description of the production unit, which is submitted to the inspection system (blue prints of the area and of the buildings, history of land-use, plans of the processing equipment, product flowcharts etc.). This unit (e.g. farm, co-operative of small scale farmers, processing or export enterprise) has to be clearly separated spatially, technically and organizationally from conventional production units.

Subsequently, an inspector commissioned by the inspection body conducts a first inspection. This inspection serves to give information about the requirements of the guidelines and to point out existing deficits.

The inspector's report, which is signed both by the inspector and the responsible party for the inspected unit, serves as a basis for the certification decision by the inspection body.

In the following years, inspectors of the inspection body, leading to another report and a renewed certification decision from the inspection body, annually conduct inspections.

The certificate issued by the inspection body can, in the case of agricultural units, be issued to farms that are in the conversion period, as well as to enterprises, which produce recognized organic products. In the case of processing or export enterprises there is no conversion period, but conversion goods might be processed and exported.

Also, a smallholder-cooperative, that has its own legal status and internal regulations for its members, can be considered as business-units in third-countries. Therefore, inspections can be prepared in a smallholder-cooperative without inspecting each single member of this community organization because cropping has to be inspected by the responsible inspection body.

All small-scale farmers have to undergo an internal control at least once a year. The prerequisite is that an internal control system has to be introduced and realized in the co-operative. But it must not be a consulting system. The typical documentation of an internal control system consists of contracts between each farmer and the cooperative, descriptions for all farms, that produce organically within the co-operative. Furthermore, internal inspection reports and a documentation of the co-operative internal sanctions are applied to farms, which do not (totally) satisfy the requirements. All small-scale farms must be internally controlled at least once a year. The external inspection body checks the documentation and effectiveness of this system and selects a spot check of farms for inspection. The quota of the inspected farms depends, among other things, on the quality of the internal control-system. The results of the internal inspections, which are regularly carried out on the basis of the rules of production, must be carefully documented.

The inspection itself can be very cumbersome. In most western countries there is an idea that the external certification bodies should inspect all fields. If we consider the availability of a number of the parcels, which are so scattered, the inspection of all fields greatly increases the costs. Therefore, an internal control by a local organization, evaluation of the internal control system, and the random inspection by external certification could be advised.

Furthermore, the standards and certification systems for organic agriculture have been developed without sufficient participation from developing countries, and do not reflect particular needs or circumstances of these countries, i.e. their traditions, cultures and existing infrastructure.

Having their own certification and accreditation bodies, besides those of foreign companies could be advised for developing countries. In some cases, this can be accomplished with the assistance of an existing certification program, and the responsibility could be gradually taken over by a local organization (Rundgren, 2000).

5. Conclusion

Converting traditional agriculture to organic farming is a complex operation involving high risk and serious problems, both technical and economic. It was discussed that organic farming is

more costly than the conventional one, mainly because the labor input is higher and yields are lower. Inevitably, organic farming needs more internal inputs, as well as labor. Developing and less developed countries have some advantages that they have rather low external input use and often an unused and under-used labor.

This movement in the those countries can make a considerable contribution to developing efforts with high export capacity, if they could successfully cope with some important obstacles related to production know-how, organization and marketing. A gradualist approach is advised to lower the amount of off-farms inputs. On the other hand, a strict certification procedure is enforced. It reveals a dilemma in promoting organic farming. The only solution for farmers is to be able to receive a premium price for organic products in a rather stable market structure. At the beginning, this could be realized by support policies as in the EU. It is well known that in the Union, there are some national support schemes such as conversion grants or aids as well as Union wide structural instruments and regulations. Due to the lack of the domestic market, this could be achieved only through vertical coordination between producers and export oriented marketing or processing firms through contract farming.

Development of organic farming both in the developed and developing countries will be dependent on the evolution of market structure and performance. Sound adoption and dissemination efforts are needed to help existing non-organic farmers convert at least some of their production to organic methods, or to assist those who want to begin organic farming as well as the existing organic producers. Availability of related organization and proper supporting policies are very important for the development of organic agricultural movement. Organizing under a farmer owned organization is very important for the small-scaled farms. For example, a well organized farming association can offer advisory services not only for the purpose of inspection and the authorities use of the association's brand name, but also for marketing benefits. For instance, most of the German organic farming association standards are stricter than the standards, which are included in the EU Regulation (Buley et al., 1997). The entire food chain from the field through processing and trade to the market is subject to inspection where the importing of the organic products is concerned.

The growth and spread of organic agriculture throughout developing and in-transition countries is rather new, largely occurring in the last two decades. One of the largest international organic certification programs, the Organic Crop Improvement Association (OCIA), certified only 120 farms in 1986 in the USA. OCIA inspected 35000 farms in 17 countries with a total acreage of 1 million ha, including growers in Central and South America and Asia (Crucefix, 1998). Many other certification companies and organization, have provided international services. When a critical mass of practitioners is formed for organic agriculture, governments formulate policies to support the marketing of certified organic products. The incentive of such policies is therefore economic, either for tapping lucrative markets, securing a place in world trade and/or counter-balancing withdrawal of government support to agricultural inputs and other services.

It can be said that only a few countries have been out of development of organic agriculture. IFOAM has currently more than 700 member organizations in over 100 different countries, 50% of which are based in developing and transition countries. Most of the developing countries do not have their own certification organizations, and also professional institutions established to assist farmers throughout production, handling, processing and marketing.

Organic agriculture policies are generally inefficient in developing countries. Related policies of organic agriculture within the scope of wider agrarian policies have been considered recently as organic farming has been developed. The main incentives of such policies are economic including reaching foreign markets and having a considerable share in the world trade and also

counter-balancing declined government's support for inputs and other policy measures. While organic farming had been promoted and used in a number of countries, some countries are hesitant considering that there could be some risks and limitations. Agricultural policies should revise their food supply strategies to promote local production. Organic agriculture does not need costly investments in irrigation, energy and external inputs but rather substantial investments in capacity building through research and training. Emerging organic agricultural policies may have the potential to improve local food security, especially in marginal areas.

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