Potential for Trade of Organic Products from India

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INTRODUCTION

Organic agriculture produces products using methods that preserve the environment and abstain from the usage of synthetic materials, such as pesticides and antibiotics. Organic farmers and food processors follow a defined set of standards to produce organic foods and fibres. These organic standards cover the product from farm to table, inclusive of soil and water quality, pest control, livestock practices as well as regulations for utilizing food additives and technologies, such as irradiation. International Federation of Organic Agriculture Movement (IFOAM), the worldwide umbrella organization for the organic agriculture movement through its IFOAM Basic Standards for Organic Production and Processing (IBS) sets the standards for organic agriculture, production and processing based on four main principles; Principle of Health, Principle of Ecology, Principle of Fairness, and Principle of Care.

According to the latest FIBL-IFOAM survey, approximately 43.1 million ha of land in the world was organically managed in the year 2013. There has been a considerable rise in the area undergoing organic management surging from 11 million ha in 1999 to 43.1 million ha in 2013.

GLOBAL PRODUCTION AND TRADE OF ORGANIC FOODS

Globally, Oceania has been leading in terms of land under organic agriculture and contributed approximately 40 per cent of total organic agricultural land. Europe held a share of 27 per cent and accounted for the second largest area under organic agriculture, globally, during 2013.The Latin American region held a share of 15 per cent in the worldwide land under organic agriculture and managed nearly 6.6 million ha of land organically in the year 2013.The organically managed area in North America represented nearly 7 per cent of the global area under

organic cultivation in 2013. Asia had 3.4 million ha of land under organic agriculture and this constituted about 8 per cent of the aggregate organically cultivated land, globally. Africa, with 1.2 million ha of agricultural land under organic cultivation constituted 3 per cent of the global land under organic agriculture.

Australia, in the Oceania region, had the largest land under, organic management. This was followed by Argentina, in Latin America, which had approximately 3.2 million ha of organically managed land. Other countries with significant organic land area, globally, are the USA, China, Spain, Italy, France, Germany, Uruguay and Canada.

According to Organic Monitor, the international sales of organic foods and drinks were approximately US$ 72 billion in 2013. The major demand for organic products has been mainly in the North American and European regions. Other significant market is Japan in the Asian region.

Organic Markets

The United States

Consumption of organic foods has been rising significantly in the United States, primarily driven by the concerns for health and environment. Organic foods, which was earlier considered a niche product, is presently being sold through a wide variety of channels in the United States, including farmers market, natural product supermarkets and conventional supermarkets. According to the Nutrition Business Journal, the organic foods sales in the United States have escalated from US$ 15.6 billion in 2006 to an estimated value of US$ 34.8 billion, in 2014. Sales of organic products in the United States, in 2012, were estimated at US$ 28.4 billion, which accounted for over 4 per cent of the total United States' food sales. The organic foods sales are anticipated to have increased at a compound annual growth rate (CAGR) of 10.5 per cent, during the period 2006 to 2014. Organic fruits and vegetables are the major items of sales among the various organic foods categories in the United States. The sales of organic fruits and vegetables is expected to increase at a CAGR of 12 per cent, as the value of sales is anticipated to have risen from US$ 5.37 billion in 2005 to US$ 15.06 billion in 2014.Organic dairy is the second largest segment in the organic food grouping, in terms of value, totalling 6 per cent of total dairy production in the United States. The sales of organic dairy is expected to have increased at a CAGR of 10.4 per cent from US$ 2.1 billion in 2005

to US$ 5.1 billion in 2014.The sales of organic beverages in the United States was anticipated to have risen at a CAGR of 9.3 per cent as the value of sales are expected to have risen from US$ 1.7 billion in 2005 to US$ 3.8 billion in 2014.The value of sales of organic packages/prepared foods is estimated to have risen at a CAGR of 9.8 per cent during the period 2005 to 2014, from US$ 1.6 billion in 2005 to US$ 3.7 billion in 2014.

Europe

According to FiBL and IFOAM, in 2013, the second largest market for organic products globally, after the United States, is European Union, with a share of 40 per cent of the organic market worldwide. The organic market in Europe, in 2013 was worth Euro 24.3 billion while the organic market in the European Union was worth Euro 22.2 billion during the same year.

Germany is the largest market for organic products in Europe accounting for 31.3 per cent of the share in the European market in 2013. According to a report by USDA, Germany is the second largest organic foods market globally and ranks second only to the United States. The value of sales of organic products in Germany, in 2013, stood at Euro 7.55 billion, and this accounted for 4 per cent of the total foods sales in Germany.

The organic market in France has been steadily rising over the years and a similar trend is expected in the future. The organic market in France, in 2013, was valued at Euro 4.4 billion, representing an increase of approximately 10 per cent over the previous year. The French organic market has expanded at a compound annual growth rate of 13.5 per cent during the period 2005 to 2013, as the value of sales increased from Euro 1.6 billion to Euro 4.4 billion.

As per World of Organic Agriculture 2015, the United Kingdom is the third largest organic market in Europe, and represented 8.6 per cent of the aggregate organic sales in Europe during the year 2013. The organic market in the United Kingdom was valued at Euro 2.1 billion during the year 2013, and it grew at a year-on-year growth rate of 7.7 per cent during this period. During the period 2007 to 2013, the organic products sales in the United Kingdom has declined at a compound annual rate of 3.2 per cent, down from Euro 2.56 billion in 2007 to Euro 2.1 billion in 2013 due to the economic recession and decreased organic production.

Switzerland had the highest per capita consumption of organic foods globally, which amounted to approximately Euro 210 per capita during the year 2013. The Swiss organic market size was nearly Euro 1.69 billion in 2013, and registered a year-on-year growth rate of 11 per cent. According to the study by FiBL and IFOAM, Switzerland ranked fifth in the category of market size in Europe.

Japan

The organic market in Japan is still in a maturing stage, as there is restricted supply of organic foods in Japan. The country depends on imports for around 60 per cent of its organic foods demand, which indicates that the growth potential of the organic market is significant. According to the Organic Market Research Project (OMRP) survey conducted by IFOAM, Japan, the organic foods sales constituted 1 per cent of the Japanese foods market, and were valued at approximately US$ 1.3 billion to US$ 1.4 billion in 2010.

ORGANIC STANDARDS AND REGULATIONS

USA

The National Organic Program (NOP) implemented by USDA in 2002 develops the laws that regulate the creation, production, handling, labelling, trade and enforcement of all USDA organic products. USDA requires organic farmers and food handlers to meet uniform organic standards, and make certification mandatory for operations with organic sales of over US$ 5,000. USDA has accredited approximately 50 US State and private certification programs and over 30 foreign programs.

Organic certification verifies that the farm or handling facility located anywhere in the world compiles with the USDA organic regulations and allows the producers to sell, label and represent the products as organic. Presently, approximately 30,000 organic farms and processing facilities around the world are certified as complying with the USDA organic standards. Their certification is managed by certifying agencies located in the US and the world.

Any land used to produce raw organic commodities must not have had prohibited substances applied to it for the past three years. Until the thirty six month transition period is met the producer may not sell, label or represent the products as organic or use the USDA organic or certifying agent's seal. Actual certification costs

or fees vary widely depending on the certifying agent and the size, type and complexity of the operations. Certification costs may range from a few hundred to several thousand dollars and ordinarily there is an application fee, annual renewal fee, assessment on annual production or sales and inspection fee. After the certification is done, the USDA Organic Certification Cost-Share Program can reimburse up to 75 percent of the certification costs.

EU

The Council Regulation (EC) No. 834/2007 establishes the legal framework for all levels of production, distribution, control and labelling of organic products, which may be offered and traded in the EU. The Council Regulation applies to the following agricultural products, including aquaculture and yeast: living or unprocessed products; processed foods; animal feed; and seeds and propagating material;

In order to import an organic product into the European Union there is a need to comply with the EU legislation and in particular both organic and general foods legislation. The importers of organic products must register with a control body or control authority. Every consignment of organic products imported from countries outside the EU, excluding the European Economic Area and Switzerland, must be accompanied by a certificate of inspection.

The EU organic logo indicates that the product is in full conformity with the conditions and regulations for the organic farming sector established by the European Union under Council Regulation (EC) No 834/2007 and the Commission Regulation (EC) No 889/2008. The organic logo for the processed products indicates that at least 95% of the agricultural ingredients are organic. Adjacent to the EU organic logo, a code number of the control body is displayed along with the location from where the agricultural raw materials comprising the products have been farmed.

Japan

The Japanese Agricultural Standards (JAS Standards) for organic plants and organic processed foods makes labelling of organic products mandatory, in accordance with the revision of the Law concerning Standardisation and Proper Labelling of Agricultural and Forestry Products. The JAS standards for organic products were made in compliance

with the Codex Guidelines. According to the Japanese Organic Standards for organic plants and processed foods of plant origin, only those items to which the certified operators attach JAS logos can be labelled as "organic".

There are two methods of importing organic foods in Japan. In the first method, The Ministry of Agriculture, Forestry and Fisheries (MAFF) registers Japanese Certifying Bodies or Overseas Certifying Bodies, which certify producers, manufacturers and other business entities related to agriculture and forestry products. The certified producers then produce or manufacture products and attach the JAS marks to the products.

Government agencies or quasi-governmental organisations of the countries, with organic equivalence, issue export certificates to certify the organic products produced or manufactured in the countries, and were graded in accordance with the organic system of the respective countries. Importers certified by registered Japanese certifying bodies import organic foods and re-label the Organic JAS mark to the products in Japan. This is applicable only to organic agricultural products and organic agricultural processed products.

ORGANIC FARMING IN INDIA

The cultivated area under organic certification has increased at a CAGR of 33.5 per cent, as it increased from 0.04 million ha in 2003-04 to nearly 0.72 million ha in 2013-14. The cultivated area under organic certification rose during the years 2006-07 to 2008-09; however it fell in 2009-10 and declined further in the subsequent years. The area under wild harvest rose from 2.43 million ha in 2006-07 to 4.00 million ha in 2013-14. Consequently, the total area under organic farming increased from 2.97 million ha in 2006-07 to 4.72 million ha in 2013-14.

The production of certified organic produce in India declined at a compounded annual rate of 7.5 per cent during the period 2009-10 to 2013-14 as the quantity of produce reduced from 1.7 million tonnes in 2009-10 to approximately 1.24 million tonnes in 2013-14.

Madhya Pradesh has been the leading State in terms of production of organic foods during the year 2012-13, and its share in the aggregate organic foods production was nearly 32 per cent. The area under organic certification in Madhya Pradesh declined at a compounded annual rate

of 2.4 per cent from 2.8 million ha to 2.6 million ha during the period 2009-10 and 2012-13. Himachal Pradesh was the second largest State in terms of area under organic farming in India, in 2012-13, although the quantity of production has been meagre as compared to other States. The area under organic farming increased at a CAGR of 26 per cent from 0.7 million ha to 1.4 million ha during the period 2009-10 to 2012-13.

The area under organic farming in Rajasthan increased at a CAGR of 22.8 per cent during the period 2009-10 and 2012-13, from 260.8 thousand ha to 483.3 thousand ha. The State occupied the third position in terms of area under organic cultivation in the country and ranked fourth in terms of organic production, during the year 2012-13.

The organic acreage in Maharashtra expanded at a CAGR of 28 per cent from 35.4 thousand ha in 2009-10 to 74.4 thousand ha in the year 2012-13, accounting for around 1.4 per cent of the aggregate organic area in the country. The organic production increased at a CAGR of 71.8 per cent from 53.5 thousand mt in 2009-10 to 271.1 thousand mt in 2012-13. Cotton, oilseeds, fruits and vegetables, pulses are the organic crops majorly produced in the State.

Government Initiatives to Promote Organic Farming

National Project on Organic Farming

The National Project on Organic Farming (NPOF) is a Central Sector Scheme implemented during the Tenth Five Year Plan with an outlay of Rs. 57.04 crore. The scheme was subsequently expanded in the Eleventh Five Year Plan with an outlay of Rs. 101 crore. The primary objective of the NPOF Scheme is to encourage the production of food organically, and promote manufacture and usage of organic and biological inputs, such as bio-fertilizers, organic manure, bio-pesticides and bio-control agents.

Capital Investment Subsidy for Setting up of Organic Inputs Production

The NPOF provides financial assistance for fruits and vegetables waste compost units by providing for 33 per cent of the capital cost of the project, subject to a ceiling of Rs. 63 lakh. Further, NPOF provides subsidy for the construction of bio fertilizer or bio pesticide production unit to an extent of 25 per cent of the capital cost of the project subject to a ceiling of Rs. 40 lakh. The remaining

cost is envisaged as credit support from financial institutions and margin money. The subsidy is credit linked and back-ended and mobilised through NABARD.

National Project on Management of Soil Health and Fertility (NPMSF)

The National Project on Management of Soil Health and Fertility (NPMSF) was implemented during the Eleventh Five Year Plan period with an outlay of Rs. 429.85 crore, to promote the balanced and judicious use of fertilizers and organic manure on soil test basis. This Scheme provides financial assistance at Rs. 500 per ha for promoting the use of organic manure.

Network Project on Organic Farming by ICAR

The Network Project on Organic Farming initiated by the ICAR in the Tenth Five Year Plan at the Project Directorate for Farming Systems Research, Modipuram, Uttar Pradesh, involves developing package of practices for different crops and farming systems under organic farming in different agro-ecological regions of the country. The project has been running at 13 centres including State Agricultural Universities (SAUs), spread across 12 States. The crops for which package of practices for organic farming have been developed include basmati rice, rain fed wheat, maize, red gram, chickpea, soybean, groundnut, mustard, isabgol, black pepper, ginger, tomato, cabbage and cauliflower.

National Horticulture Mission

This is a Centrally Sponsored Scheme; launched in 2005-06, the Scheme aims at strengthening the growth of the horticulture sector comprising of fruits, vegetables, roots and tuber crops, mushroom, spices, flowers, aromatic plants, cashew and cocoa. NHM provides financial assistance for establishing vermi compost units and HDPE vermi beds. Assistance is also being provided under the Mission for organic certification of Rs.5 lakh for a group of farmers covering an area of 50 hectares.

Rashtriya Krishi Vikas Yojna

Assistance for decentralized production and marketing of organic fertilizers is available under Rashtriya Krishi Vikas Yojna (RKVY) for projects formulated and approved by the State Level Sanctioning Committee.

Regulatory Mechanism for Organic Products in India

The National Programme for Organic Production (NPOP) defines the regulatory mechanism in organic products prevalent in India. It is regulated under two different acts for the export and domestic market in India. The nodal regulatory body for the Programme for export requirements is the Agricultural and Processed Food Products Export Development Authority (APEDA) under the Ministry of Commerce and Industry, Government of India. The Agricultural Produce Grading, Marking and Certification Act (APMC) monitors the domestic and import market. The Programme is governed by the Agricultural Marketing Advisor (AMA) under the Ministry of Agriculture; Government of India. The National Steering Committee under the NPOP is responsible for formulating a National Accreditation Policy and Programme and also operates as the National Accreditation Body. The Programme also frames the national standards for organic products and the regulations involved in the usage of the National Organic Certification Mark.

In order to demonstrate and establish the credibility and communicating the genuineness and the originality of the product, the trademark "India Organic" has been created and owned by the Government of India. It is granted on the condition of compliance with the National Standards for Organic Production (NSOP). Only such exporters, manufacturers and processors whose products are duly certified by the accredited inspection and certification agencies, is granted the licence to use the logo, which is governed by a set of regulations.

Organic Farming in the North-East Region of India

The NE region of India, where agricultural production is predominantly organic by default, can be instrumental in increasing India's organic agricultural exports. Realising the potential for the development of organic farming, a sum of Rs. 100 crore has been allocated by the Government of India in its Union Budget for the development of organic farming in the NE states in the financial year 2014-15. This initiative is anticipated to enable the NE states to benefit from the development of commercial organic farming and alter the agricultural mode from inorganic to organic.

Despite the fillip given to organic cultivation, the area under organic

cultivation in the NE region of India recorded a decline at a CAGR of 13.4 per cent during the period 2009-10 and 2012-13 from 97 thousand ha to 63 thousand ha. In the year 2012-13, the NE region of India accounted for approximately 1.2 per cent of the aggregate acreage maintained organically in the country. Amongst the North Eastern States, Sikkim is the leading State, constituting around 73 per cent of the total organic area in the region. Nagaland is the second largest State in terms of area under organic farming in the North Eastern Region of India (15 per cent) followed by Meghalaya (6 per cent), Assam (4 per cent) and Mizoram (2 per cent). Assam is the largest producer of organic foods in this region accounting for nearly 72 per cent of the total organic food production in the region, followed by Meghalaya.

Organic Products: Status of Industry and Trade from India

As per Industry Sources, the Organic food market in India was valued at Rs. 675 crore (~ USD 150 Million) during the year 2009-10. The market has been estimated to be worth Rs. 1928 crores (~ USD 306 Million) during the year 2013-14, growing annually at the rate of 30 per cent. The augmentation in the disposable income and concerns for health are enabling the organic food market in India to increase steadily. The organic products industry is mostly export oriented accounting for a share of around 70 percent of the industry. The key export destinations of Indian organic products are the USA, Canada, South Africa, and the European countries. Germany is one of the top 10 trading partners for the organic foods exports from India. Other key export destinations include Australia and Japan.

Organic cotton and textiles is the largest exporting organic segment from India. Other organic products with high demand in the international markets are tea, basmati rice, pulses, honey, spices, coffee, and fruits, such as mangoes, bananas, and sugarcane. India is a major exporter of organic mangoes to the USA.

The exports of organically managed foods have been witnessing a rising trend over the years both in terms of value as well as volume. The export of organic foods increased at a CAGR of 18 per cent in value terms as the exports increased from Rs. 498.2 crores in 2007-08 to approximately Rs. 1328.61 crores in 2013-14. Concomitantly, the volume of exports has risen at a CAGR of 29 per cent from 38 thousand tonnes in

2007-08 to nearly 178 thousand tonnes in 2013-14.

Europe has been a major market for organic foods exports from India. The share of EU in total exports of organic foods was 41.7 per cent during the year 2013-14. Apart from countries of the EU, Switzerland was the leading importer of Indian organic foods in Europe accounting for 7 percent of the share of European imports of organic foods from India in value terms, and 6 percent in terms of quantity.

USA accounted for 37.6 percent of India's exports of organic foods in the year 2013-14. In terms of value, exports to USA were valued at Rs. 498 crore and the quantum of exports was 75 thousand tonnes during the year 2013-14. Canada accounted for 13.7 percent of the exports in 2013-14.

In 2013-14, Japan was the leading Asian country that imported organic foods from India with nearly 43 percent share in the value of aggregate exports of organic foods from India to the Asian region. In terms of volume, Japanese imports of Indian organic foods stood at 309 tonnes in 2013-14. UAE was the second largest Asian country importing organic foods from India constituting 11 percent of the total imports of Indian organic foods by Asia. The quantity of imports by UAE in 2013-14 was 171 tonnes and valued at Rs. 4.26 crore. Israel, with import of organic foods from India worth Rs.3.72 crore, is the third largest importer of Indian organic foods in the Asian region. The other significant Asian importers of organic foods from India are Sri Lanka (7 percent), South Korea (6 percent), Philippines (5 percent), China (4 percent), Iran and Singapore (3 percent each).

Australia and New Zealand are other significant export destinations for India's organic foods exports with a share of 1.1 per cent and 0.3 per cent, respectively.

The Way Forward

The rising awareness of the population about the various benefits derived from the consumption of organic foods and beverages is expected to increase the market size for global organic food and beverages. An expansion in the number of organic food retailers globally, caused due to a surge in the demand for organic foods, is anticipated to lead to growth in market. In spite of the cost of organic foods being greater than conventional foods, an augmentation in the market for organic foods is expected in the future.

Exports are forecast to continue to be the growth driver for the Indian organic products industry. India majorly exports organic processed food products, organic rice, beverages and other cereals and millets to the USA, Canada, Europe, and select South East Asian countries. The Government of India through policy measures has been promoting organic farming, which can be a profitable strategy to raise the income level of the small and medium farmers. Some States, such as Sikkim have already declared their farms as completely organic. There are many States where the production is by default organic due to minimal or no use of chemical farm inputs. Uttaranchal is one such State. However, to market organic products internationally, obtaining globally accepted certification is mandatory.

For the enterprises in the organic industry, in order to boost trade in Indian agricultural products and capture a significant share of global market, it is an imperative that India becomes home to such organic products, which may give the country and its products a competitive edge in global market. The global competitiveness for organic products exported from India is marked with a number of weaknesses, whereas lot of opportunities do exist in the domestic and international market.

CHALLENGES AND STRATEGIES

Supply Chain Management

Supply Chain Systems

The supply chain of organic products industry is often faced with challenges with respect to poor collection channels, insufficient production of organic products, poor transportation facilities and lack of proper processing facilities in-line with the global organic standards. Under supply of appropriate storage infrastructure and quality control also remains a difficult area. Although many organisations in India have developed clear quality standards, often together with the farmers, and have included them in their contracts, complying with contracts has been a challenge for the staff directly involved in purchase from the farmers. Adequate training of farmers, producers and processors also has been of considerable challenge.

Strategies

Improvements in the distribution (setting up own cold room, purchasing air-conditioned truck for transportation) and the packaging (packaging done fully by company staff, setting up specific packaging centre) may be considered to

address the supply chain challenges. Focusing on total quality management at each point in the supply chain is of considerable importance. Developing direct business relations, planning sales in line with production, and developing advance purchasing scheme may make the supply chain more efficient.

Food Origin and Mileage

The concept of food mileage, which refers to the distance the food is transported, from the time of its production, until it reaches the consumer, gains prime importance in the case of organic food products. Since the past decade, the country of origin of the food and food mileage are becoming increasingly important. Maintaining supply volumes and supply continuity are major concerns for most food companies.

Strategies

Streamlining logistics is key to minimize food mileage, which may include minimizing the lead time from farm to shelf and increase the shelf life of fresh organic foods. This would require, revamping warehouse management, order management and transportation management by way of implementation of integrated automated storage/retrieval systems, automatic identification of products, conveyors, order-picking systems, RFID, sortation equipment, and software and systems integrations.

Size of farms and collaboration

The production of produce in small to medium farms is rather limited, amounting to a few hundred tonnes. This challenge is particularly evident in sectors, such as dairy, poultry, fruits and vegetables, where scale and linkage with primary processing is critical. Similarly, marketing channels are more difficult to access for smaller producers. Further, many buyers seem to be ambivalent about channels of distribution.

Strategies

Aggregation of the unorganized small organic producers by forming cooperatives and producer companies may enable the producers to put together their produce, obtain funds, possess the processing and storage facilities in the proximity of production, and strengthen the bargaining power. Working as cooperatives and producer companies may also help the producers focus more on production strategies, by delegating operations and marketing to hired professionals. Aggregation may also facilitate trainings in marketing as well as on

specialized methods of production to the farmers and producers.

Handling and Stock Management

Stock control procedures and stock management have been a challenging area for the organic products industry. Organisations often struggle with keeping their information up to date and, as a result, the information generated is not always used as effectively as could be. Poor documentation has been a considerable challenge for the industry with respect to certification, market entry and product positioning.

Strategies

Total Quality Management is essential in handling and stock management, which may include a contingency plan for handling wastage. Monitoring purchase, waste, and sales are important for informed decision making, planning of production, and purchase volume. Effective use of data generated by proper record keeping is key to make the system effective.

Marketing and Sales Management

Marketing of organic products involves both the social and ecological aspects of the products. In doing so, efforts need to go into capacity building, production related issues, quality parameters and the logistics of procuring products, especially from remote and inaccessible areas. Organic certification is becoming increasingly important in relation to marketing. Supermarkets are potentially attractive channels for the sale of organic products. However, they are often very demanding in terms of product quality, availability and price.

Strategies

Pro-active certification, opting for good packaging techniques, product development as per consumer preferences, collaboration among the organic sector for generic promotion activities and adopting effective marketing methods by usage of media and display messages can enhance the organic products sales.

Cost, margins, price setting and value addition

Price premium of organic products in comparison with conventional products is often a marketing challenge for sale of organic products. Pricing has also been a limiting factor during the economic recession when

more producers turn to organic production, and consumer markets shrink. The prices for organic products vary significantly between different companies, different retail formats and across product categories, which also is a significant challenge for the organic industry.

Strategies

Initial determination of basic price by the producer, followed by future pricing based on more specific cost-benefit calculations of organic production may be regarded as an effective pricing mechanism for organic products. The premium price, to be fixed for organic products, must be acceptable in mature markets. Incorporating a condensed supply chain, making use of the arrangement of direct marketing and instructing the farmers to use a Participatory Guarantee Scheme, so that it involves lesser cost, can enable reduction in the prices of organic products, as compared to conventional farm products.

Sector Development

Market assurance and certification

Establishing credibility through proper certification is particularly crucial for organic products industry when promoting alternative qualities in a competitive market environment. Despite in many developing countries, national regulations for organic agriculture, being in place, there is no effective regulation yet in place controlling the use of the terms “organic” in most of these countries. Consumer confusion and loss of confidence in the organic products can create long-term implications for the organic market.

Strategies

Pro-active certification is essential to gain customer’s trust especially if the produce is not sold directly from the farm, but through third party, such as retail shops. Self-inspection systems involving both producers and consumers should also be recognised for establishing credibility.

Sector cooperation and market norm building

Collaboration in the sector has been a challenging area mainly due to its small size. Often it is observed that there is limited level collaboration between the exporting companies and organisations focussing on the domestic market. Collaboration is

also weak, where there are a few pioneering organisations in a country, to keep their unique image as pioneer. In larger countries, it is also logistically difficult for small local organisations and individuals, with fewer funds and geographically distant from each other, to work together.

Strategies

More cooperation with other organic trading organisations is necessary in order to promote organic consumption. Joint publicity campaigns with contribution from different stakeholders (producers, processors, traders, consumers, competent government departments) can create more impacts among the consumers compared to the individual efforts.

Challenges and Strategies Specific to Indian Organic Products Industry

Transition Assistance

The conversion period may turn out to be a difficult phase for the farmers owing to several direct and indirect costs involved in the process. Moreover, during the early stages of the transition, there is requirement of heavy and additional investments in farm-undertakings, such as machinery, storage and soil fertility building mechanisms. Organic techniques are generally more labour intensive and thus the wage cost rises.

Strategies

There is vital need for a programme that is particularly designed to provide aid to the organic farmers during the three year conversion period. The policy should involve the provision of annual payment during the transition period, to compensate for the loss of income occurred in the course of converting from non-organic to organic.

Issues in Certification

This procedure requires extensive paperwork, detailing farm history, and usually including the results of soil and water tests. It also involves annual on-farm inspections and the fee needs to be paid by the growers to the certification bodies for annual surveillance. The cost involved along with the prolonged procedure and lack of knowledge and understanding is acting as an obstacle in the organic certification procedure in India, particularly for the small and marginal farmers.

Strategies

In order to persuade the farmers to undertake the certification process, there is a need to make the procedures simple and less expensive. Government initiatives may be required to bring down the cost of certification. Furthermore, increased assistance should be provided for the Participatory Guarantee Scheme.

Limited knowledge on organic production

There is also limited availability of suitable designs of organic farming systems for various climatic conditions and crops, supported through appropriate technologies. Availability of insufficient biomass on-farm; and inaccessibility of external inputs, such as organic manures and pesticides; organic ways of post-harvest handling and packing; have also been cited as challenges in organic production in India.

Strategies

Increased funding for research, education and extension activities and promoting continued economic analysis of the issues and trends in the organic sector would be productive in enhancing knowledge related to organic production. Encouraging the development of seeds, varieties and livestock breeds suitable for the organic farming system would facilitate the extension of organic farming.

Market intelligence

The information available in the country regarding organic products produced and exported is limited, and thus do not lead to any business or policy decisions. Data are also not available to calculate the prices of different organic commodities under variety of farming cultures of India. In the absence of appropriate and adequate information, a vague mechanism of organic pricing and premiums prevails.

Strategies

There is an urgent need to undertake cost benefit analysis and developing a framework for price discovery of organic commodities. Moreover, strengthening of data collection and dissemination is also required to take informed decision on markets and products that have potential in India.

The undertaking of comprehensive studies on organic niches of India would be advantageous in bringing organic farmers into the export market, with comparative advantage.

Insurance Options for Risk Management

Vagaries arising out of natural calamities are common to both conventional and organic farming. There are various perils in organic farming, which may cause damage to crops such as drought, excess moisture, freezing, insect damage, disease and weeds. Also, there is income loss for producers transitioning to organic production.

Strategies

It is mandatory to develop viable and effective risk management programs to address the needs of organic farmers and safeguard the organic farmers from losses. There is also a felt need of an insurance coverage for producers transitioning to organic production.

1. INTRODUCTION

Organic farming systems have been attracting increasing attention over the last one decade because they are perceived to offer some solutions to the problems currently besetting the agricultural and food sector. Food scares, such as mad cow disease, E. coli contaminations, and pesticide poisonings, as well as concerns over genetic engineering (GE) in foods, have stimulated interest in organic foods. On a similar trend environmental and ethical concerns have stimulated growing interest in other organic products, such as organic fibres, pigments etc. Until recently, consumer response to such incidents was localized or at most affected a single country. With increasing trade, the impacts of these events on consumer behavior are more widespread as more sources are utilized for imports.

Organic products are distinguished from non-organic or conventional products by the methods used in their production and processing, rather than by observable or testable characteristics. International Federation of Organic Agriculture Movement (IFOAM), the worldwide umbrella organization for the organic agriculture movement through its IFOAM Basic Standards for Organic Production and Processing (IBS) sets the standards for organic agriculture, production and processing based on four main principles:

- The Principle of Health;
- The Principle of Ecology;
- The Principle of Fairness; and
- The Principle of Care

All generally accepted organic rules and standards worldwide, governed by these four principles, prohibit use of synthetic fertilizers, pesticides, growth regulators, and livestock feed additives, and require long-term soil management, emphasis on animal welfare, and extensive record keeping and planning. Certain activities, such as the use of genetically modified stock, application of sewage sludge to organic acreage, and food irradiation are also prohibited.

Standards and Regulations

The number of countries with organic standards has increased to 86, and there are another 26 countries that are in the process of drafting legislation. There has been a significant growth in the number of certification bodies. The total number of certification bodies in 2012 was 576; up from 549 in 2011. Most of the certification bodies are located in European Union, South Korea, the United States, China, India and Canada. Asia currently has more organic certification bodies than Europe.

A growing number of organic producers are certified through Participatory Guarantee Systems (PGS) across the world. PGS are locally focused quality assurance systems. It is estimated that around 31,000 small operators are involved in PGS world-wide. The leading countries with regard to PGS are located in the global South. Asia has the largest number of producers involved in the PGS, with 16,000 producers involved, and more than 3,860 producers certified.

Several organic standard setters have also developed draft standards for climate "add-ons" for organic certification, and it is expected that the use of carbon labeling by retailers will grow considerably in the future.

Organic Farming and Development Support

Both the private and public development initiatives have contributed considerably, in the last 25 years, to the growth of the organic sector in many countries of the world. Activities have related to, for instance, building up the capacities of different stakeholder groups in the organic sector, developing domestic and international markets, and developing local standards and legislations. One of the current initiatives is the proposed Organic Research Centres Alliance (ORCA), hosted by FAO, which intends to internationally network and strengthen existing institutions with scientific credentials and empower them to become centers of excellence in trans-disciplinary organic agriculture research.

International trade, an engine for growth can substantially contribute to poverty reduction in developing countries. The Trade, Climate Change and Environment Programme of the International Trade Centre (ITC) supports the organic sector through the provision of market information, training in standards compliance, and trade promotion; by supporting policies favorable to organic agriculture and trade; and by facilitating business contacts. The FAO, IFOAM and

UNCTAD, have in place the Global Organic Market Access (GOMA) project. The aim of GOMA is to facilitate equivalence, harmonization and other types of cooperation in order to simplify the process for trade flow of products among the various organic guarantee systems. Currently, GOMA is on its way to finalise the Asian Regional Organic Standard (AROS) for the Asian region in line with the other existing regional standards for developing countries, such as Pacific Organic Standard (POS), and East African Organic Product Standard (EAOPS). These harmonized regional standards are aimed at facilitating trade of organic products inter and intra region and with other regions.

Organic Trade

The organic products market is supported by consumers in most of the countries in the world. Reasons for purchasing organics are similar across countries. In Europe and the United States, parameters such as taste, freshness, and quality, besides, health and safety, rank among the top reasons for organic purchases, especially for produce. Environmental protection is the second most important reason presented by retailers in Europe for endorsing organic products. The perception that organic foods are healthier is widespread among buyers. Food safety is the top reason driving Japanese interest in organic food.

Worldwide markets for organic products have been expanding, with annual growth rates of 15 to 40 per cent in developed markets. In spite of the slowdown in global economy, international sales of organic products continue to rise. According to the Organic Monitor, the worldwide sales of Organic food and drink were estimated at US$ 72 billion during the year 2013. However, the organic market is currently facing a supply crunch with demand exceeding the supply.

Organic Agriculture in India

The growth of organic agriculture in India has three dimensions and is being adopted by farmers for different reasons. First category of organic farmers are those which are situated in no-input or low-input use zones; for them organic is a way of life and they are doing it as a tradition. Second category of farmers are those which have recently adopted the organic in the wake of ill - effects of modern agriculture, may be in the form of reduced soil fertility, food toxicity or increasing cost and diminishing returns. The third category comprise of farmers and enterprises, which have systematically adopted the commercial organic agriculture to capture emerging market opportunities and premium

prices. While majority of the farmers in first category are traditionally (or by default) organic they are not certified; second category farmers comprise of both certified and un-certified, but majority of third category farmers are certified and are the commercial organic farmers.

Currently, India has the largest number of organic producers in the world. The cultivated area under organic certification has been estimated at 0.72 million ha while the area under wild harvest was approximately 4 million ha in 2013-14.

Around 1.24 million tonnes of certified organic products were produced in India in 2013-14, which included all varieties of food products namely Sugarcane, Cotton, Oil Seeds, Basmati rice, Pulses, Spices, Tea, Fruits, Dry fruits, Vegetables, Coffee and their value added products. The production is not limited to the edible sector but includes organic cotton fiber, and functional food products.

The exports of organic food were estimated at approximately Rs.1328.61 crores in value terms and nearly 178 thousand tonnes in volume terms during the year 2013-14. The export of organic food has increased at a CAGR of 23.9 per cent during the period 2010-11 to 2013-14 in value terms.

With the growth in the global organic market remaining relatively unaffected during the economic slowdown, significant demand growth in new markets in new regions, such as the Asia Pacific, and India's organic market perceived to be growing at a steady rate, the current Study endevours to investigate the various mature markets of organic products in the world; India's potential as a supplier of organic products; current challenges pertaining to the industry, the strategies to overcome them, and thereby increasing its foothold in the international trade. As organic products industry is largely unorganized globally, and the data reporting is predominantly survey-based, the information and data reporting pertaining to the industry have considerable lag, and is also scarce. Given the limitations, this Study attempts to provide trend analysis using information from various press reports interviews and also printed authenticate sources.

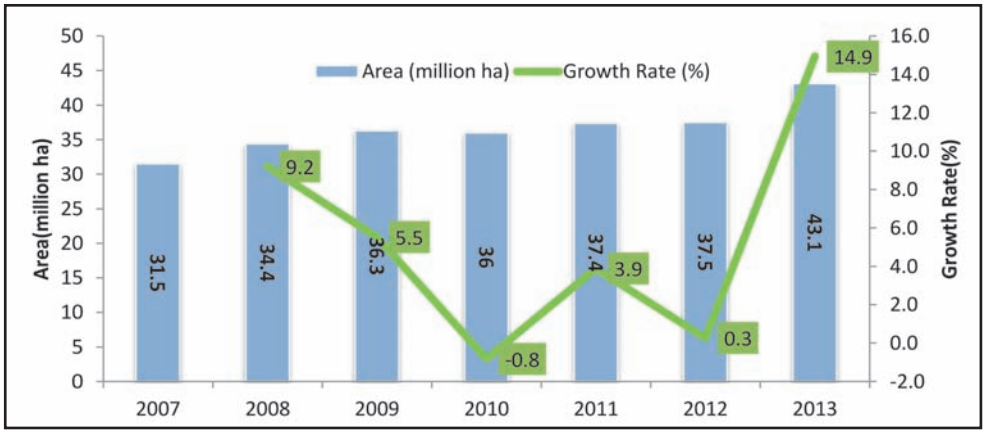
2. GLOBAL LAND UNDER ORGANIC CULTIVATION

The Exhibit 2.1 below presents the aggregate global organic land including the in-conversion areas. According to the latest FiBL-IFOAM Survey, approximately 43.1 million ha of land in the world was organically managed in the year 2013. There has been a considerable rise in the area undergoing organic management surging from 11 million ha in 1999 to 43.1 million ha in 2013. The expanse of area under organic agriculture increased at a compound annual growth rate (CAGR) of 5.4 per cent from 31.5 million ha in 2007 to 43.1 million ha in 2013. The land under organic agriculture increased on a year-on-year basis by 14.9 per cent from 37.5 million ha in 2012 to 43.1 million ha in 2013.

Region-Wise Organic Area

Globally, Oceania has been leading in terms of land under organic agriculture and contributed approximately 40 per cent of total organic agricultural land. Organically managed land in Oceania

Exhibit 2.1: Global Organic Area (2007-2013)



Source: FiBL& IFOAM

increased by 41.8 per cent to 17.3 million ha in 2013, in comparison to the previous year. According to FiBL and IFOAM, Australia accounts for more than 98 per cent of the organic land in Oceania, followed by New Zealand and Samoa.

Europe held a share of 27 per cent and accounted for the second largest area under organic agriculture, globally, during 2013. Organic acreage in Europe increased at a year-on-year basis by 3 per cent from 11.2 million ha in 2012 to 11.5 million ha in 2013. Spain, with 14 per cent share accounts for the largest acreage of organic land in Europe, followed by Italy (12%), France (9%) and Germany (9%).

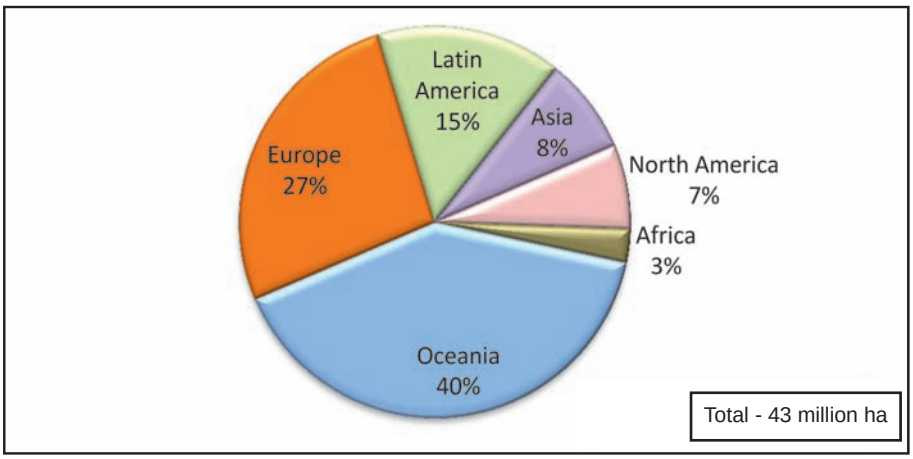
The Latin American region held a share of 15 per cent in the worldwide land under organic agriculture and managed nearly 6.6 million ha of land organically in the year 2013. The leading countries practising organic farming in this region are Argentina, Uruguay and Brazil. The aggregate organic area in this region declined by 0.2 million ha during the year 2013 when compared to the preceding year.

The organically managed area in North America represented nearly 7 per cent of the global area under organic cultivation in 2013. The organic acreage was stable during the year 2013 at 3 million ha. The significant countries in North America practising organic agriculture are USA and Canada with 2.2 million ha and 0.9 million ha of organic agricultural land, respectively, during the year 2013.

Asia had 3.4 million ha of land under organic agriculture and this constituted about 8 per cent of the aggregate organically cultivated land, globally. China and India are the major countries in terms of organic cultivation, accounting for 62 per cent and 15 per cent, respectively, of the total organic land in Asia during the year 2013. The organic area in Asia increased by 6.25 per cent or by 0.2 million ha in 2013, in comparison to the previous year. The organic area in Asia is beginning to recover after a loss of half a million hectares in India in 2012. Among the Asian countries, the ones with the highest share of organic agricultural land in the year 2013 were Timor-Leste and Mongolia with shares of 6.6 per cent and 4.7 per cent, respectively.

Africa, with 1.2 million ha of agricultural land under organic cultivation constituted 3 per cent of the global land under organic agriculture. Land under organic cultivation in Africa grew by 9.1 per cent in the year 2013 compared to the previous year, as the

Exhibit 2.2: Region –Wise Share of Organic Land in Global Organic Agricultural Land (2013)



Source: FiBL& IFOAM

organic acreage rose from 1.1 million ha in 2012 to nearly 1.2 million ha in 2013. Uganda, Tanzania, Ethiopia and Tunisia are the major countries practising organic agriculture in the continent.

Table 2.1 presents the growth of land under organic cultivation in the various regions. Oceania recorded the highest growth rates during the period as the organically managed land increased by 7.4 per cent during the period 2008 to 2013. This was followed by Europe, Africa and North America with growth rates of 6.7 per cent, 5.9 per cent and 2.9 per cent respectively. However, Latin America presented a fall in the aggregate organic agricultural land.

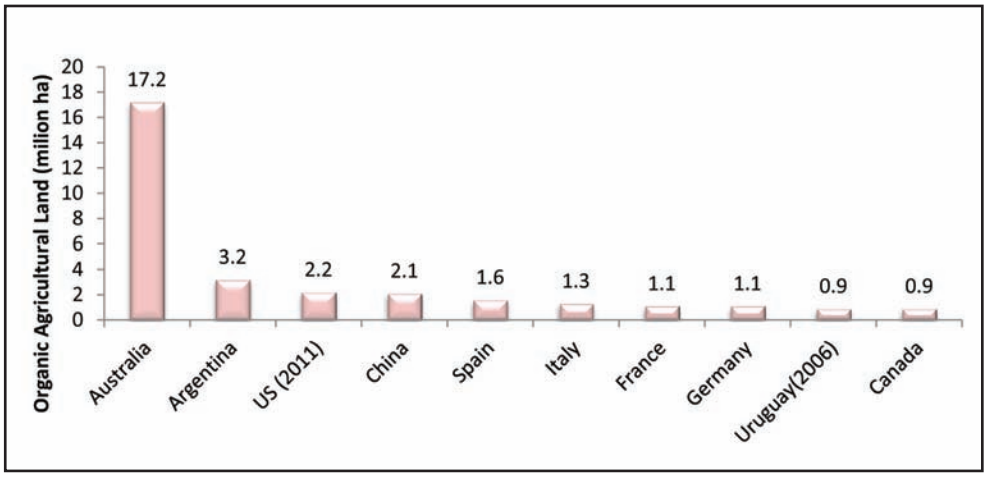
According to the FiBL and IFOAM Survey, with 17.2 million ha, Australia, in the Oceania region, had the largest land under, organic management. This was followed by Argentina, in Latin America, which had approximately 3.2 million ha of organically managed land. However, land under organic agriculture in Argentina declined at a compound annual growth rate of 7.1 per cent from 4.3 million ha in 2009 to 3.2 million ha in 2013. According to FiBL and IFOAM, the USA with 2.2 million ha of organic agricultural land was the third largest country in terms of area of organic agricultural land. Other countries with significant organic land area, globally are China, Spain, Italy, Germany, France, Uruguay and Canada.

Table 2.1: Region-wise Growth of Organic Agricultural Land (2008-13)

Region	2008	2009	2010	2011	2012	2013	CAGR
	million ha						%
Africa	0.9	1.0	1.1	1.1	1.1	1.2	5.9
Asia	3.4	3.6	2.8	3.7	3.2	3.4	0.0
Europe	8.3	9.2	10.0	10.5	11.2	11.5	6.7
Latin America	7.2	7.7	7.5	6.9	6.8	6.6	-1.7
Northern America	2.6	2.7	2.5	3.0	3.0	3.0	2.9
Oceania	12.1	12.2	12.2	12.2	12.2	17.3	7.4
Total	**34.4**	**36.3**	**36**	**37.4**	**37.5**	**43**	**4.6**

Source: FiBL& IFOAM

Exhibit 2.3: Major Countries with Largest Organic Agricultural Land (2013)



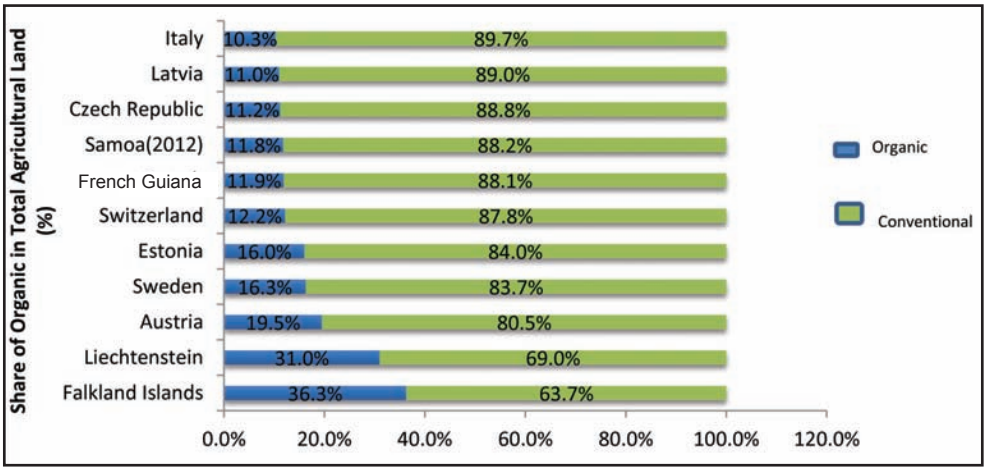
Source: FiBL& IFOAM

According to the FiBL & IFOAM Survey during the year 2013, the share of organic agricultural land to the world's agricultural land was approximately 0.98 per cent. Taking the regions under consideration, Oceania has the highest share of organic agriculture land to total agricultural land (4.1 per cent), followed by Europe (2.4 per cent) and Latin America (1.1 per cent). In the countries of the European Union there were nearly 10.2 million hectares under organic agricultural management in 2013, constituting 5.7 per cent share in the agricultural land. Falkland Islands have the highest share of (36.3 per cent) the organic land in the total agricultural land, followed by Liechtenstein, Austria and Sweden.

Organic Producers

As per the FiBL & IFOAM Survey 2015, there were approximately 2 million organic producers worldwide during the year 2013.There was a year-on- year growth rate of nearly 5.3 per cent in the aggregate number of organic producers in the year 2013. Asia was reported as the leading region with the largest number of organic producers globally, and it accounted for nearly 36% of the organic producers worldwide. The number of Asian organic producers grew at year-on-year growth rate of 6.6 per cent in the year 2013. With a share of 29 per cent, Africa reported a rise of nearly 0.2 per cent in the number of organic producers, globally, in the year 2013.

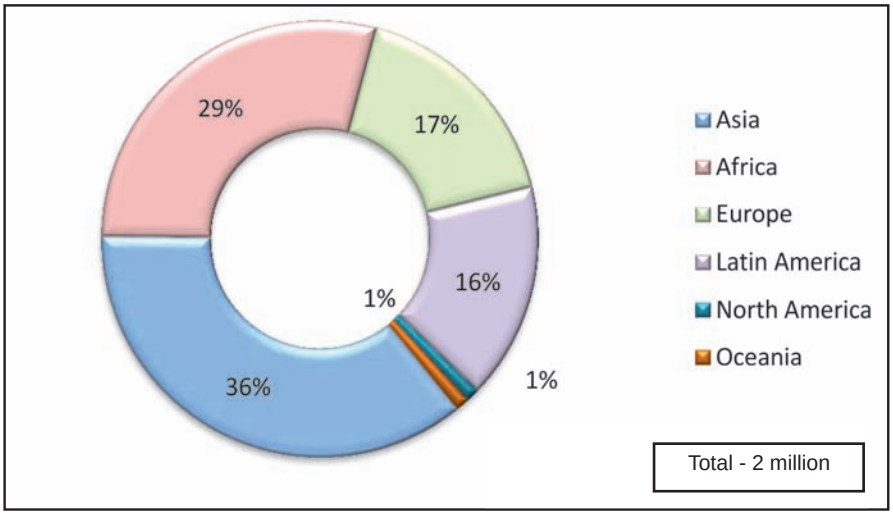
Exhibit 2.4: Countries with Highest Share of Organic Agricultural Land (2013)



Source: FiBL & IFOAM

As reported by the FiBL & IFOAM Survey, India was the leading country in terms of number of organic producers, and the total number of organic producers reported was nearly 650,000 in 2013. The other major countries with significant number of organic producers include Uganda and Mexico which had around 9.5 per cent and 8.5 per cent of the aggregate organic producers worldwide, respectively.

Exhibit 2.5: Region-Wise Share of Organic Producers (2013)



Source: FiBL& IFOAM

3. LEADING INTERNATIONAL ORGANIC MARKETS

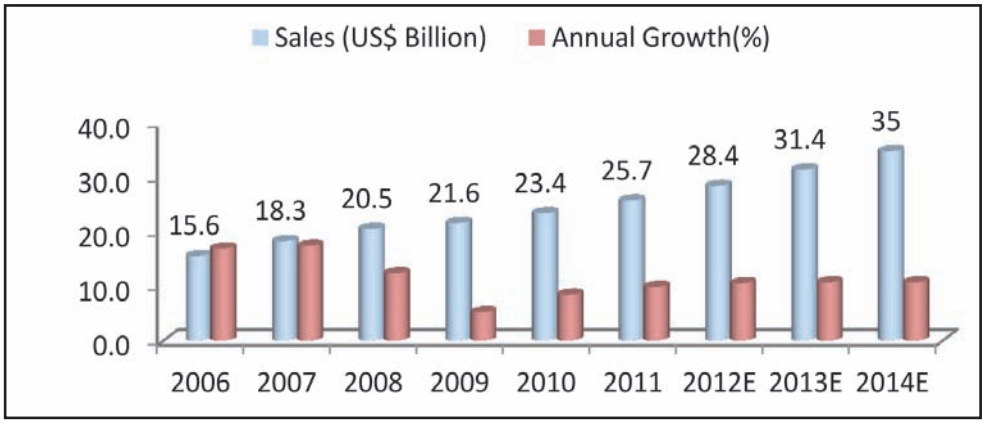
There is a huge demand for organic products worldwide with the growing health consciousness among the consumers. According to Organic Monitor, the international sales of organic food and drink were approximately US$ 72 billion in 2013. The major demand for organic products has been mainly in the North American and European regions. Other significant market is Japan in the Asian region.

MARKET FOR ORGANIC PRODUCTS IN THE UNITED STATES

Consumption of organic foods has been rising significantly in the United States, primarily driven by the concerns for health and environment. Organic foods, which was earlier considered a niche product, is presently being sold through a wide variety of channels in the United States, including farmers market, natural product supermarkets and conventional supermarkets. Since organic certification assures the buyers that the products have been grown, and handled according to stringent procedures followed in organic agriculture and without the usage of toxic chemical inputs, they desire to purchase organically produced products. Consumer awareness regarding the benefits of organic food products continues to grow, making organic farming a viable and lucrative farming activity for the innumerable producers in the United States.

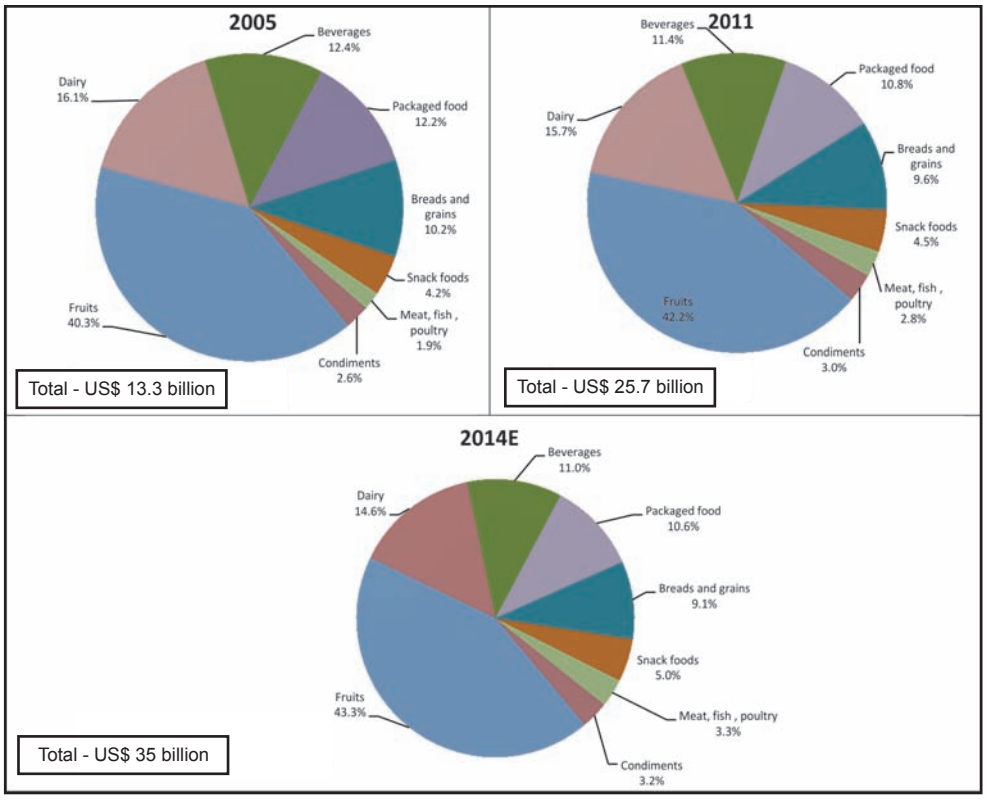
According to the Nutrition Business Journal, the organic food sales in the United States have escalated from US$ 15.6 billion in 2006 to an estimated value of US$ 35 billion, in 2014 (Exhibit 3.1). Sales of organic products in the United States, in 2012, were estimated at US$ 28.4 billion, which accounted for over 4 per cent of the total United States' food sales. The organic food sales are anticipated to increase at a compound annual growth rate (CAGR) of 10.5 per cent, during the period 2006 to 2014. Consumer demand for organic food has exhibited a persistent growth, since the time the USDA established National Organic Production Standards in 2002. While the organic food sales maintained a double digit growth rate,

Exhibit 3.1:US Organic Food Sales and Annual Growth (2006-2014E)



*2012-2014 Sales Values are estimates
Source: Nutrition Business Journal

Exhibit 3.2: Organic Food Sales Trend in the United States



*2014 Sales Value is estimated
Source: Nutrition Business Journal

the sector suffered a setback during the recessionary periods 2007-2009. During this period, the year-on- year growth rate in organic food sales in the United States fell from 17.3 per cent in 2007 to 5.4 per cent in 2009. However, organic food sales in USA picked up in 2010.

The sales of organic food have displayed a rising trend as the value of organic sales are estimated to have risen from US$ 13.3 billion in 2005 to US$ 35 billion in 2014. Segment of organic food that have registered significant growth in sales in the United States are fruits and vegetables, dairy, beverages, packaged/prepared food, bread and grains, snack foods, meat, fish, poultry and condiments (Exhibit 3.2).

Fruits and vegetables have consistently been the principal item of sale in the organic food segment in United States. The share of dairy in the organic food sales in the United States, has shown a decline as the share contracted from 16.1 per cent in 2005 to 15.7 per cent in 2011, consequently it is anticipated to decline further to 14.6 per cent in 2014. One of the reasons for decline in the share of diary in total organic food sales was the high price of feed due to which the organic dairy farmers across the country are unable to produce more and meet the augmenting demand.

Sale of organic beverages as a percentage of organic food sales in the United States registered a marginal decline from 12.4 per cent in 2005 to 11.4 per cent in 2011, and is expected to reduce further to 11 per cent in 2014. Likewise the share of packaged food along with bread and grains in organic food sales has also witnessed a diminishing trend. Contrarily, the share of snack food, meat, fish, poultry, as well as condiments in organic food sales is forecasted to ascend in the coming years in the United States.

Among the total value of select organic items imported by the United States, vegetables, fruits and nuts accounted for 32.06 per cent in 2013, and stood at US$ 441.43 million. Among all the items imported under the vegetables, fruits and nuts category, bananas hold a major share of 58.6 per cent during the year 2013. The major suppliers of organic bananas to the United States are Ecuador (22.3 per cent), Colombia (21.7 per cent), Guatemala (18.7 per cent), Honduras (15.9 per cent) and Costa Rica (10.4 per cent). Ecuador, the leading exporter of bananas to the world is the largest supplier of organic bananas to the United States. Most of the organic bananas produced in Ecuador, are cultivated in farms that are located in the mountain areas where pest pressure is lower than in the conventional areas of cultivation. The second dominant supplier of

organic bananas to the USA is Colombia, whose exports are on the rise due to the increased investments in organic banana plantations in the country.

The second significant organic fruit imported by the United States are mangoes with a share of 22.8 per cent in the total imports of fruits, vegetables and nuts. Mexico exports the largest quantity of organic mangoes to the United States with a share of 53.2 per cent in 2013. Due to the high demand for the product in the United States, Mexico, the major producer of mangoes has been expanding the production, in the recent years. The other notable exporters of organic mangoes to the United States are Peru, Brazil and Guatemala. India also exported organic mangoes to the United States, though with a minuscule share of 0.07 per cent in the total imports of organic mangoes by the United States, during the year 2013.

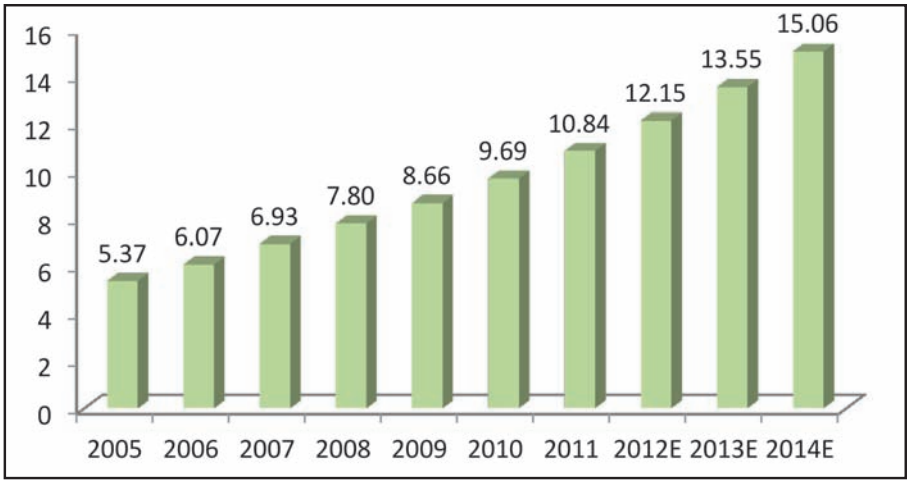
Avocados occupied a 4.28 per cent share in the aggregate imports of organic fruits, nuts and vegetables, by the USA during the year 2013. Mexico is the principal supplier of organic avocados to the United States, with a share of 99 per cent in total imports of organic avocados by the USA. The exports of organic avocados from Mexico to the USA have increased at a CAGR of 5.7 per cent during the period 2011 to 2013.

There has been a substantial rise in the import of organic apples by the United States, as the value of imports has risen from US$ 5.7 million in 2011 to US$ 14.9 million in 2013. The chief exporters of organic apples to the United States are Chile (64 per cent), Argentina (16 per cent), New Zealand (13 per cent) and Canada (7 per cent). Organic apples find a high demand in the United States mainly driven by large sales in the United States supermarkets. The sale of organic apples has had a boost due to significant increase in product assortment and distribution. The other products imported under the organic fruits, vegetables and nuts category are almonds, bell peppers, blueberries, garlic, pears and quinces.

Organic Fruits and Vegetables

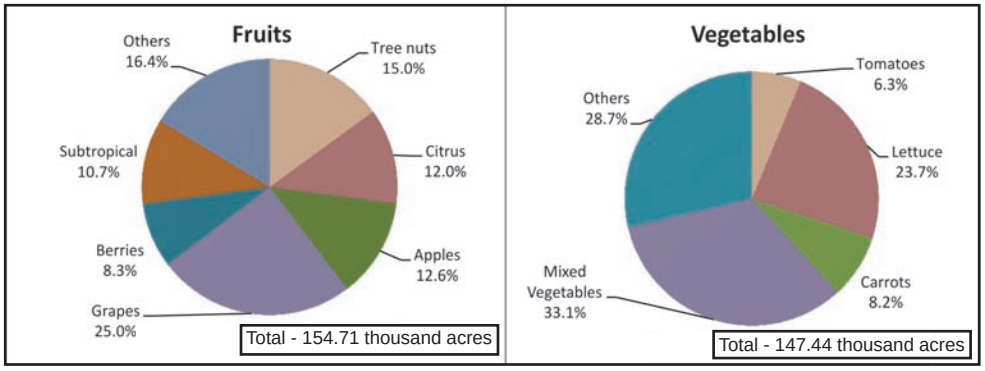
Organic fruits and vegetables have continued to be the major item of sale among the various organic food categories over the years in the United States. The sale of organic fruits and vegetables is expected to increase at a CAGR of 12 per cent, as the value of sales is anticipated to rise from US$ 5.37 billion in 2005 to US$ 15.06 billion in 2014. The growth rate in organic fruits and vegetables sales suffered a setback during the recession in 2007-2009, however the market revived back in 2010.

Exhibit 3.3: Sales of Organic Fruits and Vegetables in the United States (US$ Billion)



*2012-2014 Sales Value is estimated
Source: Nutrition Business Journal

Exhibit 3.4: Certified Organic Fruits and Vegetables Acreage in the United States (2011)



*Other fruits acreage includes peaches, cherries and other stone fruits
*Other vegetables acreage includes ginger, blue corn, popcorn, shallots, sweet potatoes, yams and many other speciality crops.
Source: USDA, Economic Research Service

The total area under fruit production under certified organic cultivation in the United States was approximately 154.71 thousand acres in 2011, and the cultivation of grapes accounted for the largest share. The acreage under organic grapes has risen from 28.28 thousand acres in 2008 to 38.66 thousand acres in 2011. California is the largest organic grape producing state, with a share of 88 per cent in the aggregate acreage, followed by Washington (7 per cent) and Oregon (3 per cent). Apple with a share of around 12.6 per cent in the certified organic fruit acreage is the second most extensively grown fruit in the United States. Organic apples are majorly produced in Washington and California. Citrus fruits occupying 12 per cent in certified organic fruit acreage is grown in California and Florida. The other significant categories of fruits considered are Tree nuts (15 per cent), Berries (8.3 per cent), Subtropical fruits (10.7 per cent) and other fruits (16.4 per cent), including peaches and cherries.

The vegetables acreage in the United States under certified organic cultivation declined at a CAGR of 1.9 per cent, from 156 thousand acres in 2008 to 147.44 thousand acres in 2011. The vegetables included under this classification are mixed vegetables, lettuce, carrots, tomatoes, other vegetables. Lettuce representing approximately 23.7 per cent of the organic area is grown widely in California, Arizona and Nevada. Carrots occupied 8.2 per cent share in the certified organic vegetables acreage, and California accounts for around 94 per cent of the organic carrot production in the country. California is also the predominant tomato growing state in the United States and accounts for 86 per cent of the acreage under vegetables cultivation.

The Organic Fruits and Vegetables Marketing Chain

The organic fruits and vegetables marketing chain in the United States involves growers, packers and shippers. In some cases, a firm grows, packs and ships the produce, while in some other cases, a firm grows, but another firm packs and ships. After shipping, the produce are either sold to a retailer, or sent to a terminal market where wholesalers sell it to retailers. Organic produce are also sold directly to the consumers through farmers market, community supported agriculture and farm stands.

Box 1: Fruits and Vegetables Marketing Chains in the United States

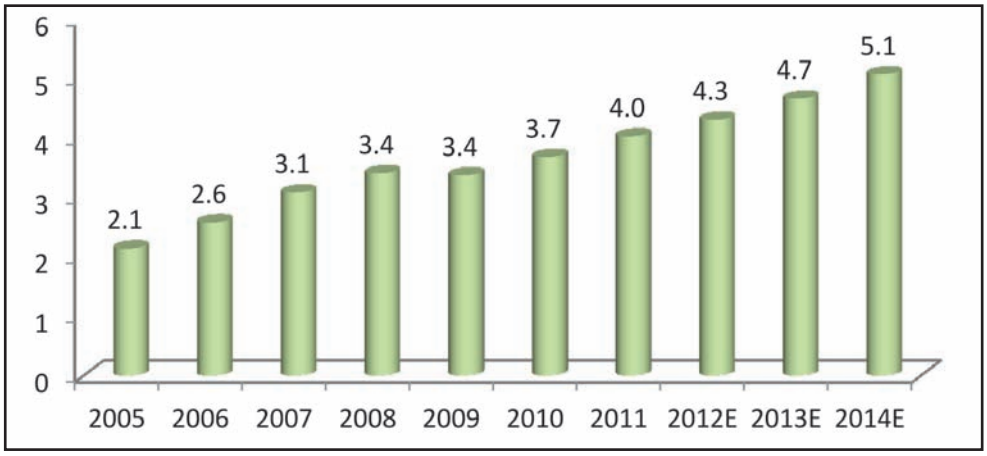
Fresh produce

- Farm > shipper > wholesaler > natural food retailers
- Farm > shipper > wholesaler > conventional retailer
- Farm > shipper > speciality broker > retailer
- Farm > shipper > natural food retailer
- Farm > shipper > conventional retailer
- Farm > consumer farmers markets, roadside stands, U-pick, community supported agriculture

Organic Dairy

Organic dairy is the second largest segment in the organic food grouping, in terms of value, totalling 6 per cent of total dairy production in the United States. The sale of organic dairy products in the US was worth US$ 4 billion in 2011, and the share of dairy in organic food sales, in the same year was around 15.7 per cent. Organic milk sales in the United States have been rising. The sale of organic dairy is expected to increase at a CAGR of 10.4 per cent from US$ 2.1 billion in 2005 to US$ 5.1 billion in 2014 (Exhibit 3.5). The sales of organic milk products increased by 4.10 per cent in 2012, while the total fluid milk products sales declined by 1.81 per cent in 2012.

Exhibit 3.5:Sales of Organic Milk in the United States (US$ Billion)



*2012-2014 Sales Value is estimated

Source: Nutrition Business Journal

Table 3.1: Estimated Sales of Organic and Total Fluid Milk Products in the United States (2006-2013)

Year	Organic Milk Products	Total Fluid Milk Products	Share of organic milk products in total fluid milk products
	Million Lbs		%
2006	1062	55,251	1.92
2007	1412	55,049	2.56
2008	1676	54,967	3.05
2009	1602	55,446	2.89
2010	1811	54,528	3.32
2011	2073	53,723	3.86
2012	2158	52,748	4.09
2013	2264	51,645	4.38

Source: USDA Agricultural Marketing Service

BOX 2 : Organic Dairy Production

Organic milk cost exceeds the conventional cost mostly because of high feed cost and more intensive use of labour and capital in the organic dairy industry.

The conversion from conventional to organic production necessitates the cow to be fed a diet consisting of at least 80 per cent organic feed for nine months and then 100 per cent organic feed for the next three months. Otherwise, organic dairy products must make use of milk from animals that have been raised organically for at least 1 year prior to producing the milk. The process used to bottle organic milk and to make and pack cheese, ice cream, yogurt and other dairy products must also be certified. The processor is required to keep organic and non-organic products separated, and must prevent organic products from contact with prohibited substances.

The cows reserved for organic milk production are raised in a herd separate from conventional dairy cows. The animals are not given hormones or antibiotics; instead they receive preventives and dietary supplements of vitamins and minerals. These requirements add to production costs and leads to challenges for widespread adoption of organic practices. The transition from conventional dairy to organic dairy requires changes in animal husbandry, land and crop management as well as a complex certification process.

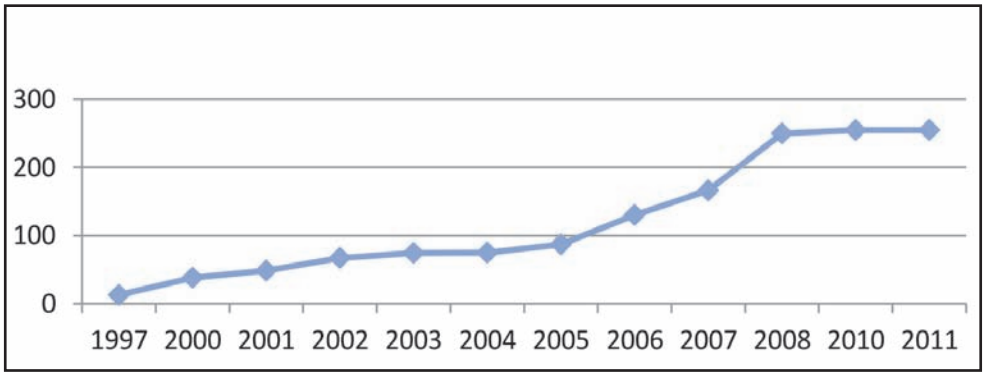
BOX 3: Organic Dairy Marketing Channels in the United States

- Milk (from one or several farms) > on farm dairy (pasteurize and bottle) > regional distributors
- Milk (from one or several farms) > off farm dairy (pasteurize and bottle) > regional distributors
- Milk (from one or several farms) > off farm processors of cheese, butter, yogurt or dry milk > distribute regionally and nationally
- Milk (from several farms) > dairy (pasteurize and bottle, or process into cheese or ice cream, for example) > distribute nationwide through a marketing cooperative (under a brand name), mainly through private distribution networks, sometimes with a regional label
- Milk produced under contract (from several farms) > dairy (pasteurize and bottle, or process into cheese or ice cream for example) > distribute nationwide under a brand name, mainly through private distribution networks

According to a report by the Agricultural Marketing Service, USDA, the sales of aggregate milk products for February 2014 was approximately 195 million pounds, which was 18.5 per cent more from the sales recorded in February 2013. The total conventional milk products sales for February 2014 were 3 per cent below the value of sales recorded in the previous year. A further analysis revealed that the organic whole milk sales and the organic reduced fat milk sales were 27.2 per cent and 26.9 per cent above the value of sales of those in 2013, respectively. The trend thus, indicates towards a thriving demand for organic milk products in the United States.

The National Organic Program in the United States was enforced in October 2002. Since 2005, the number of certified organic milk cows increased significantly; however, this growth rate became constant during the period 2008 to 2011. According to Kreig 2007, the yield of organic milk cow is about 70 per cent of the conventional milk cows mainly because of absence of use of hormones on the organic milk cows. The shortage in organic

Exhibit 3.6 : Certified Organic Milk Cows in the USA (thousands)



Data not available for 2009

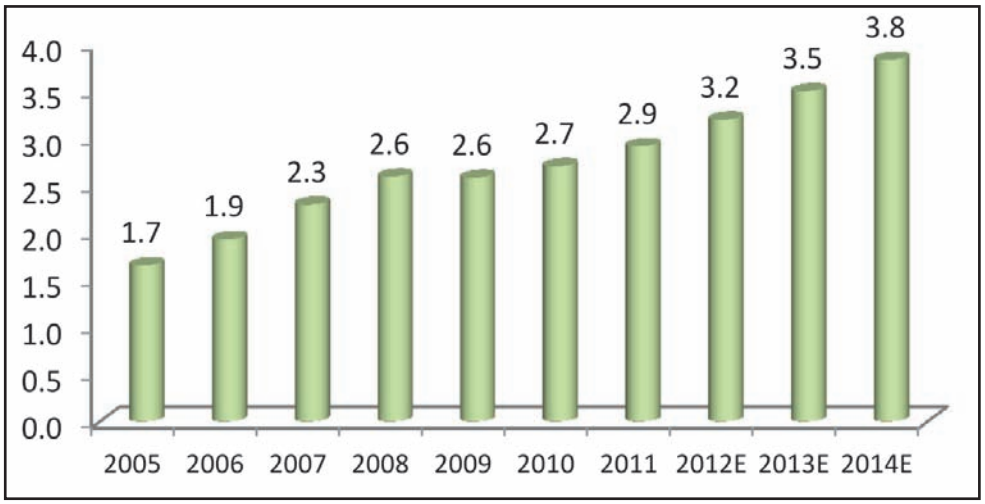
Source: USDA, Economic Research Service

milk production and a rise in the organic fluid milk retail prices in the recent years, in the United States is mainly due to low feeding rates by the farmers as a result of increase in the feed cost used for organic milk cows.

Organic Beverages

The sale of organic beverages in the United States is anticipated to rise at a CAGR of 9.3 per cent as the value of sales are expected to rise from US$ 1.7 billion in 2005 to US$ 3.8 billion in 2014. The year-on-year growth in value of sales of organic beverages, however, has been displaying a downward trend over the years. While the year-on-year growth rate in sales was approximately 11.8 per cent in 2006, it declined to 7.4 per cent in 2011. The sale of organic beverages decreased considerably during the year 2009, due to decline in demand, as the consumers decided to cut back on their expenditures during recession. Moreover, the share of organic beverages in the aggregate organic food sales has diminished from 12.4 per cent in 2005 to 11.4 per cent in 2011.

Exhibit 3.7: Sales of Organic Beverages in the USA (US$ Billion)



*2012-2014 Sales Value is estimated
Source: Nutrition Business Journal

Table 3.2: Organic Hot Beverages Market in the United States

	Retail Value (US$ Million)			CAGR*%
Organic Hot Drinks	**2009**	**2010**	**2014***	**2010-14**
Organic Coffee	160.8	171.2	243.6	9.2
Organic Fresh Coffee	154.8	164.9	236.3	9.4
Organic Instant Coffee	6.1	6.2	7.4	4.5
Organic Tea	162.1	170	214.2	5.9
Organic Black Tea	36.2	38.1	45.2	4.4
Organic Fruit/Herbal Tea	91.3	95.1	121.4	6.3
Organic Green Tea	34.6	36.9	47.6	6.6
Other Organic Hot Drinks	4.7	4.4	4.3	-0.6

*2014 retail value is forecast
Source: Euromonitor 2011

Table 3.3: Organic Juice Market in the United States

	Retail Value (US$ Million)			CAGR*%
Organic Juices	**2009**	**2010**	**2014***	**2010-14**
Organic Concentrates	18.1	17.3	16.5	-1.3
Organic Fruit/Vegetable Juice	323.1	329.9	377.3	3.4
Organic 100per cent Juice	189.5	198.0	236.0	4.5
Organic Juice Drinks(Up to 24per cent Juice)	44.7	42.5	40.7	-1.1
Organic Nectars(25-99per cent Juice)	88.9	89.3	100.6	3

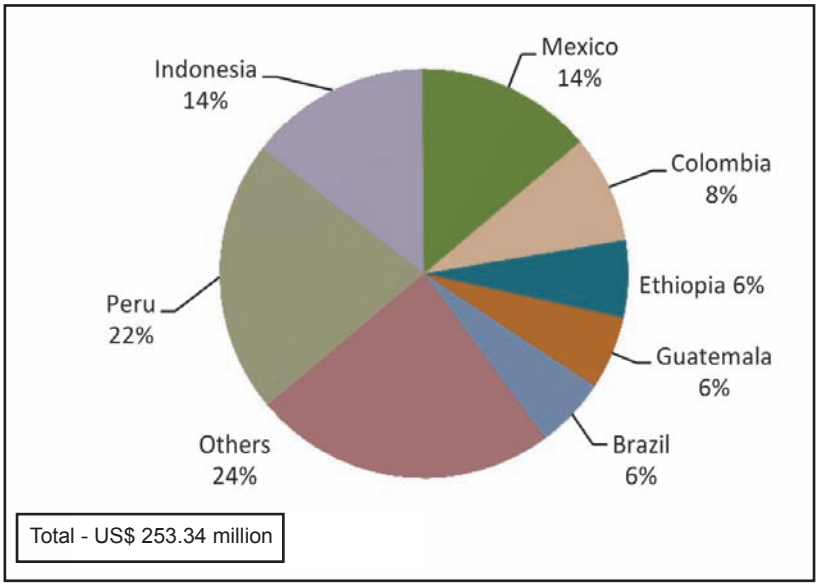
*2014 retail value is forecast
Source: Euromonitor 2011

The organic hot beverages market in the United States consists predominantly of organic coffee and organic tea. The retail value of organic coffee is anticipated to increase at a CAGR of 9.2 per cent during the period 2010 to 2014, and estimated at approximately US$ 243.6 million in 2014. The retail value of organic tea is expected to surge from US$ 170 million in 2010 to US$ 214.2 million in 2014 and a similar trend in sales for organic juice has also been estimated (Table 3.3).

BOX 4: Organic Coffee

Organic coffee is grown using methods that have a lesser impact on the environment. Organic production systems maintain the fertility of the soil and reduce the usage of toxic pesticides and fertilizers. The coffee sold in the US as organic must be produced in accordance with the US Standards for organic production, and certified by an agency accredited by the US Department of Agriculture. The US requirements for organic coffee production include farming without synthetic pesticides or other prohibited substances for three years, and a sustainable crop rotation plan to prevent erosion, the depletion of soil nutrients and control of pests. Organic coffee products include decaffeinated, caffeinated, flavoured and instant coffee, organic coffee ice cream and yogurt, coffee sodas, hard candies and chocolate covered beans.

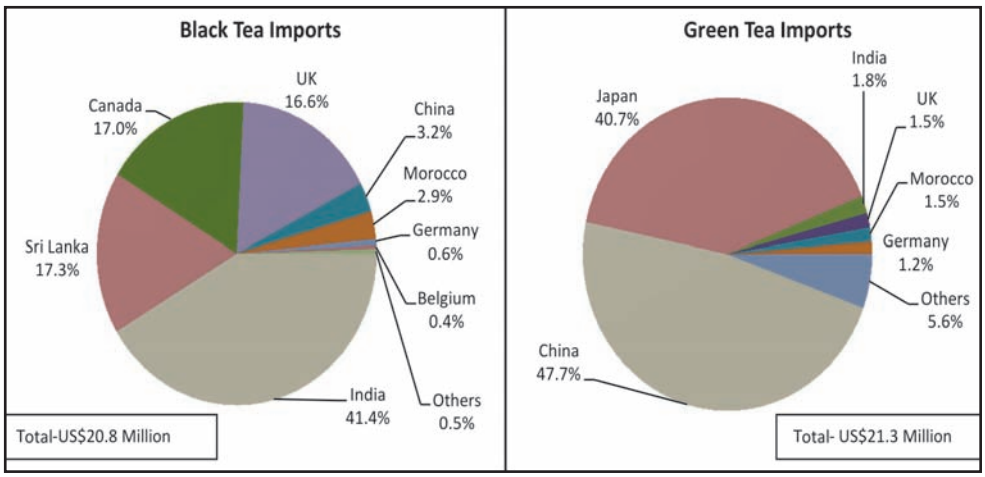
Exhibit 3.8: Imports of Organic Coffee in the United States (2013)



Source: USDA GATS

The imports of organic coffee in the United States have declined substantially from US$ 526 million in 2011 to US$ 253 million in 2013. Peru was the largest exporter of organic coffee to the United States with a share of 22 per cent in the total imports of organic coffee by the United States. Indonesia with a share of 14 per cent was the second largest exporter of organic coffee to the United States in 2013, followed by Mexico, Colombia, Ethiopia, Guatemala and Brazil. Indian exports of organic coffee to the United States had a low share of around 0.07 per cent in 2013.

Exhibit 3.9: Imports of Organic Black and Green Tea in the United States (2013)

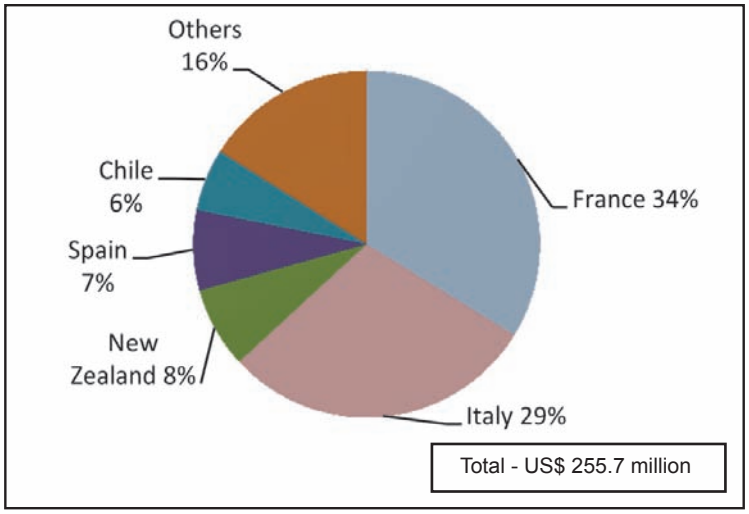


Source: USDA GATS

The imports of organic green tea in the United States has declined at a compound annual growth rate of 1.7 per cent, as the value of imports decreased from US$ 22 million in 2011 to US$ 21.3 million in 2013. China was the largest supplier of organic green tea to the United States in 2013, with a share of approximately 47.7 per cent in the total imports of organic green tea by the United States. Imports of green tea from China have increased at a CAGR of 7.3 per cent during the period 2011 to 2013. Japan was the second major supplier of organic green tea to the United States, and had a considerable share of 40.7 per cent in its total imports of organic green tea in 2013. However, the supply of organic green tea from Japan has diminished from US$ 10.4 million in 2011 to US$ 8.7 million in 2013. India is the third largest exporter of organic green tea to the United States, while the other suppliers are United Kingdom, Morocco and Germany.

The imports of organic black tea into the United States have risen at a CAGR of 17 per cent as the value of imports increased from US$ 15.2 million in 2011 to US$ 20.8 million in 2013. India is the leading supplier of organic black tea to the United States, and the value of imports has grown substantially from US$ 4.7 million in 2011 to US$ 8.6 million in 2013. Sri Lanka with a share of 17.3 per cent in

Exhibit 3.10: Organic Wine Imports in the United States (2013)



Source: USDA GATS

the total imports is the second largest supplier of organic black tea to the United States followed by Canada, United Kingdom and China.

The United States imported organic wine worth US$ 255.7 million in 2013. France has been the largest supplier of organic wine to the United States. The other major suppliers of organic wine to the United States are Italy (29 per cent), New Zealand (8 per cent), Spain (7 per cent) and Chile (6 per cent). Organic wine is made without using prohibited substances and genetic engineering, and in addition, the production is overseen by the USDA National Organic Program. Wine sold in the United States as organic, whether imported from the European Union, Latin America or South Africa, or indigenous, has to meet strict standards, which also includes regulations of Alcohol and Tobacco Tax and Trade Bureau (TTB) and specific sulphite labelling requirements. Organic wine from the United States is also exported to Canada, European Union, Japan and Taiwan.

Organic Packaged Food

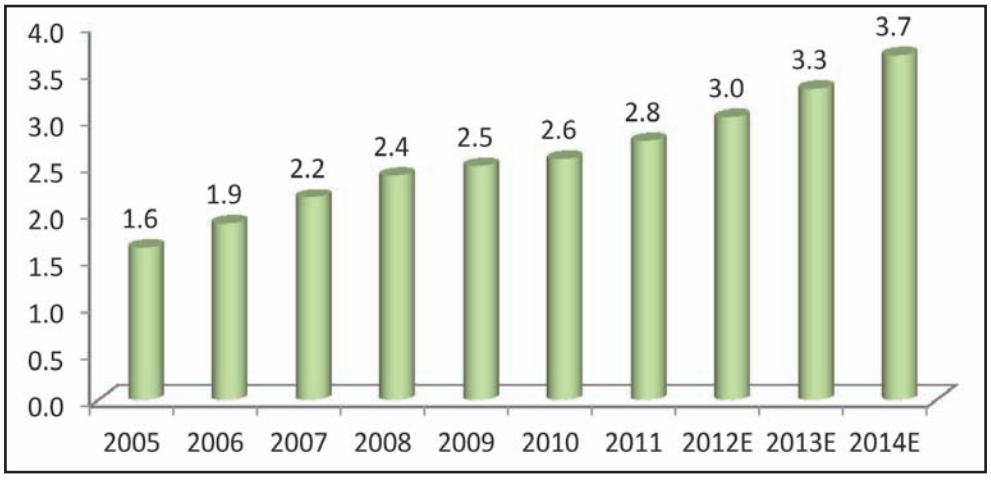
The sale of organic packaged/ prepared foods in the United States

has been rising as is exhibited in Exhibit 3.11. The value of sales of organic package prepared foods is estimated to rise at a CAGR of 9.8 per cent during the period 2005 to 2014, from US$ 1.6 billion in 2005 to US$ 3.7 billion in 2014. The growth in the sales value however, has been declining over the years, as the growth rate declined from 19 per cent in 2006 to 4.0 per cent in 2009 and then increased marginally to 7.8 per cent in 2011. The share of organic packaged foods as a percentage of aggregate organic food sales has also been diminishing with 12.2 per cent, 10.8 per cent and 10.6 per cent in 2005, 2011 and 2014, respectively.

Organic processed foods mostly include frozen vegetables, pasta, canned vegetables, and sauces. There are two basic marketing channels for processed food (Box 5).

The imports of organic vegetable oil in the United States amounted to US$ 165.7 million in 2013, and Italy is the largest exporter of organic vegetable oil to the United States with a share of almost half of the total imports. The other major suppliers are Spain, Tunisia, Turkey, Greece, Argentina, and Chile.

Exhibit 3.11:Organic Packaged/Prepared Food Sales in the United States (US$ Billion)

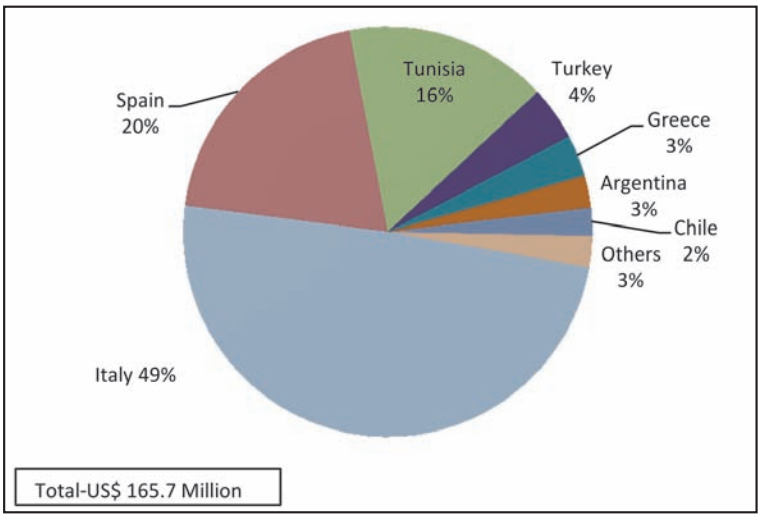


*2012-2014 Sales Values are estimates
Source: Nutrition Business Journal

BOX 5: Organic Processed Food Marketing Chain

- Farm > manufacturer > wholesaler > retailer
- Farm > shipper/procurer > manufacturer > wholesaler-retailer

Exhibit 3.12: Organic Veg Oil Imports by the United States(2013)



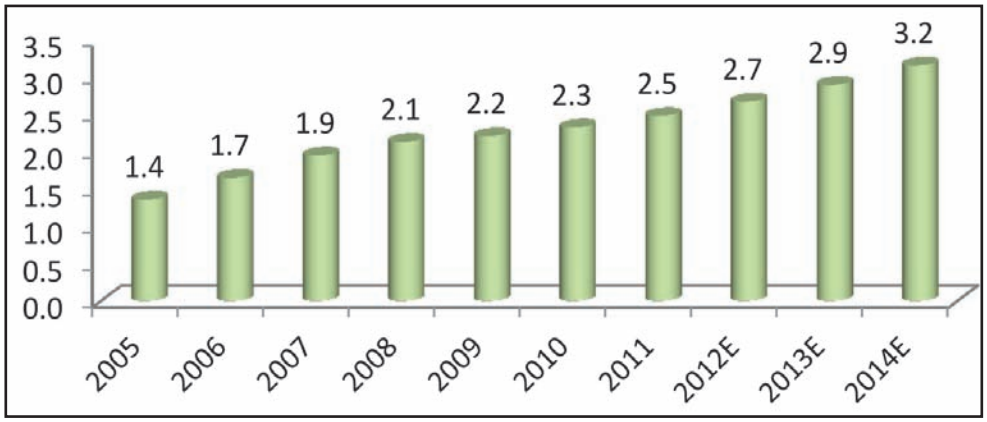
Source: USDA GATS

Organic Bread and Grains

The sales of organic bread and grains in the United States have been increasing over the years, and it is expected to grow at a CAGR of 9.6 per cent the value of sales estimatedly rising from US$ 1.4 billion in 2005 to US$ 3.2 billion in 2014. However, the share of organic bread and grains in the sale of organic food as a whole has been diminishing from 10.2 per cent in 2005 to 9.6 per cent in 2011, and it is anticipated to decline further to 9.1 per cent in 2014.

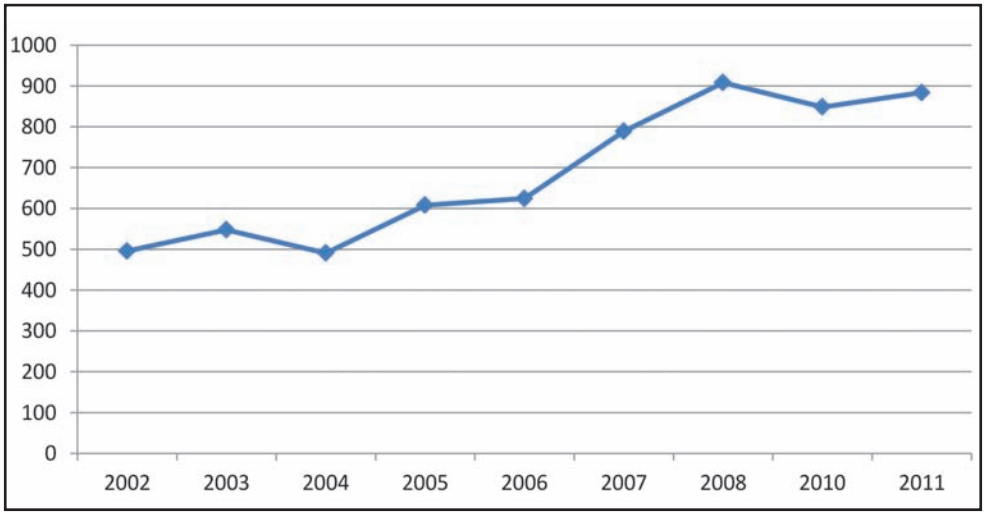
Exhibit 3.14 displays the production of organic grains in the certified organic farms in the United States. Grains produced organically in the United States includes corn, wheat, oats, barley, sorghum, rice, spelt, millet, buckwheat, rye and other grains such as milo, triticale, kamut, amaranth and quinoa.

Exhibit 3.13: Organic Bread and Grain Sales in the United States (US$ Billion)



*2012-2014 Sales Values are estimates
Source: Nutrition Business Journal

Exhibit 3.14: United States Certified Area Under Organic Grain Production in Thousand Acres



Data not available for 2009
Source: USDA, Economic Research Service

Box 6: Marketing Chain for Organic Grains, Oilseeds and Legumes in the United States

- Farmer > cooperative > cleaner > manufacturer > distributor
- Farmer > cleaner > manufacturer > distributor
- Farmer > cooperative > cleaner > broker > manufacturer > distributor
- Farmer > cleaner > broker > manufacturer > distributor
- Farmer > marketing agent (often contracts with farmers, and cleans) > manufacturer
- Farmer > cooperative > processor of feed grain > distributor > livestock producer
- Farmer > processor of feed grain > distributor > livestock producer

The United States imports of organic rice (semi/ whole milled) has increased at a CAGR of 11.3 per cent from US$ 24.4 million in 2011 to US$ 30.2 million in 2013. Thailand is the leading supplier of organic rice to the United Sates, and accounting for a share of 60 per cent in the total imports of organic rice by the United States in 2013. Second only to Thailand in the supply of organic rice is India (23 per cent), whose exports of organic rice to the United States have increased at a CAGR of 13.03 per cent during the period 2011 to 2013. Other major suppliers of organic rice are Argentina (8 per cent), China (2 per cent) and Italy (2 per cent).

According to the United States Bureau Trade data, the imports of organic durum wheat have increased from US$ 0.7 million in 2011 to US$ 16.05 million in 2013. The imports of organic soybeans in the United States have also expanded in the recent years, from US$ 41.8 million in 2011 to US$ 110.3 million in 2013. China contributed 44 per cent to the total imports of organic soybeans by the United States followed by India, Canada and Argentina. The imports of yellow dent corn amounted to US$ 50.5 million in 2013 and the key suppliers of this product to the United States were Argentina (42 per cent), Canada (31 per cent) and Brazil (26 per cent).

Organic Product Pricing in the United States

Certified organic products are generally more expensive than their conventional counterparts as organic food supply is limited in comparison

to its demand, thus leading to an upsurge in prices. The production cost for organic products is also typically higher because of greater labour inputs per unit of output. Post-harvest handling of relatively smaller quantities of organic food also induces higher costs because of mandatory segregation of organic and conventional produce, especially for processing and transportation. Marketing and distribution chain for organic products is comparatively inefficient further adding to the costs of handling.

Table 3.4: Comparison of Prices of Conventional and Organic Vegetables in the United States (US$ per unit)

Vegetable	Package	Conventional	Organic
Artichoke	cartons, 24s	25.79	32.18
Cabbage	45 lb cartons, medium	15.28	42.08
Carrots	25 lb sacks loose, JBO	7.78	24.70
Cauliflower	cartons, film wrapped, 12s	21.69	37.11
Lettuce(Green leaf)	cartons, 24s	18.04	32.64
Lettuce(Romaine)	cartons, 24s	21.36	38.38
Mesculin Mix	3 lb cartons	6.56	11.08
Onions, Dry	40 lb cartons	22.2	32.25
Spinach	cartons, bunched, 24s	20.13	39.6
Potatoes	50 lb cartons, US. No.1	15.05	39.01
Tomatoes, Cherry	Flats 12 1-pt cups with lids	18.02	43.88
Sweet Potatoes	40 lb cartons, U.S. No 1	22.25	35.49

Source: USDA, Economic Research Service

Table 3.5: Comparison of Prices of Conventional and Organic Fruits in the United States (US$ per unit)

Fruit	Package	Conventional	Organic
Apples	cartons tray pack 80s,88s	35.05	53.11
Avocados	cartons 2 layer	34.69	53.17
Raspberries	flats 12 6-oz cups with lids	29.99	36.97
Strawberries	flats 8 1-lb cntrs with lids	15.7	27.08
Bananas	40 lb cartons	15.6	25.69
Oranges	7/10 bushel cartons	21.7	36.6
Pears	4/5 bushel cartons	35.13	57.64

Source: USDA, Economic Research Service

Table 3.6: Price Paid by the First Receiver* for Organic Poultry and Eggs

Poultry		
Year	Conventional	Organic
	Dollars per pound	
2004	0.7	2.1
2005	0.7	2.2
2006	0.6	2.2
2007	0.8	2.2
2008	0.8	2.4

Eggs		
Year	Conventional	Organic
	Dollars per dozen/carton	
2004	0.7	2.3
2005	0.6	2.3
2006	0.6	2.3
2007	1.0	2.4
2008	1.2	2.6

Source: USDA, Economic Research Service
*First receivers are those entities that purchase the processed products from the poultry or egg company, such as retailer, distributor, or manufacturer.

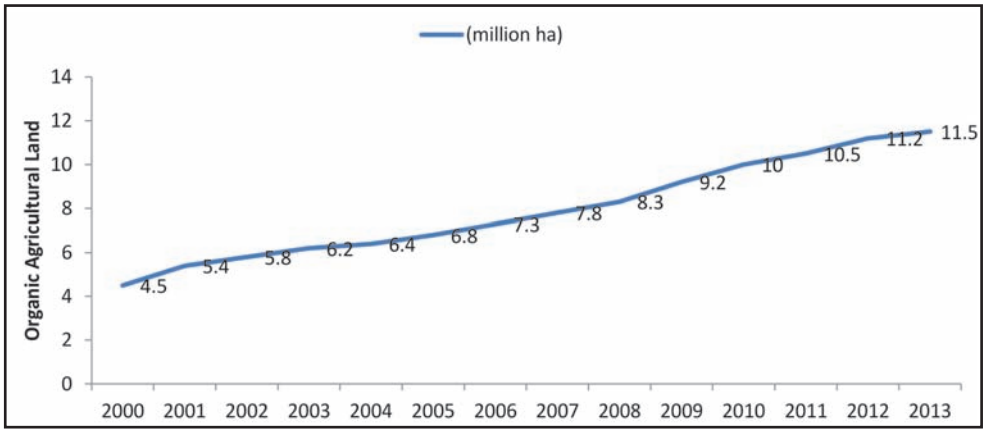
ORGANIC MARKET IN EUROPE

According to FiBL and IFOAM, in 2013, the second largest market for organic products globally, after the United States, is the European Union with a share of 40 per cent of the organic market worldwide. The organic market continued to grow even though stagnation was witnessed in some of the European countries due to the economic recession.

The organic agricultural land in Europe increased at a compound annual growth rate of 7.5 per cent during the period 2000 to 2013. The area managed organically increased significantly in 2009, with a year- on-year growth rate of 10.8 per cent; however, the growth rates have declined marginally in the following years. During the period 2008 to 2013, the land under organic agriculture has risen at a compound annual growth rate of 6.7 per cent from 8.3 million ha to 11.5 million ha (Exhibit 3.15).

In the year 2013, nearly 11.5 million hectares of land in Europe was managed organically and this constituted 27 per cent of the global organic agricultural land. The organic agricultural land in Europe comprised 2.4 per cent of the aggregate agricultural land in Europe, while it constituted a share of 5.7 per cent of the total agricultural land in the European Union. In comparison to 2012, the agriculturally managed land in Europe has increased at a year-on-year growth rate of 2.7 per cent. According to the FiBL IFOAM survey, 17 per cent of the organic producers in the world are in Europe.

Exhibit 3.15:Organic Agricultural Land in Europe



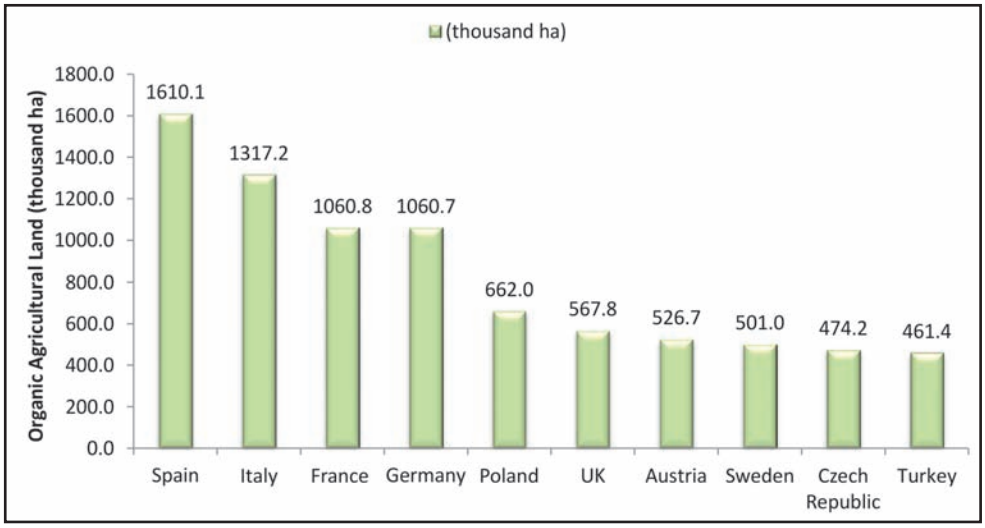
Source: FiBL & IFOAM (2015)

With 1.6 million hectares, Spain occupied around 14 per cent of the organic agricultural land in Europe in 2013. Italy accounted for 12 per cent of the organic agricultural land in Europe and the area under organic farming has risen at 12.8 per cent during 2013 compared to the previous year. France is the third in ranking and constitutes 9 per cent of the organically managed area followed closely by Germany and Poland (Exhibit 3.16).

Exhibit 3.17 represents the quantity of organically managed land as a percentage of the total agricultural land in the European countries. The leading country in this category is Liechtenstein with the highest share of 31 per cent, followed by Austria (19.5 per cent), Sweden (16.3 per cent) and Estonia (16 per cent).

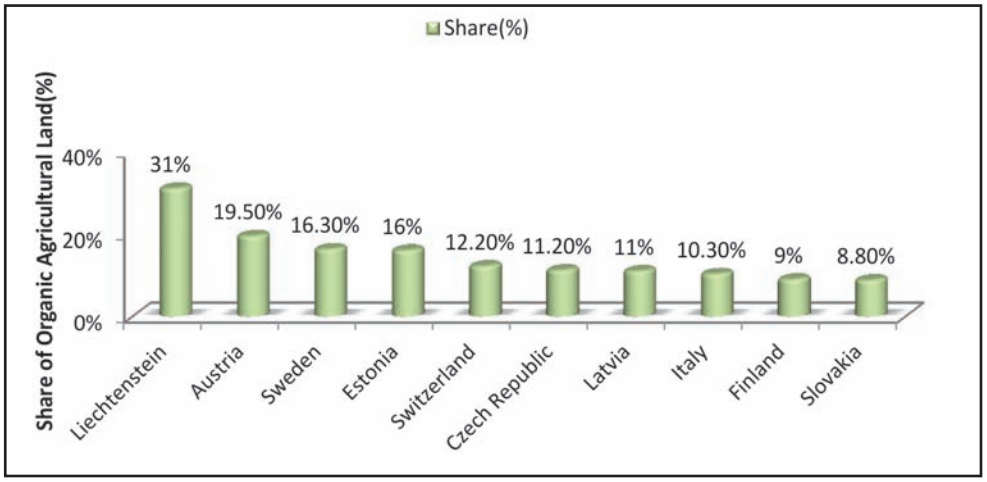
Exhibit 3.18 presents the development of the European organic market over the years. The organic market in Europe, in 2013, was worth Euro 24.3 billion while the organic market in the European Union was worth Euro 22.2 billion during the same year. The market for organic products in Europe and in the European Union has increased at a compound annual growth rate of 7.4 per cent and 6.9 per cent, respectively, during the period 2008 to 2013.

Exhibit 3.16: Top 10 Countries with Largest Organic Agricultural Land in Europe, 2013



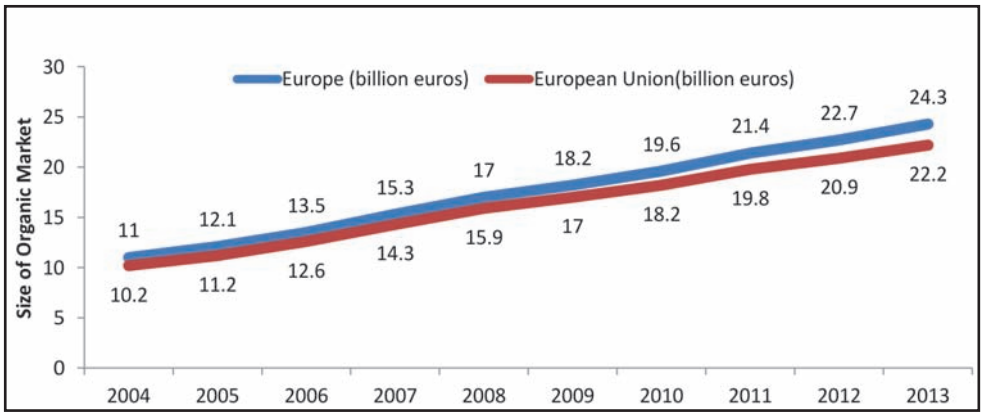
Source: FiBL & IFOAM (2015)

Exhibit 3.17: Top 10 Countries with the Highest Share of Organic Agricultural Land in Europe (%), 2013



Source: World of Organic Agriculture

Exhibit 3.18: Organic Market in Europe and the European Union



Source: World of Organic Agriculture

Germany continues to be the leading market for organic products in Europe with retail sales worth 7.6 billion Euros in 2013. The second major market for organic products in Europe is France with sales worth Euro 4.4 billion, followed by the UK, where the organic sales in 2013 aggregated to 2.1 billion Euros. The organic product sales are primarily from the Northern European countries. The Southern European countries have a smaller market for organic products and have displayed sluggish growth rates during this period. The Central and Eastern European countries are becoming significant exporters of organic foods with internal markets developing considerably in countries like Czech Republic, Poland and Hungary.

The organic market in Denmark has increased at a compound annual growth rate of 3.0 per cent during the period 2009 to 2013, as the value of sales increased from Euro 0.8 billion in 2009 to Euro 0.9 billion in 2013. The Irish organic market has exhibited stagnation while in Sweden the organic market has shown a marginal growth of 9.3 per cent during the four year period of 2009 to 2013. The organic market in Finland, Norway and Switzerland has revealed significant growth rate as the value of the market has increased at a compound annual growth rate of 30.1 per cent, 18.4 per cent and 14.2 per cent, respectively, during the period 2009 to 2013.

The Greek organic market has not displayed a significant trend of expansion, as the value of sales has increased from Euro 58 million in 2009 to Euro 60 million only in 2013. The organic market in the Netherlands has been presenting constant growth as the value of sales increased at a growth rate of 7.5 per cent during the period 2009 to 2013.

The organic market in UK had been displaying impacts of the economic recession since 2009, continuing till 2011; however, in 2012 signs of recovery have been observed. The value of the UK organic market in 2013 is worth Euro 2.1 billion occupying 8.6 per cent of the market share among the European markets. The Italian organic market has been growing at a compound annual growth rate of 7.5 per cent during the period 2009 to 2013; however, its share in the European organic market decreased from 11 per cent in 2007 to 8.3 per cent in 2013.

Exhibit 3.19 displays the share of organic sales as a percentage of the total retail food sales (excluding catering) in the European countries.

Denmark has the highest share of organic sales to total food sales of around 8 per cent, followed by Switzerland and Austria.

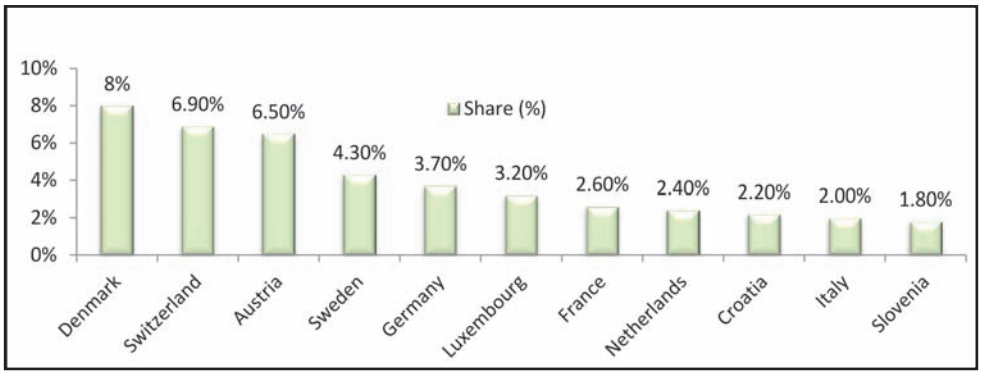
Sweden with sales worth Euro 1 billion in 2013 had a share of 4.3 per cent as a percentage of the aggregate retail food sales.

Table 3.7: Top 10 Organic Markets in Europe

Country	2009	2010	2011	2012	2013	CAGR
	Billion Euros					
Germany	5.8	6.0	6.6	7.0	7.6	7.0
France	3.0	3.4	3.8	4.0	4.4	10.0
UK	2.1	2.0	1.9	2.0	2.1	0.0
Italy	1.5	1.6	1.7	1.9	2.0	7.5
Switzerland	1.0	1.2	1.4	1.5	1.7	14.2
Austria	0.9	1.0	1.1	1.1	1.1	5.1
Sweden	0.7	0.8	0.9	0.9	1.0	9.3
Spain	0.9	0.9	1.0	1.0	1	2.7
Denmark	0.8	0.8	0.9	0.9	0.9	3.0
Netherlands	0.6	0.7	0.8	0.8	0.8	7.5

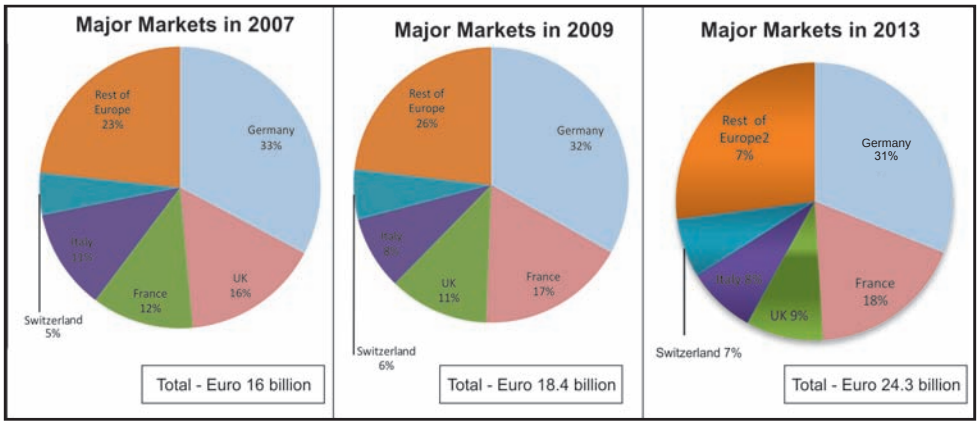
Source: World of Organic Agriculture

Exhibit 3.19: Share of Organic Products in Total Retail Food Sales in Europe (2013)



Source: World of Organic Agriculture

Exhibit 3.20: Top 5 Organic Markets in Europe



Source: World of Organic Agriculture

According to a survey carried out by the Organic Data Network, in 2013, fruits and vegetables are the potential organic products in demand in Europe. A burgeoning demand for fruits and vegetables has been witnessed in Italy, Ireland, Norway, Sweden and Germany. There is an enriched demand for fresh produce in the organic markets as compared to the conventional market in Europe. Many countries, particularly the Northern European countries, have displayed rapidly growing demand for organic animal products, such as meat and meat based products, and milk and dairy items.

According to the Survey, there was considerable market share for organic meat and meat products in Belgium, the Netherlands, Finland and France. However, in many counties the meat based market is not developed due to lack of production capacities and high price premiums. There exists a market for organic wine in France and Croatia. A boost has been observed in the demand for organic milled cereal products in Czech Republic, Finland and Norway and the products are sold through the supermarket channels. Organic bread and bakery products are also highly demanded in Switzerland, the Netherlands, France, Sweden, Finland and Germany.

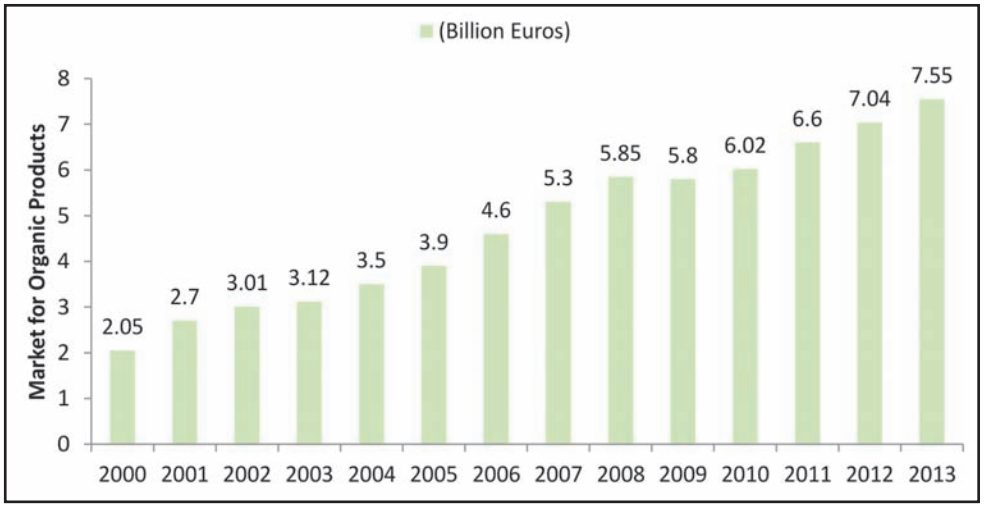
Germany

Germany is the largest market for organic products in Europe accounting for 31.3 per cent of the share in the European market in 2013. According to a report by USDA, Germany is the

second largest organic food market globally and ranks second only to the United States. The value of sales of organic products in Germany, in 2013, stood at Euro 7.55 billion, and this accounted for 4 per cent of the total food sales in Germany. As can be observed in the Exhibit 3.21 below, the sales of organic products has increased at a CAGR of 10.5 per cent as the value of sales rose from Euro 2.05 billion in 2000 to Euro 7.55 billion in 2013. The year-on-year growth rates, however, have declined over the years from 31.7 per cent in 2001 to 7.2 per cent in 2013. The sale of organic products in Germany declined by 0.9 per cent in 2009 due to the economic downturn, and has been picking up since 2010.

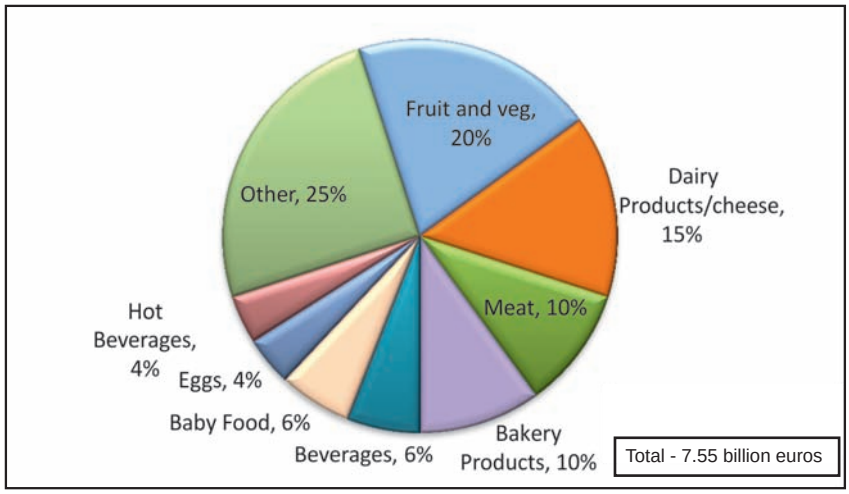
Exhibit 3.22 represents the product-wise share of organic food sales in Germany. With a share of 20 per cent in the aggregate food sales, in 2013, organic fruits and vegetables were the major item in demand in Germany. Dairy Products and cheese accounted for 15 per cent share in the organic food sales in 2013. The other potential organic items with significant demand in Germany are bakery products, meat and beverages.

Exhibit 3.21: Domestic Market for Organic Products in Germany



Source: Data from 2000-2009; Hamm and Rippin 2009
Data for 2010, 2011 and 2012 Arbeitskreis Biomarkt based on GfK, Nielsen, BioVista and Klaus Braun
2013 data from World of organic agriculture (2015)

Exhibit 3.22: Organic Food Sales in Germany, 2013



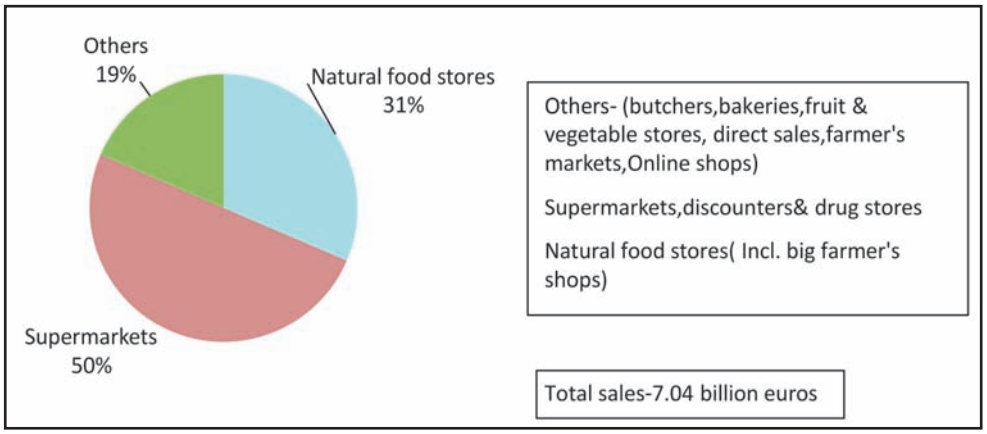
Source: AMI Analysis 2014 based on Gfk household Panel data

Sales Channels for Organic Products in Germany

According to a study by the Agricultural Market Information Service, the three notable channels for sales of organic foods in Germany are mainly natural food stores, supermarkets and discounters. Other channels include butchers, bakeries, and fruit and vegetable stores. Supermarkets, discounters and drug stores are the most significant channels for the sale of organic foods with a share of 50 per cent in the organic food sales, followed by natural food stores with a share of 31 per cent in 2012.

Germany is heavily dependent on imports of organic foods as the demand has been rising while the production levels are falling. Organic cereals imported by Germany are wheat, maize, spelt, rye, barley, rice and oats. Around 15 per cent of the organic cereals available in the German market were imported, while the other 85 per cent were produced in the country during the year 2009-10. Imports of organic cereals in Germany have risen from 114,000 metric tons in 2009-10 to nearly 156,000 metric tons in 2012-13, accounting for 17 per cent of the organic cereals in the country. A majority of the imports are

Exhibit 3.23: Sales Channels for Organic Products in Germany, 2012



Source: Arbeitskreis Biomarkt based on GfK, Nielsen and Klaus Braun

sourced from Romania, Ukraine and Hungary. Organic rice in Germany is mostly imported from Italy, India and Pakistan. Approximately, 42 per cent of the organic maize in the German market was imported from Romania, Italy, Slovakia and Hungary.

As for protein crops, around 24 per cent of all organic protein crops in the country were imported during 2009-10. Germany depends on imports for the supply of organic oilseeds with imports accounting for about 76 per cent of the total availability of oilseeds in the market. Germany imports organic soybean from Italy, Romania, Kazakhstan, India, Argentina and Brazil. Carrots are the most demanded organic vegetable in Germany. In 2009-10, about 14 per cent of the carrots growing area in Germany was allocated for the production of organic carrots. Other potential organic vegetables in demand in Germany with high import levels are tomatoes and sweet peppers.

Organic apples and organic bananas are the most potential organic fruits in demand in Germany. Imports are the only source of supply of organic bananas in Germany. Leading suppliers of organic bananas to Germany are Colombia, Ecuador and Dominican Republic.

Due to an upsurge in the demand for animal products, such as pork and eggs, the demand for organic animal feed and soybean has also been rising.

Table 3.8: German Production and Imports of Organic Products (2009-10)

Product	Imports in metric tons	German production in metric tons	Share of Imports in Production (per cent)	Main countries of origin for imports
Cereals	114,000	667,000	15	
-Wheat	70,000	185,000	27	Italy, Kazakhstan, Romania, Hungary, Russai, Slovakia, (Ukraine)
-Maize	18,000	25,000	42	Romania, Italy,Slovakia,Hungary
-Spelt	10,000	80,000	11	Italy, Slovakia, Hungary
-Rye	8,000	200,000	4	Lithuania, Austria, Latvia, Russia
-Barley	11,300	89,000	11	Russia
-Rice	3,500		100	Italy, India, Pakistan
-Oats	1,600	82,000	2	Finland,Denmark,Sweden
Protein Crops	14,600	45,000	24	
-Field beans	2,400	14,300	14	Lithuania, Romania
-Field peas	10,000	16,400	38	Lithuania, Russia, Slovakia
-Lupines	1,000	13,700	7	Lithuania, Poland
-Lentils	340		100	Canada, Turkey
Oil seeds	41,640	13,000	76	
-Soybean	19,000	1,400	93	Italy,Romania,Kazakhstan, India, Argentina, Brazil
-Sunflower kernels	11,000	2,050	84	Romania, Brazil, Argentina, China
-Linseed	5,200	300	95	Canada,Argentina,China, Russia
-Sesame	640		100	Egypt, Uganda
-Rapeseed	5,000	10,000	33	Romania,Russia,Kazzkhstan,Hungary
Potatoes	38,000	100,000	28	Austria ,Israel, Egypt, The Netherlands
Vegetables				
-Carrots	47,000	50,000	48	Netherlands, Israel, Italy
-Tomatoes	18,000	4,000	82	Spain, Netherlands, Italy, Israel
-Sweet peppers	5,900	600	91	Spain, Israel, The Netherlands
-Onions	4,500	8,500	35	Netherlands, Argentina, Egypt
-Cucumbers	4,600	4,500	51	Spain, The Netherlands, Bulgaria
Fruits				
-Strawberries	1100	2280	33	Spain, Italy
-Apples	26,000	26,000	50	Italy, Austria, Argentina, New Zealand
-Bananas	72,000		100	Colombia, Ecuador, Dom. Rep
Pork	7,000	24,400	22	The Netherlands, Austria, Denmark, Italy
Sugar	2,500	49,000	5	Brazil, Paraguay, Ecuador
Eggs(Million pieces)	97	383	20	The Netherlands, Italy
Milk	97,000	545,500	15	Denmark, Austria

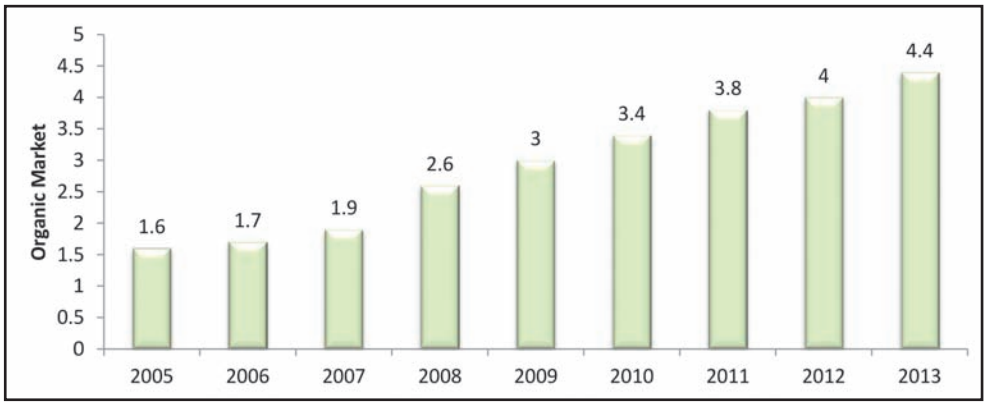
Source: FiBL & IFOAM

France

The organic market in France has been steadily rising over the years and a similar trend is expected in the future. The organic market in France, in 2013, was valued at Euro 4.4 billion, which represents an increase of approximately 10 per cent from the previous year. The French organic market has expanded at a compound annual growth rate of 13.5 per cent during the period 2005 to 2013, as the value of sales increased from Euro 1.6 billion to Euro 4.4 billion. However, during the period 2008 to 2013, value of sales ascended at a compound annual growth rate of 11.1 per cent as an impact of the economic recession. The organic food market in France was approximately 2 per cent of the total food market in 2011.

In the year 2013, the organic area in France was 1.1 million hectares representing a growth of 2.7 per cent in comparison to the organic area in 2012.The organic land in 2013 constituted approximately 3.9 per cent of the total agricultural land. The share of the market size in France in relation to the rest of the economies in Europe has been increasing from 12 per cent in 2007 to 17.4 per cent in 2009, and then further to 18.1 per cent in 2013.

Exhibit 3.24: Organic Market in France

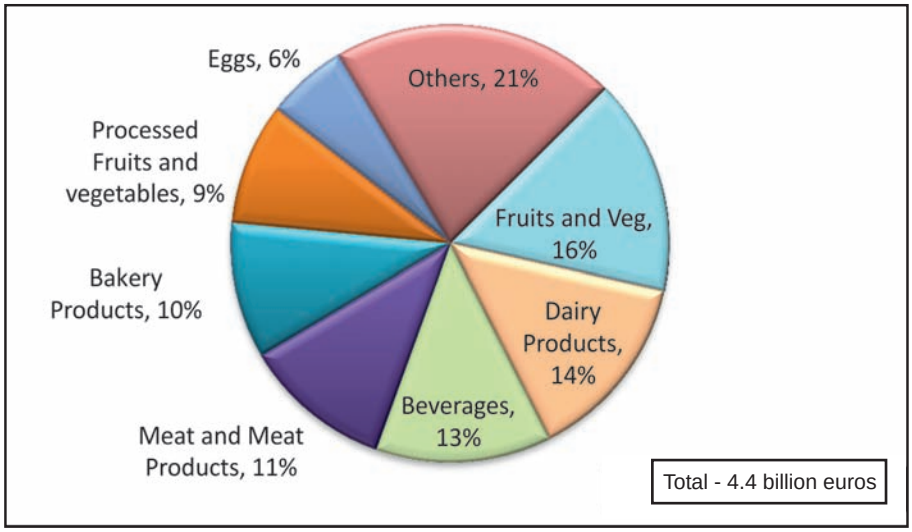


Source: Agence Bio 2010 and previous editions of the Agence Bio yearbook
FiBL-AMI Survey

Fruits and vegetables occupy a significant position in the French organic market accounting for nearly 16 per cent share in the market. The other major sectors in the organic market are milk and dairy, followed by beverages, meat, bakery products and processed fruits and vegetables. The environmental impact, nutrition and health benefits are the main drivers behind purchase of organic food by French consumers. In recent years, the demand for processed food and groceries, such as pasta and cereals have been exhibiting strong growth trends, as that of food supplements, such as eggs and fish products.

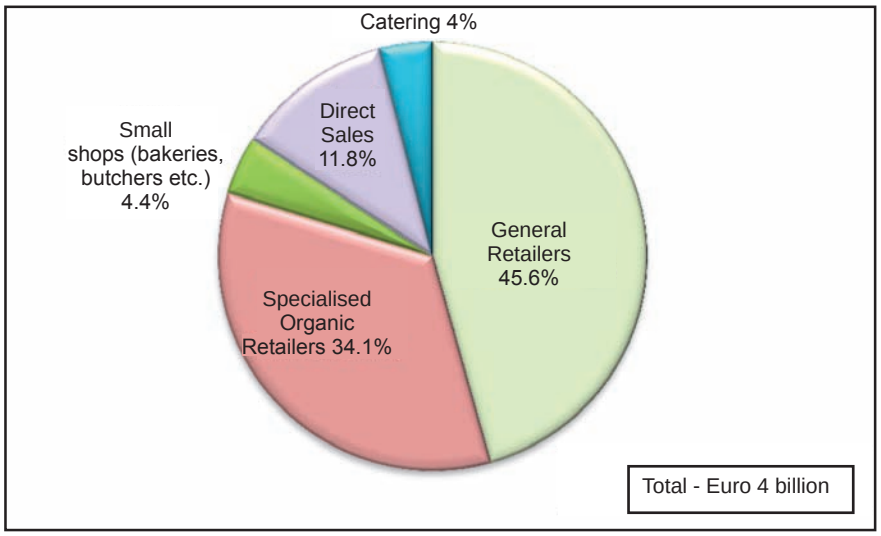
Exhibit 3.26 provides the sales channels for the organic foods in France in 2012, with general retailers occupying 45.6 per cent of the share. The other notable channels are specialised retailers, small shops such as butchers and bakeries, direct sales and catering. The products sold in the organic speciality stores are groceries, dairy, fruits, vegetables and bread. The conventional supermarkets and discounters also sell similar set of products, while in the case of direct sales from producers to consumers, the food items traded are generally fruits and vegetables and wine.

Exhibit 3.25: Sales of Organic Products in France, 2013



Source: Agence Bio

Exhibit 3.26: Organic Sales Channels in France, 2012



Source: FiBL

Table 3.9 presents the import of organic foods in France. The market for organic foods in France was worth Euro 3.04 billion in 2009 and constituted 38 per cent of total domestic market of organic products. About a quarter of the organic milk and dairy products are imported into France. A substantial portion of the smoked fish in 2009 was imported into France. The imports of organic fruits and vegetables in 2009 were of the value of Euro 339.95 million, comprising around 65 per cent of the market share. The fresh as well as dry fruits and vegetables were imported by Morocco, Peru, Ecuador, Dominican Republic and Turkey.

However, the domestic production of organic foods in France is on the rise. More or less, all organic products in the live stock and wine sector are of French origin. Approximately 75 per cent of the organic products consumed in France are produced domestically. The share of imports in the total organic food is exhibiting a persistent decline as per FiBL & IFOAM. Imported organic foods as a percentage of the total organic foods in the French market declined from 38 per cent in 2009 to 25 per cent in 2012.

The exports of organic foods produced in France have risen by 61 per cent between 2011 and 2012, from Euro 192 million to Euro 309 million at the wholesale stage.

Table 3.9: Organic Products Imports in France (2009)

Organic products (2009)	Market Size	Imports	Share of imports
	Euro Million		%
Beef	136	1.36	1%
Pork	35	2.8	8%
Lamb	30	0	0%
Poultry	93	2.79	3%
Eggs	196	1.96	1%
Milk	240	60	25%
Dairy products	235	58.75	25%
Cured meat	50	15	30%
Catering	80	32	40%
Smoked sea fish	25	23	92%
Food products, various sweetened	315	214.2	68%
Food products , various salted	272	144.16	53%
Wines	298	2.96	1%
Vegetable drinks	57	44.46	78%
Fruits and vegetable juices	77	57.75	75%
Other drinks	6	1.2	20%
Frozen foods	34	22.75	65%
Bread/flour	340	136	40%
Fruits and vegetables	523	339.95	65%
Total	**3041**	**1155.58**	**38%**

Source: Agence Bio 2010

United Kingdom

As per the World of Organic Agriculture 2015, the United Kingdom is the third largest organic market in Europe and represented 8.6 per cent of the aggregate organic sales in Europe during the year 2013. According to The Soil Association Organic Market Report 2014, the organic market in the United Kingdom has displayed growth and was worth Euro 2.1 billion during the year 2013 and it is expected that this trend would continue in 2014.

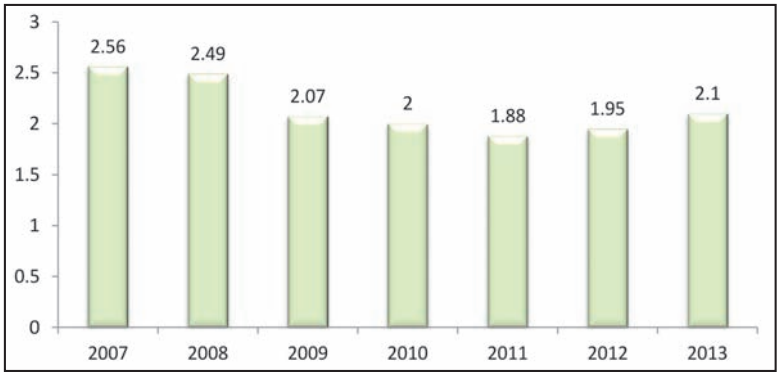
The organic market in the United Kingdom was valued at Euro 2.1 billion during the year 2013, and it grew at a year-on-year growth rate of 7.7 per cent during this period. During the period 2007 to 2013, the organic products sales in the United Kingdom has declined at a compound annual rate of 3.2 per cent, down from Euro 2.56 billion in 2007 to Euro 2.1 billion in 2013 due to the economic recession and decrease in organic production.

In the year 2013, the area under organic management in the United Kingdom was approximately 0.57 million hectares and it constituted nearly 3.3 per cent of the total agricultural land. The organic area in the United Kingdom reduced by 3.8 per cent during the year 2013, as the area under organic acreage fell by 0.02 million hectares.

Product-wise Sales

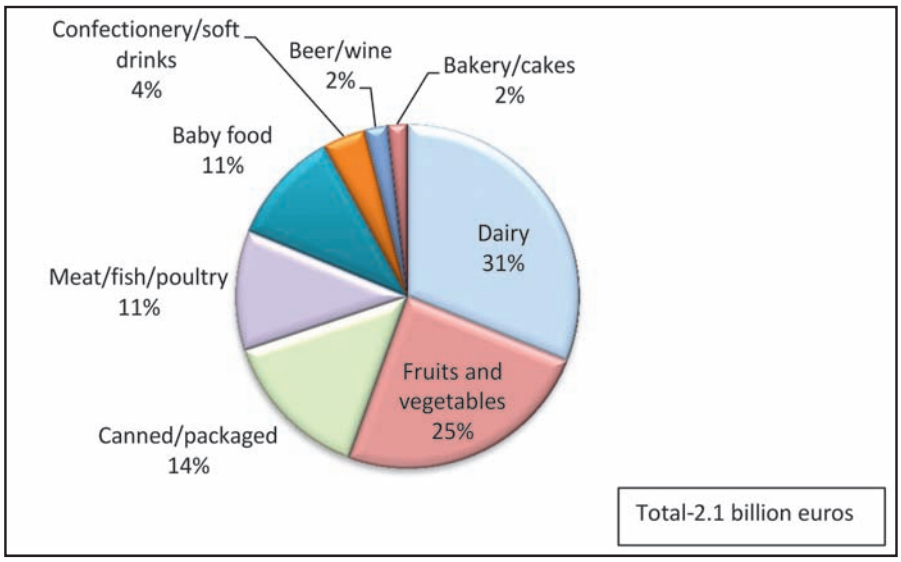
Exhibit 3.28 represents the sales of organic products in the United Kingdom, and dairy represents the major product category with 31 per cent share in the aggregate sales. A major reason for the rise in organic sales has been the boost in the organic milk sales as it is highly in

Exhibit 3.27: Organic Sales in the UK



Source: FiBL& IFOAM

Exhibit 3.28: Sales of Organic Products in the UK, 2013



Source: Soil Association, Organic Market Report 2014

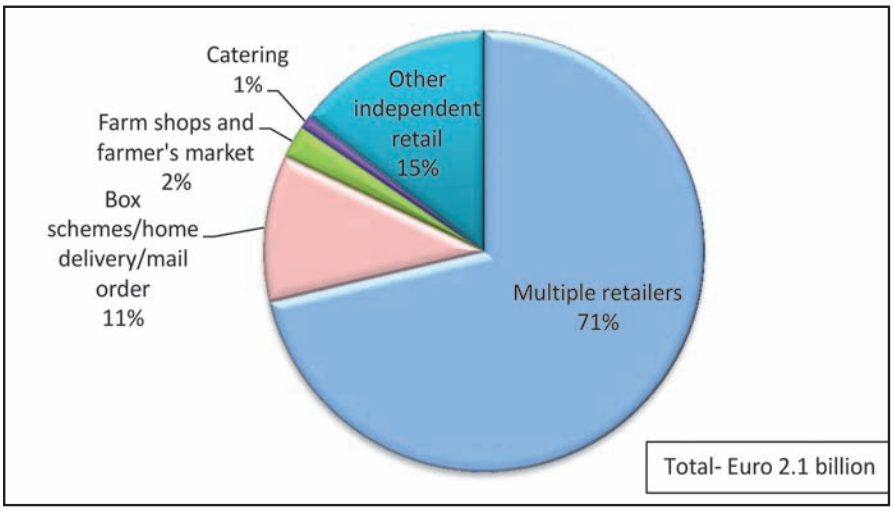
demand. As per the report by The Soil Association, twenty two pence in every pound spent in supermarkets on organic products in 2013 was used for purchasing organic milk or yoghurt. The other significant categories of organic foods include fruits and vegetables, canned/ packaged foods, meat products, baby foods, confectionery products, beer/ wine and bakery products.

Distribution and Sales Channels

Sales done by multiple retailers occupied the largest share in 2013, and Sainsbury's being the largest organic retailer in the UK constituted 29 per cent of the market share. Online sales by grocery store, Ocado, the fourth largest organic retailer in the UK has also displayed a rise in the sales value. As per the report by Soil Association, UK's leading organic purchases are bananas, blue berries, apples, carrots, large fruit and vegetable boxes, semi skimmed milk and chicken.

The other sales channels include box schemes, online purchases, health and whole food shops, home delivery specialists, selective urban retailers and farmers' markets. However, the revenue earned by the farmers markets on sale of organic products had decelerated due to poor weather conditions.

Exhibit 3.29: Organic Sales Channels in the UK, 2013



Source: Soil Association, Organic Market Report 2014

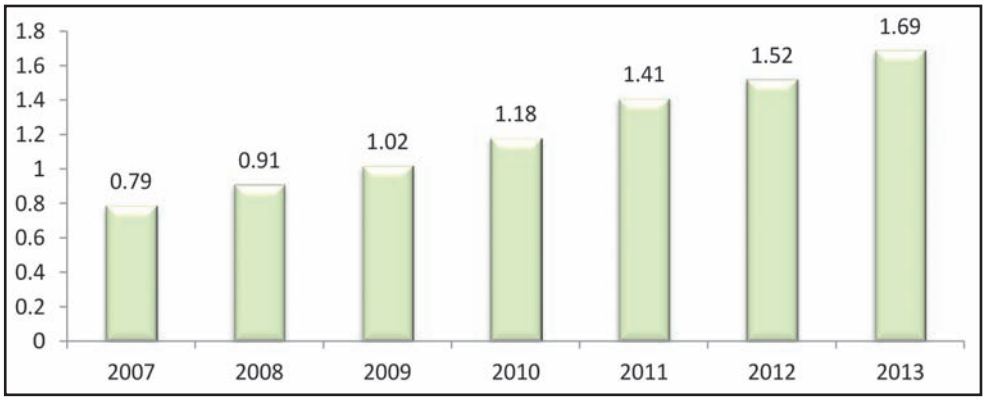
Switzerland

As per the FiBL and IFOAM, Switzerland had the highest per capita consumption of organic foods globally, which amounted to approximately Euro 210 per capita during the year 2013. Moreover, in 2013, among the European countries, Switzerland has the second largest organic market share constituting 6.9 per cent. The size of the organic market in Switzerland has been displaying a persistent rise as can be noted in the Exhibit 3.30. As reported by Bio Suisse, the Swiss organic market size was nearly Euro 1.69 billion in 2013, and registered a year-on-year growth rate of 11 per cent. During the period 2007 to 2013, the Swiss organic sales increased at a compound annual growth rate of 13.5 per cent, from Euro 0.79 billion in 2007 to Euro 1.69 billion in 2013. According to the study by FiBL and IFOAM, Swizerland ranked fifth in the category of market size in Europe.

According to FiBL and IFOAM, the area in Switzerland that was organically managed aggregated up to 128.1 thousand ha during 2013. With a share of about 12.2 per cent of organic agricultural land, Switzerland had the sixth largest share of organic agricultural land globally in 2013.

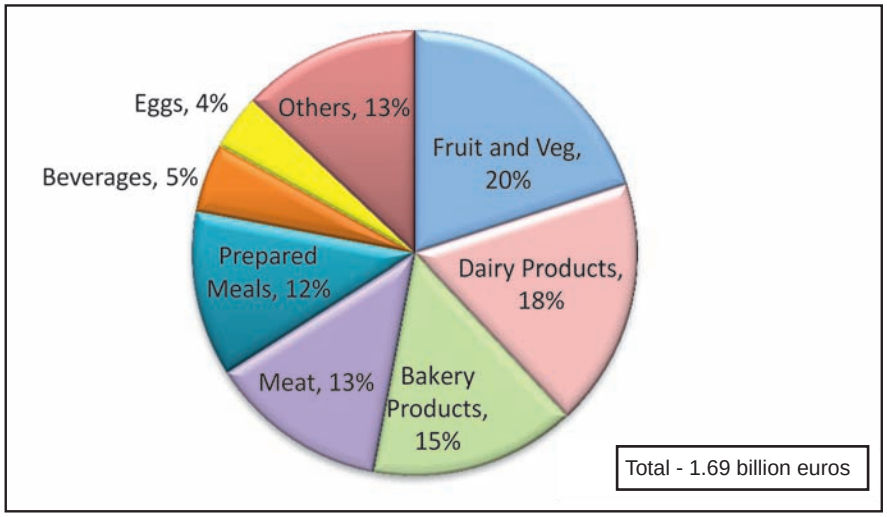
Exhibit 3.31 displays the sale of organic foods in Switzerland. During the year 2013, fruits and vegetables

Exhibit 3.30: Organic Sales in Switzerland (Euro billion)



Source: FiBL& IFOAM

Exhibit 3.31: Sales of Organic Products in Switzerland,2013



Source: Bio Suisse 2014

had a share of 20% in the organic market which was closely followed by dairy products. The other items largely demanded by consumers in Switzerland is bakery products, meat, prepared meals, beverages and eggs.

As per the recent study by AC Nielsen (excluding organic specialized retailers, direct marketing, and discount stores), the Swiss organic market reached a market share of 6.9 per cent during the year 2013 in comparison to the market share of 5.2 per cent during the year 2009. The study also reported that all products registered an increase in sales value in the year 2013, in addition to the market shares. The fresh produce sales had a market share of 9.1 per cent. The items with considerable market shares were eggs, bread and milk. The highest growth rates were reported in the sales of meat and fruits, growing at 16 per cent each in the year 2013.

The Swiss organic food market is mainly dominated by the two chains of supermarkets Coop and Migros, which together accounted for 73 per cent of the market share in the country, in the year 2009 and this share increased by 2 per cent in 2013. The other sales channels include specialised organic shops, direct marketing, small retailers, department stores, bakers and butchers and discounters.

Table 3.10: Sales Channels of Organic Products in Switzerland (2009)

	Turnover	Growth	Market Share
	CHF Million	per cent	per cent
Coop	764	5.8	49.4
Migros	365	6	23.6
Specialised organic shops	229	1.5	14.8
Direct marketing	80	9.6	5.2
Small retail	16	2.3	1
Departmental stores, butcheries, bakeries	52	-7.9	3.4
Discounters	40	471.4	2.6
Total	1546	7	100

Source: The Organic Market in Europe, FiBL

ORGANIC MARKET IN JAPAN

Organic foods constitute a small but surging portion of the Japanese market. According to the Organic Market Research Project (OMRP) Survey conducted by IFOAM Japan, the organic foods sales constituted 1 per cent of the Japanese foods market, and were valued at approximately US$ 1.3 billion to US$ 1.4 billion in 2010. The market for natural foods was estimated at around US$ 6 billion, which is nearly five times the size of the organic market. According to the Japanese Ministry of Agriculture, Forest and Fisheries (MAFF), the organic share in domestically grown agricultural foods was only 0.24 per cent in 2011; however, the share was higher as compared to the share in the previous decade (0.10 per cent in 2001).

Currently, along with small and specialized shops, chain stores and super markets also sell variety of organic products in Japan. Some supermarkets, such as *Kinokuniya* have more than 200 domestic and imported organic products available in their stores. According to industry estimates, in 2012, organic sales in Japan witnessed an increase of around 12 per cent.

The organic market in Japan is still in a maturing stage, as there is restricted supply of organic foods in Japan. The supply of organic foods in Japanese market has been fluctuating and uncertain. The price of organic ingredients is also higher than their conventional counterparts.

However, the awareness and demand for safe and healthy organic products is rising in Japan. With increasing awareness about organic foods, demand for “Yuuki Shokuhin” or organic foods is projected to rise in Japan.

Japan depends on imports for around 60 per cent of its organic food demand, which indicates that the growth potential of the organic market is significant. Additionally, the occurrence of incidents, such as accidents in nuclear power plants resulting in radiation and ruination of plentiful agricultural land may also drive the demand and appreciation of prices for organic foods in Japan.

Organic agricultural land in Japan

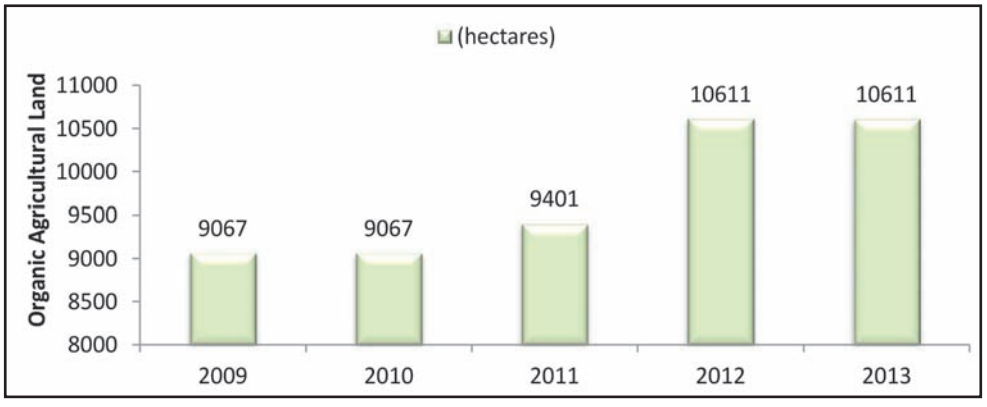
Exhibit 3.32 presents the area under organic agriculture in Japan. There has been no growth in organic agricultural land in the year 2010; however, a

growth of 3.7 per cent was witnessed in the year 2011. The most significant escalation in the organic agricultural land occurred in 2012 with a growth of approximately 13 per cent. There has been a significant increase of around 1,210 hectares in 2012 over the 2011 estimates. Organic agricultural land in Japan during the year 2013 was stable at 10611 hectares. The area under organic agriculture in Japan has increased at a compound annual growth rate of 4 per cent during the period 2009 to 2013. The organic agricultural land, as a percentage of aggregate agricultural land was 0.27 per cent in 2013.

The domestic production of JAS certified agricultural products increased at a CAGR of 5.6 per cent during the period 2001 to 2011. Vegetables have persistently been the leading item of organic production in Japan, and its share in the overall production has consistently risen. The production of organic vegetables has increased at a CAGR of 7.4 per cent during the ten year period 2001 to 2011. The share of production of organic vegetables in the overall production, has displayed a growth from approximately 58 per cent in 2001 to around 69 per cent in 2011. The organic vegetables produced in Japan include radishes, carrots, cabbage, spinach, egg plant and tomatoes.

The domestic production of organic fruits in Japan has grown at a CAGR of 5 per cent during the period 2001 to 2011. As far as the share of organic fruits in the aggregate production is concerned, it has exhibited only marginal changes over the years, from 4.1 per cent share in the aggregate organic production in 2001

Exhibit 3.32: Organic Agricultural land in Japan

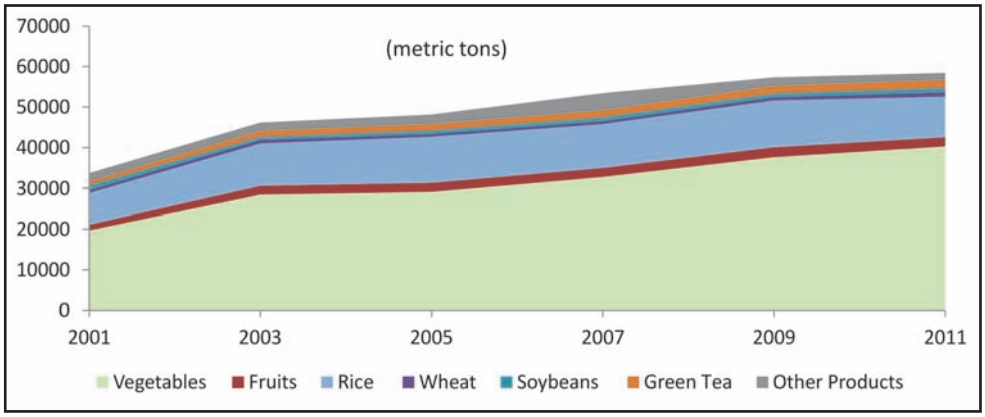


Source: FiBL and IFOAM

to 3.9 per cent in 2011. Organic rice is another significant item of production in Japan, and the production has risen at a CAGR of 2.5 per cent from 7.8 thousand metric tons in 2001 to 10 thousand metric tons in 2011. However, the share of organic rice in domestically produced JAS Organically Certified products has been displaying a declining trend from 23 per cent in 2001 to 20 per cent in 2007, and further to 17 per cent, during the year 2011. The production of wheat, which accounted for 1.8 per cent of the aggregate production of organic agricultural products in Japan, has expanded at a CAGR of 4.1 per cent, during the period 2001 to 2011. The production of organic soybean has shown a sustained decline over the years; however, the production levels improved in 2011. The cultivation of organic green tea has increased at a CAGR of 7.9 per cent during the period 2001 to 2011, and its share in the aggregate production rose from 2.7 per cent to 3.4 per cent, during the same period.

Exhibit 3.34 presents the share of organic agricultural production in the total agricultural production in Japan. The share of organic production has displayed a modest growth over the years as it increased from 0.1 per cent in 2001 to 0.24 per cent of the total agricultural production in 2011. However, Ministry of Agriculture, Forestry and Fisheries (MAFF), the Government of Japan, has been encouraging organic farming in Japan by way of policy implementations at central and local government levels, directed towards

Exhibit 3.33: Trend in Domestic Production of JAS Certified Organic Agricultural Products



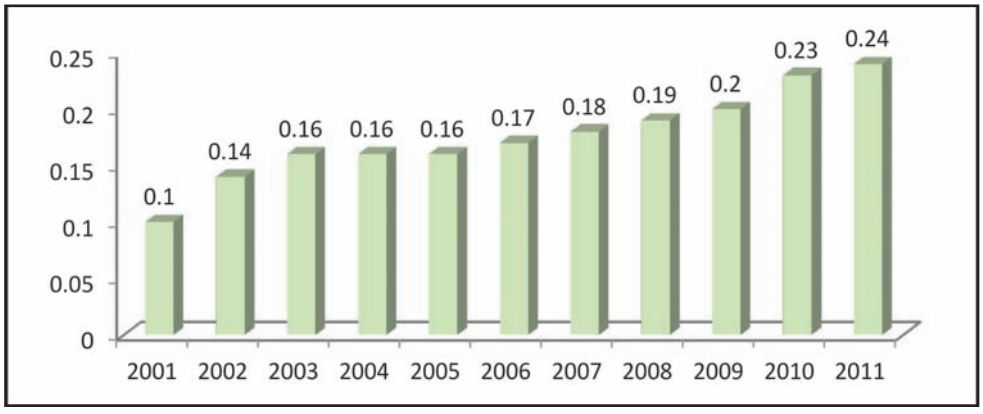
Source: MAFF

promotion of production, distribution and consumption of organic food products.

Organic soybean is the principal item of import among the organically certified agricultural products in Japan, and constituted around 39.6 per cent in the aggregate imports in 2011. The Japanese have a high preference to purchase organically grown soybeans, due to safety and health reasons. The import demand for this item has been rising as the local bean production declines, and the buyers are ready to pay a substantial price premium for it. Organic vegetables and organic fruits are the next major items of import with a share of 28.9 per cent and 19 per cent, respectively, in the aggregate imports in 2011. According to MAFF, the imported vegetables and fruits in Japan include carrots, onions, broccoli, taros, garlic and ginger.

The domestic production of JAS certified organic agricultural processed products has declined at a CAGR of 8.0 per cent during the period 2005 to 2011. As can be observed in the Exhibit 3.36, the share of vegetables in the aggregate organic agricultural production has displayed a marginal rise from 3 per cent in 2005 to 5 per cent in 2011. The production of processed vegetables has grown at a CAGR of 3.2 per cent during the period 2005 to 2011. The production of organic fruits declined at a CAGR of 9.7 per cent during the period 2005 to 2011, and its share in aggregate production also declined

Exhibit 3.34: Share of Organic Agricultural Production in Total Agricultural Production in Japan (percentage)

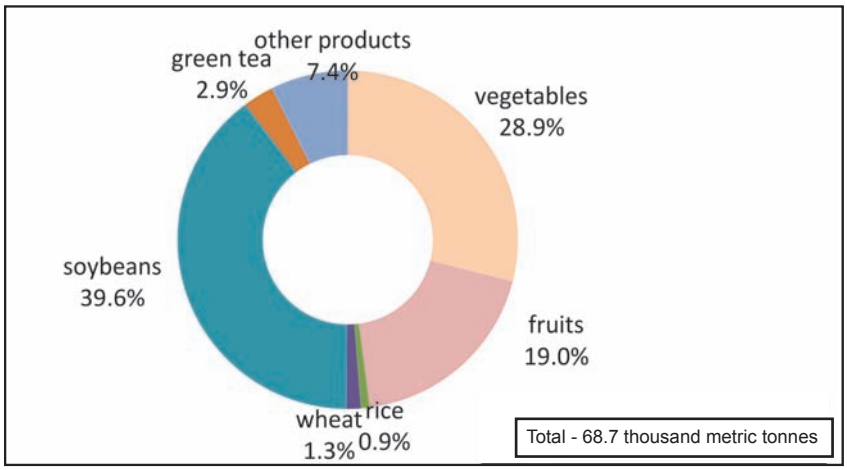


Source: MAFF

correspondingly. The production of organically processed soy products has consistently been the leading item of production. The rising demand for tofu, natto, miso and soy sauce has led to this increase. However, the share of soy products in the aggregate organically processed products has declined from 77 per cent in 2005 to 70 per cent in 2011.

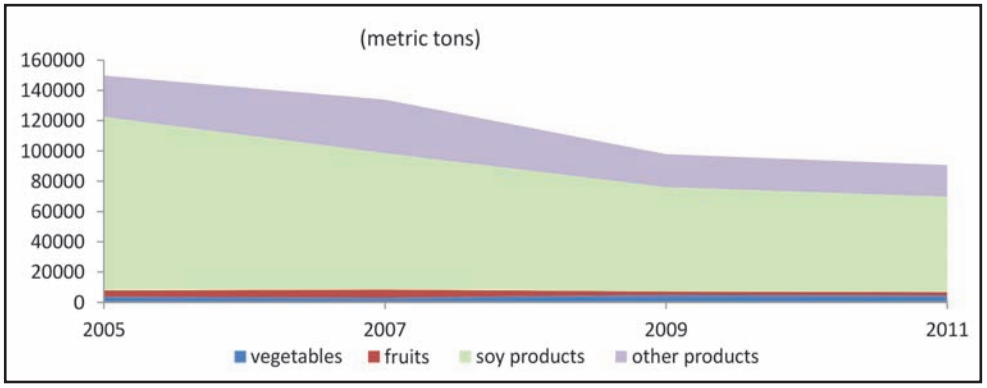
The total imports of JAS certified organic agricultural processed products, certified outside of Japan, amounted to approximately 49.5 thousand metric tonnes, in volume terms, during the year 2011. The share of vegetables (58.9 per cent) in the aggregate imports was the highest, followed by fruits (7.9 per cent) and soy products (3.4 per cent).

Exhibit 3.35: Import of JAS Certified Organic Agricultural Products, Certified Outside of Japan (2011)



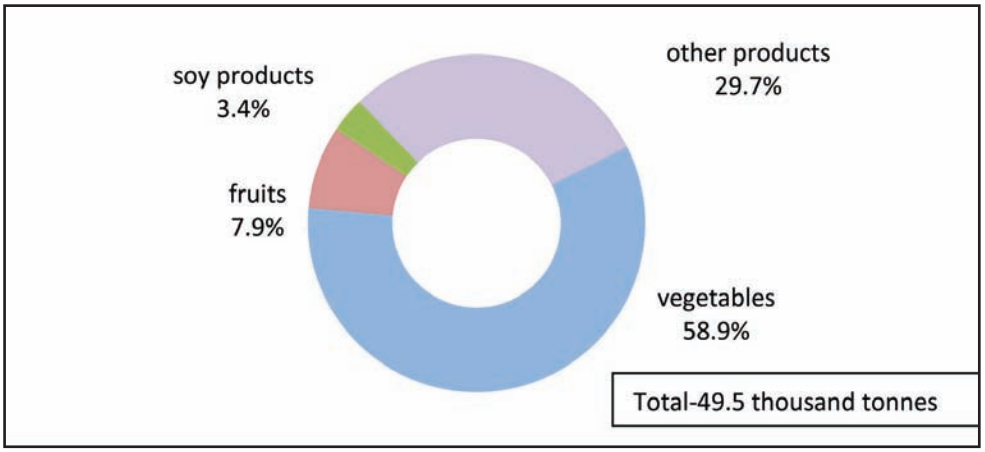
Source: MAFF

Exhibit 3.36: Trends in Production of JAS Certified Organic Agricultural Processed Food Products in Japan



Source: MAFF

Exhibit 3.37: Import of JAS Certified Organic Agricultural Processed Products, Certified Outside of Japan (2011)



Source: MAFF

4. ORGANIC STANDARDS AND REGULATIONS

ORGANIC CERTIFICATION IN THE UNITED STATES

Agricultural Marketing Services of USDA implemented the National Organic Program (NOP) in 2002 with a view to encourage organic farming and instil consumer assurance. The NOP develops the laws that regulate the creation, production, handling, labelling, trade and enforcement of all USDA organic products. USDA harmonized the differing standards among the various States and private certification organizations that had emerged by the late 1990's.

USDA requires organic farmers and food handlers to meet uniform organic standards, and make certification mandatory for operations with organic sales of over US$ 5,000. USDA has accredited approximately 50 US State and private certification programs and over 30 foreign programs. The certifying agencies review applications from farmers and processors for certification eligibility, and qualified inspectors conduct annual onsite inspection of organic operations.

Organic Certification and Accreditation

Organic certification verifies that the farm or handling facility located anywhere in the world compiles with the USDA organic regulations and allows the producers to sell, label and represent the products as organic. Presently, approximately 30,000 organic farms and processing facilities around the world are certified as complying to the USDA organic standards. Their certification is managed by certifying agencies located in the US and the world.

Organic Standards

The organic standards describe the specific requirements that must be verified by a USDA-accredited certifying agent before the products can be labelled USDA organic.

***Organic crops*:** The USDA organic seal verifies that irradiation, sewage sludge, synthetic fertilizers, prohibited pesticides, and genetically modified organisms were not used.

Organic livestock: The USDA organic seal verifies that producers met animal health and welfare standards, did not use antibiotics or growth hormones, used 100% organic feed, and provided animals with access to the outdoors.

Organic multi-ingredient foods: The USDA organic seal verifies that the product has 95% or more certified organic content. If the label claims that it was made with specified organic ingredients, it is confirmed that those specific ingredients are certified organic.

Accreditation to USDA Organic Standards

Accreditation authorizes private, foreign, or State entities to certify farms or processing facilities. Certifying agents are accredited by the USDA and are located throughout the United States and around the world. Certifying agents are responsible for ensuring that the USDA organic products meet or exceed all organic standards.

The farm or handling facility may be certified by a private, foreign, or State entity that has been accredited by the USDA. Certifying agents are responsible for ensuring that USDA organic products meet all organic standards. Certification provides the consumer, whether end-user or intermediate processor, the assurance of the organic product's integrity.

The USDA organic regulations recognize four categories of organic products:

- ***Crops:*** A plant that is grown to be harvested as food, livestock feed, fiber, or used to add nutrients to the field.

- ***Livestock:*** Animals that can be used for food or in the production of food, fiber or feed.

- ***Processed products:*** Items that have been handled and packaged or combined, processed and packaged.

- ***Wild crops:*** Plants from a growing site that is not cultivated.

Around 82 certifying agencies are currently USDA-accredited, and authorized to certify operations to the USDA organic standards. Of these 48 agencies are based in the United States itself, and 34 are based in foreign countries. Most certifying agencies are directly accredited by the USDA NOP. Twenty additional certifying agencies are authorized through recognition agreements between the United States and the foreign governments.

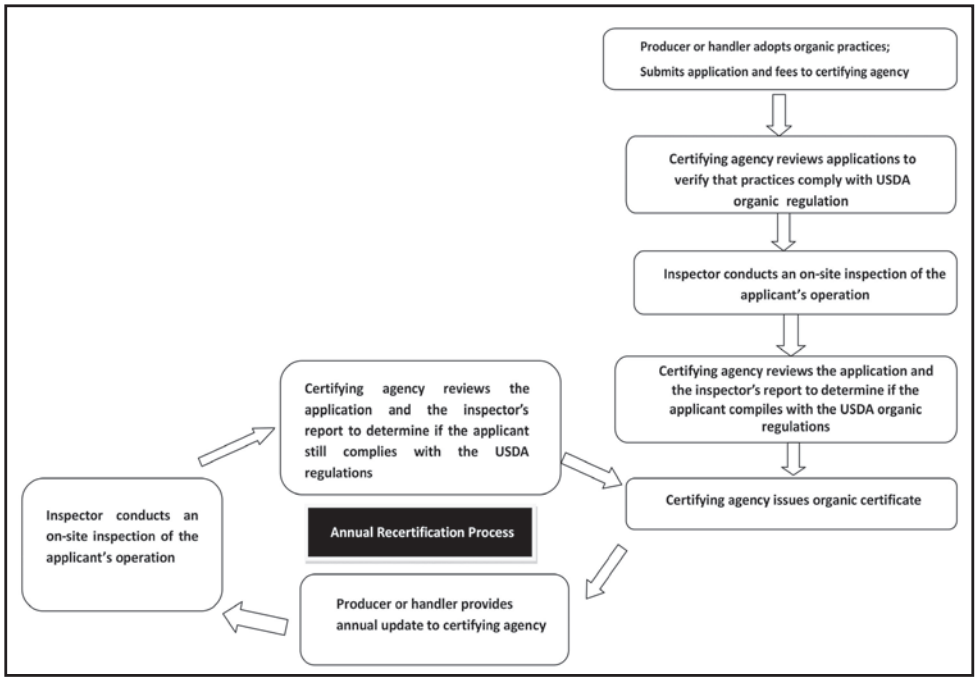
Transition Period

Any land used to produce raw organic commodities must not have had prohibited substances applied to it for the past three years. Until the thirty six month transition period is met the producer may not sell, label or represent the product as organic or use the USDA organic or certifying agent's seal. During this transition period USDA provides technical and financial assistance through its Environmental Quality Incentives Program (EQIP).

Organic Certification Cost

Actual certification costs or fees vary widely depending on the certifying agent and the size, type and complexity of the operations. Certification costs may range from a few hundred to several thousand dollars and ordinarily there is an application fee, annual renewal fee, assessment on annual production or sales and inspection fee. After the certification is done, the USDA Organic Certification Cost-Share Program can reimburse up to 75 percent of the certification costs.

Exhibit 4.1: Organic Certification Process in the United States



Source: USDA

Usage of USDA Organic Seal

If the product has a valid organic certificate from an NOP accredited certifying agent or is authorized through an international trade partnership with the United States, the USDA Organic seal may be used. The certifying agent will review and approve all labels prior to the use to ensure compliance. In case the product has not been certified organic by an authorized certifying agent then the USDA organic seal is not allowed to be used.

ORGANIC CERTIFICATION IN THE EU

EU Regulation on Organic Farming

The first EU legislation on organic farming, Council Regulation (EEC) 2092/91 in 1991, has been a major factor for the growth of the EU's organic farming sector. It put forward a legal definition of organic farming through laying down the production rules and defined control and labelling requirements. This helped in providing a base for the protection of consumers and organic farmers against misleading organic claims.

This regulation was substantially revised with the adoption of Council Regulation No (EC) 834/2007 in June 2007 which notably:

- defined organic farming more accurately by describing its objectives and principles;
- further harmonised organic production rules within the EU, by putting an end to national rules for animal products;
- introduced the possibility of exceptions to the rules under the responsibility of the member states;
- linked the organic control system to the Official Food and Feed Controls(OFFC) provided in Regulation (EC) No 882/2004 and made obligatory to the accreditation of private control body;
- restructured the import regime: in addition to the recognition of third countries for the purpose of equivalence, the EU is now able to recognise directly the control bodies active in third countries for the purpose of equivalence or compliance. The system of individual authorisations granted by the member states, consignment by consignment, is being phased out and is envisaged to be ended till 2014.

While adopting Council Regulation (EC) No 834/2007, the Council earmarked a series of issues, regarding in particular,

the scope of regulation, the prohibition of the use of Genetically Modified Organism (GMO) and the functioning of the internal market and control system.

The EU Requirements

EU Rules on Production

- **Legal Frame:** The Council Regulation (EC) No. 834/2007 establishes the legal framework for all levels of production, distribution, control and labelling of organic products, which may be offered and traded in the EU. The Council Regulation applies to the following agricultural products, including aquaculture and yeast:

  - Living or unprocessed products;
  - Processed foods;
  - Animal feed; and
  - Seeds and propagating material

  Collection of wild plants and seaweed is also included in the scope of this regulation.

- **Plant production rules:** The plant production rules specify that the usage of soluble fertilisers is strictly limited and it is crucial to boost the fertility of the soil through the activity of soil organisms, which can transfer nutrients to the plants. Organic farmers use multiannual crop rotation, including legumes and other green manure crops, and apply livestock manure or organic material in order to increase the fertility and the biological activity of the soil. To prevent the development of pests, diseases and weeds, organic farmers are not allowed to use synthetic pesticides or herbicides. Multiannual crop rotation and appropriate cultivation techniques play a role in the protection of plants against pests, diseases and weeds. The collection of wild plants, growing naturally in natural areas, forests and agricultural areas is considered as organic production method provided that those areas have not, for a period of at least three years before the collection, received treatment with products other than those authorised for use in organic production.

- **Regulation on livestock:** As per the regulation on livestock, the organic livestock must be born and raised on organic farms. For breeding purposes, non-organically raised animals may be brought onto a holding under specific conditions. Taking into account the husbandry principles, the number of livestock must be limited with a view to minimising overgrazing, poaching of soil, erosion, or

pollution caused by animals or by the spreading of their manure. With regards to reproduction, natural methods must be used, artificial insemination is however allowed.

- **EU processed products:** The preparation of processed organic food must be kept separate in time or space from non-organic food. The product must be produced mainly from ingredients of agricultural origin. The following ingredients may be used: additives, processing aids, flavourings, water, salt, preparations of micro-organisms and enzymes, minerals, trace elements, vitamins, as well as amino acids and other micronutrients in foodstuffs for particular nutritional uses, but only in so far as they have been authorised for use in organic production.

- **Aquaculture:** The regulation, set conditions for the aquatic production environment and impacts on other species. It deals with the separation of organic and non-organic units and specifies animal welfare conditions including maximum stocking densities, a measurable indicator for welfare.

- **Organic wine:** New EU rules for "organic wine" have been agreed by the Standing Committee on Organic Farming (SCOF). From the 2012 harvest, organic wine growers are allowed to use the term "organic wine" on their labels. The labels must also show the EU-organic-logo and the code number of their certifier, and must respect other wine labelling rules.

EU Rules on Trade:

- ***Import/export : Trade in Organic Products***

  Import of organic products into the European Union

  In order to import an organic product into the European Union there is a need to comply with the EU legislation and in particular both organic and general food legislation. The importers of organic products must register with a control body or control authority. Every consignment of organic products imported from countries outside the EU, excluding the European Economic Area and Switzerland, must be accompanied by a certificate of inspection. This certificate can be issued by:

  - A control body recognized by the EU

  - The control authorities or control bodies authorised by a country recognised by the EU

- The control authorities or control bodies authorised by the competent authority of the authorising Member State, in case of import authorisation.

The original certificate of inspection must be present together with the imported organic products to the relevant Member State's authority.

Export from EU to other countries

Some of the arrangements of the EU with trade partners require EU exporters to comply with their import regimes.

- ***Equivalency Agreement***

With regard to the Equivalency Agreement, the EU and third countries have recognised each other's organic production rules and control systems as equivalent under their respective rules. Trade opportunities depend on the specific arrangement the European Union has with the following third countries namely, Argentina, Australia, Canada, Costa Rica, India, Israel, Japan, New Zealand, Switzerland, Tunisia, and the United States of America, as well as members of the European Economic Area (Norway and Iceland).

- ***Certifying Organic production for export to the EU***

In case the organic production is not covered by the above mentioned trade agreements that EU has with the third world countries then the following approach is followed. The European Union has accepted control authorities or control bodies for certifying organic production outside the Union according to equivalent production rules. These authorities or bodies issue documentary evidence attesting that organic products and organic operators comply with organic rules equivalent to those of the EU, as well as certificates of inspection for export of organic products to the EU.

Organic Logo

The EU organic logo indicates that the product is in full conformity with the conditions and regulations for the organic farming sector established by the European Union. The organic logo for the processed products indicates that at least 95% of the agricultural ingredients are organic. Adjacent to the EU organic logo, a code number of the control body is displayed along with the location from where the agricultural raw materials comprising the product have been farmed. The organic logo symbolises that the product is

in conformity with the regulations mentioned in Council Regulation (EC) No 834/2007 and the Commission Regulation (EC) No 889/2008. The European Commission's Directorate General for Agriculture and Rural Development has in place a detailed user manual, which includes concrete guidelines for the application of the EU Organic Logo.

ORGANIC CERTIFICATION IN JAPAN

Certification Process under JAS

The Codex Alimentarius Commission adopted the "Guidelines for the production, Processing, Labelling and Marketing of Organically Produced Foods" in 1999. As a result, the Japanese Agricultural Standards (JAS Standards) for organic plants and organic processed foods were established and labelling of organic products was made mandatory, in accordance with the revision of the Law concerning Standardisation and Proper Labelling of Agricultural and Forestry Products. The JAS standards for organic products were made in compliance with the Codex Guidelines. According to the Japanese Organic Standards for organic plants and processed foods of plant origin, only those items to which the certified operators attach JAS logos can be labelled as "organic".

Inspection System for Organic Products

1. *Registration of registered certification bodies*

   Based on the standards specified by the JAS law, the Minister of Agriculture, Forest and Fisheries receives applications, performs assessments, and consequently registers certifying bodies.

2. *Certification of certified operators*

   The farms producing organic plants and processed food manufacturers send certification applications to those registered certifying bodies who in turn grant them certification on the basis of assessments conducted on the Technical Criteria for certifying.

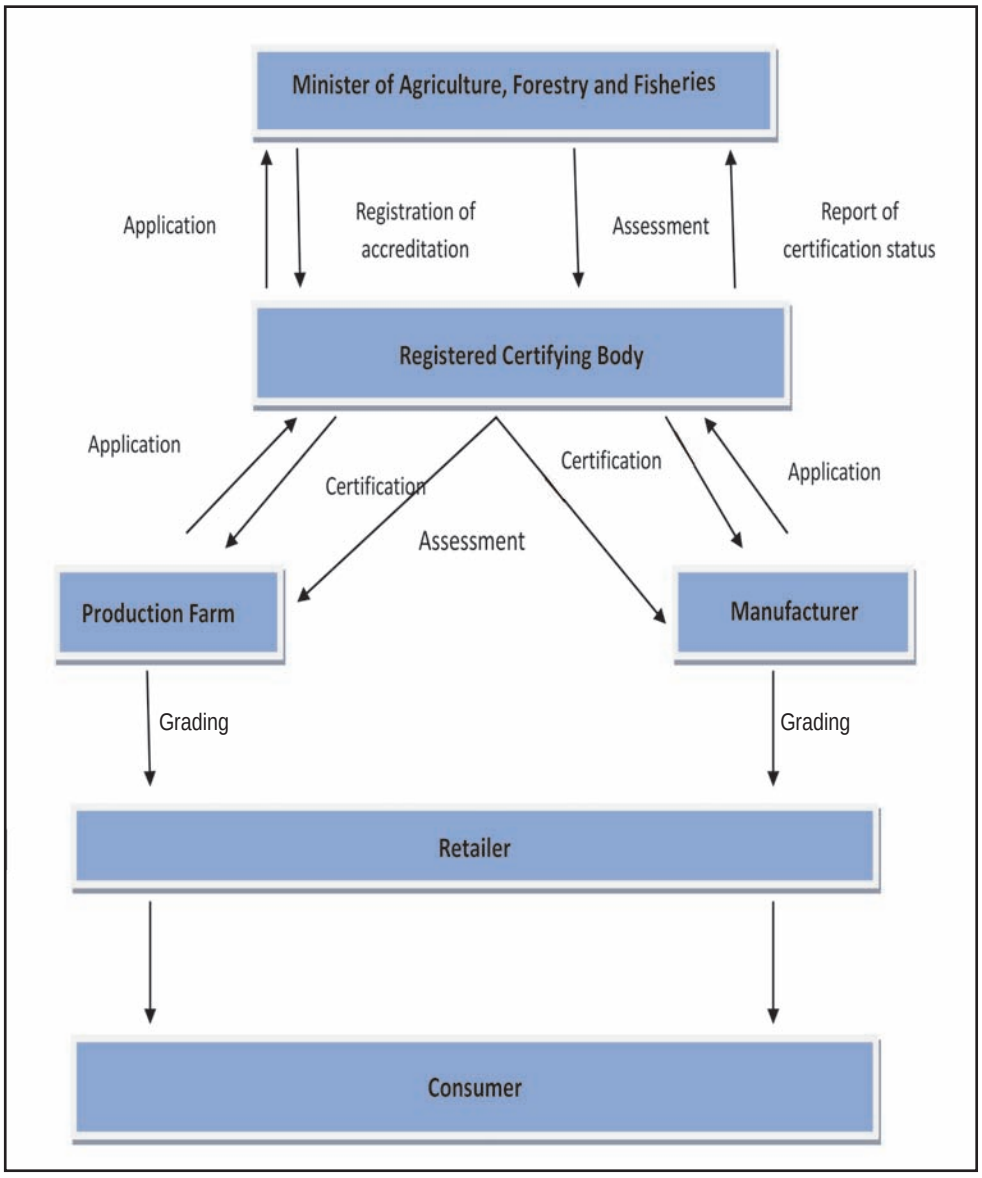
3. *Inspection of certified operators*

   To confirm whether producers and manufacturers are operating in compliance with organic JAS standards, inspection is conducted at least once a year.

4. *Grading by certified operators*

   The certified farms producing organic plants and manufacturers of processed foods, grade the products they manufacture, attach the Organic JAS logos and supply the products to the marketplace.

Exhibit 4.2: Inspection Certification System for Organic Products



Source: MAFF, Government of Japan

Import Requirements for Organic Foods in Japan

There are two methods of importing organic foods:

1. Grading by Registered Japanese Certifying Bodies or Registered Overseas Certifying Bodies

- The Ministry of Agriculture, Forestry and Fisheries (MAFF) registers Japanese Certifying Bodies or Overseas Certifying Bodies.

- Those Registered certifying bodies certify producers, manufacturers and other business entities of agricultural and forestry products.

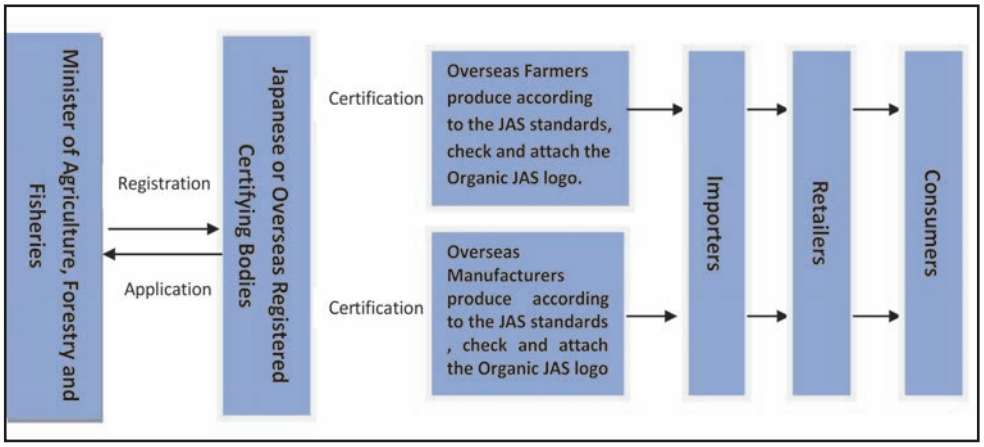
- The certified producers, manufacturers or other business entities produce, or manufacture products and attach JAS marks to the products.

2. Labelling of Organic JAS Marks by importers certified by Registered Japanese Certifying Bodies:

- Third party certifiers under legislations of overseas countries whose organic rules and standards are approved by Japan as equivalent, certifies organic products in accordance with the organic rules and standards of respective countries.

- Government agencies or quasi-governmental organisations of the countries with organic equivalency, issue export certificates to certify the organic products produced or

Exhibit 4.3: Certification by Registered Japanese Certifying Body or Registered Overseas Certifying Body

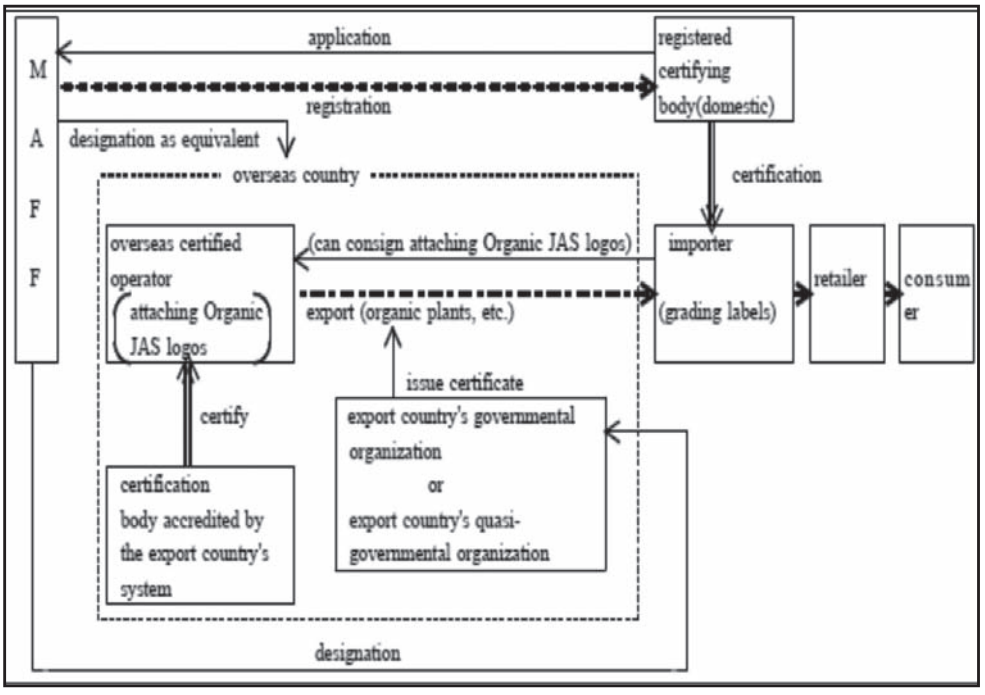


Source: MAFF, Government of Japan

manufactured in the countries were graded in accordance with the organic system of the respective countries.

- Importers certified by registered Japanese certifying bodies import organic food and re-label the Organic JAS mark to the products in Japan.
- This is applicable only to organic agricultural products and organic agricultural processed products.
- As of October 2013, the EU countries, Australia, United States, Argentina, New Zealand and Switzerland are noted as possessing equivalence in Article 15-2 of the JAS Law.

Exhibit 4.4: Procedure of Certification of Importers Certified by Registered Japanese Certifying Bodies



Source: MAFF

5. ORGANIC FARMING IN INDIA

AREA UNDER ORGANIC CERTIFICATION

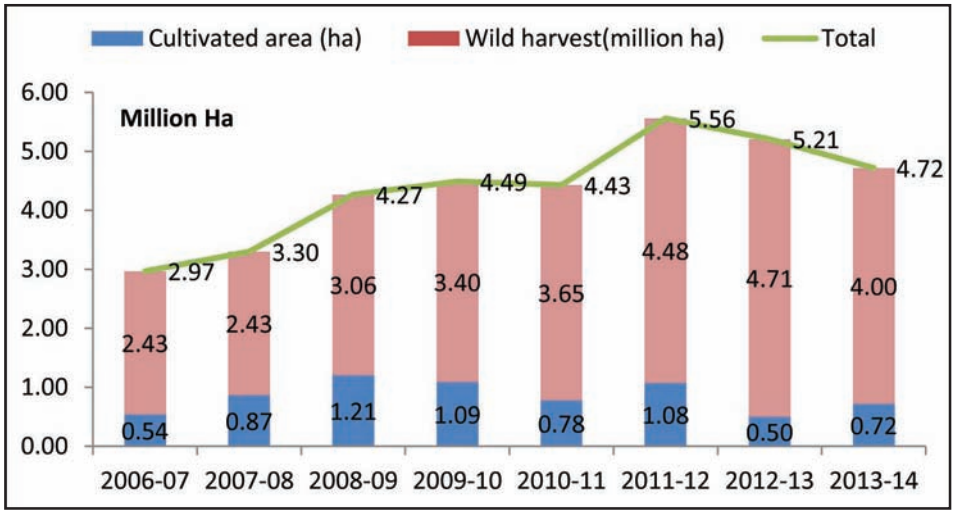
In organic certification system, both the cultivable as well as wild harvest collection[1] area can be certified. A wild crop that is intended to be sold labelled or represented as organic must be harvested from an area that had no application of prohibited substances and the procedure used for harvesting should be such that it does not have adverse effects on the environment.

Exhibit 5.1 displays the cultivated area under organic certification and the wild forest harvest collection area in India. The cultivated area under organic certification has increased at a CAGR of 33.5 per cent, as it increased from 0.04 million ha in 2003-04 to nearly 0.72 million ha in 2013-14. However, the cultivated area under organic certification has declined at a compound annual growth rate (CAGR) of 9.9 per cent during the period 2008-09 to 2013-14 from 1.21 million ha to 0.72 million ha. The cultivated area under organic certification rose during the years 2006-07 to 2008-09, however it fell in 2009-10 and declined further in the subsequent years, with an exception in 2011-12, after which a significant reduction occurred in 2012-13, which recovered partly in the following year. The area under wild harvest has increased at a CAGR of 5.5 per cent, from 3.06 million ha in 2008-09 to 4.00 million ha in 2013-14.

The total area under organic farming increased at a CAGR of 2 per cent as the organic acreage rose from 4.27 million ha to nearly 4.72 million ha during the period 2008-09 and 2013-14. However, organic area declined at a year-on-year growth rate of 9.4 per cent in the year 2013-14 by 0.49 million ha.

[1]Wild harvest collection area is any plant or portion of a plant that is collected or harvested from a site which is not maintained under cultivation or other agriculture management.

Exhibit 5.1: Cultivated, Wild and Total Area under Organic Certification in India

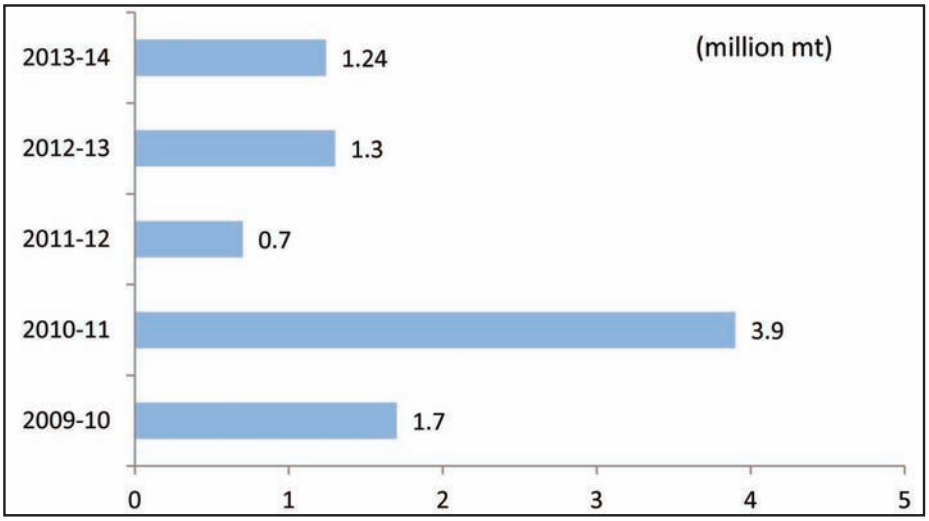


Source: National Centre of Organic Farming

Production

The production of certified organic produce declined at a CAGR of 7.5 per cent during the period 2009-10 to 2013-14 (Exhibit 5.2). There was a significant rise in the quantity of organic food produced during the year 2010-11, which decreased in the subsequent years. Nevertheless, the quantity of production increased around 0.6 million mt during 2012-13

Exhibit 5.2: Production of Certified Organic Produce in India



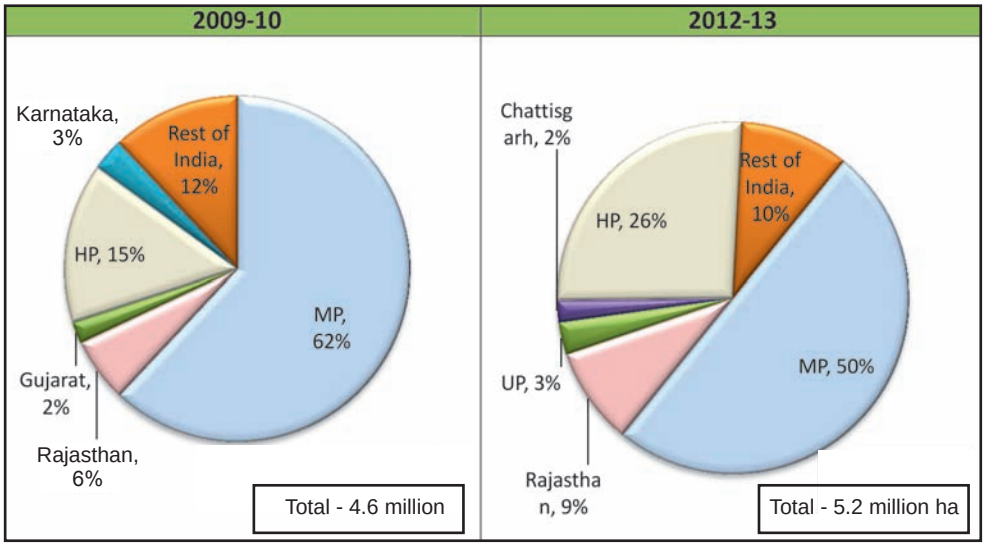
Source: Lok Sabha Unstarred Question No.3130 dated 11-02-2014

as compared to the previous year. The production again declined by 4.6 per cent during 2013-14 from 1.3 million mt to 1.24 million mt.

State-wise Area under Organic Certification

Exhibit 5.3 represents the share of states with maximum acreage under organic cultivation in India. Leading State, producing organic foods in India during the year 2012-13, was Madhya Pradesh, with a share of 32 per cent in the total quantity of organic products produced in the country followed by Karnataka and Maharashtra, with 24 per cent and 20 per cent, respectively.

Exhibit 5.3: Top 5 States in Acreage under Organic Production in India



Source: Lok Sabha Unstarred Question No.3130 dated 11-02-2014

Table 5.1: State-wise Production of Organic Products in India

State	Production			
	2009-10	2010-11	2011-12	2012-13
	(Wild+ organic)	(Wild+ organic)	(cultivable production)	(Wild+ organic)
	(thousand mt)			
Madhya Pradesh	164.7	1220.8	83.4	425.9
Himachal Pradesh	237.1	75.0	0.5	0.2
Rajasthan	23.6	265.3	138.6	95.9
Maharashtra	53.5	694.3	211.7	271.1
Uttar Pradesh	970.8	294.2	27.5	47.8
Gujarat	26.4	191.7	9.9	37.9
Karnataka	45.5	220.9	10.3	322.5
Uttarakhand	10.0	79.8	22.4	29.0

Source: Lok Sabha Question No.3130 dated 11-02-2014

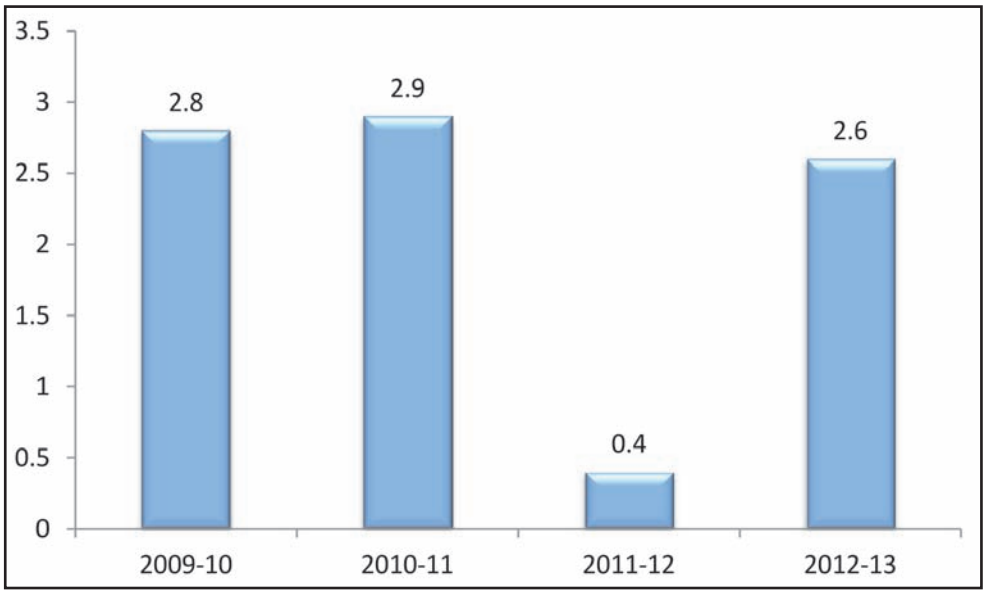
ORGANIC FARMING IN SELECT STATES

Madhya Pradesh

Madhya Pradesh has been the leading state in terms of area under organic cultivation, except for the year 2011-12, when the State's share displayed a decline. The area under organic certification declined at a CAGR of 2.4 per cent from 2.8 million ha to 2.6 million ha during the period 2009-10 and 2012-13. There was a substantial rise in the area managed organically during the year 2012-13 relative to the previous year.

The organic production in the state increased at a CAGR of 37.3 per cent during the period 2009-10 to 2012-13. The share of Madhya Pradesh in the aggregate organic production in the country during the year 2012-13 was approximately 32 per cent. The Madhya Pradesh State Organic Policy was framed in August 2010 to boost organic production and create an integrated value chain for the organic farm produce. The State has inherent advantages for organic farming as there are many natural grasslands and large expanse of area with very low input usage. In the year 2012-13,

Exhibit 5.4: Organic Area in Madhya Pradesh (million ha)



Source: Lok Sabha Unstarred Question No.3130 dated 11-02-2014

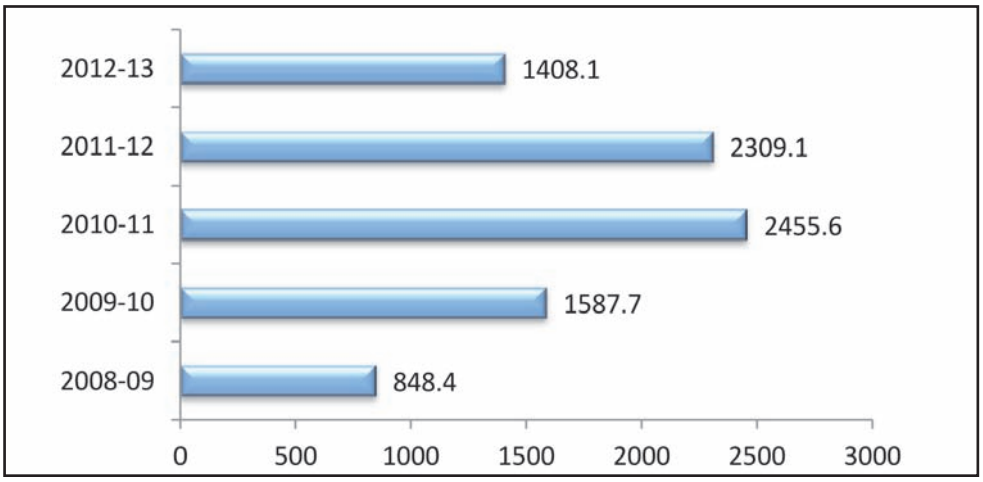
nearly half of the area under organic cultivation in India was in Madhya Pradesh and in the same year, Madhya Pradesh produced approximately 32 per cent of the aggregate organic food produced in the country. The crops that can be organically grown in Madhya Pradesh include maize, sorghum, pearl millets, grains, pulses, fruits, vegetables and oilseeds like Niger, safflower and castor.

Exhibit 5.5 displays the bio fertiliser production in the state of Madhya Pradesh over the years. There has been a constant rise in the production of bio fertilisers until 2010-11; however, the production declined in the next year. The bio fertiliser production in Madhya Pradesh increased at a CAGR of 14 per cent from 848.4 tonnes in 2008-09 to nearly 1408.08 tonnes in 2012-13.

Himachal Pradesh

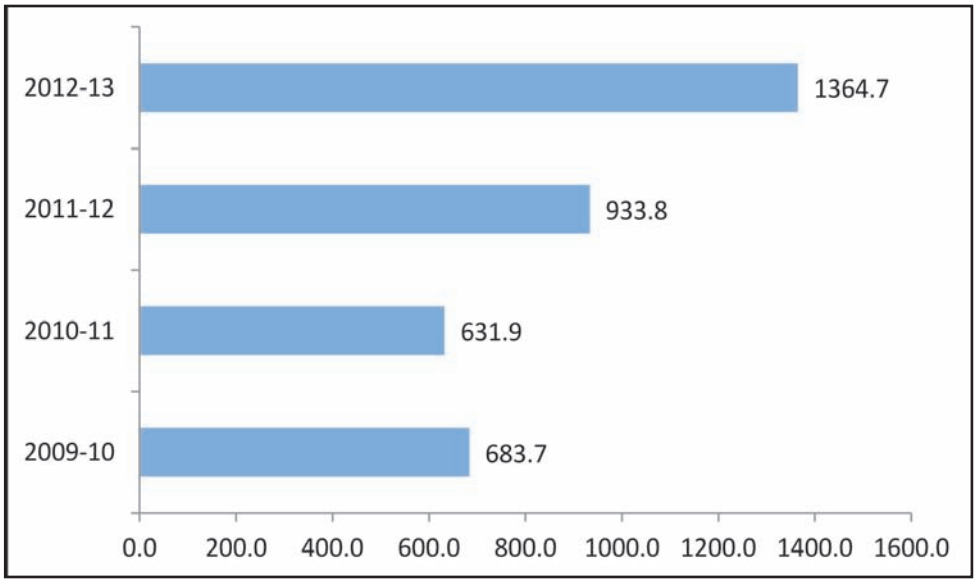
Farmers in Himachal Pradesh have been traditionally dependent on organic ways of farming and in 2012-13 it was the second largest state in terms of area under organic farming in India, although the quantity of production has been meagre as compared to other states. The area under organic farming increased at a CAGR of 26 per cent from 683.7 thousand ha

Exhibit 5.5: Biofertiliser Production in Madhya Pradesh (metric tonnes)



Source: Annual Report 2012-13, National Centre of Organic Farming

Exhibit 5.6: Area under Organic Cultivation in Himachal Pradesh (thousand ha)



Source: Lok Sabha Unstarred Question No.3130 dated 11-02-2014

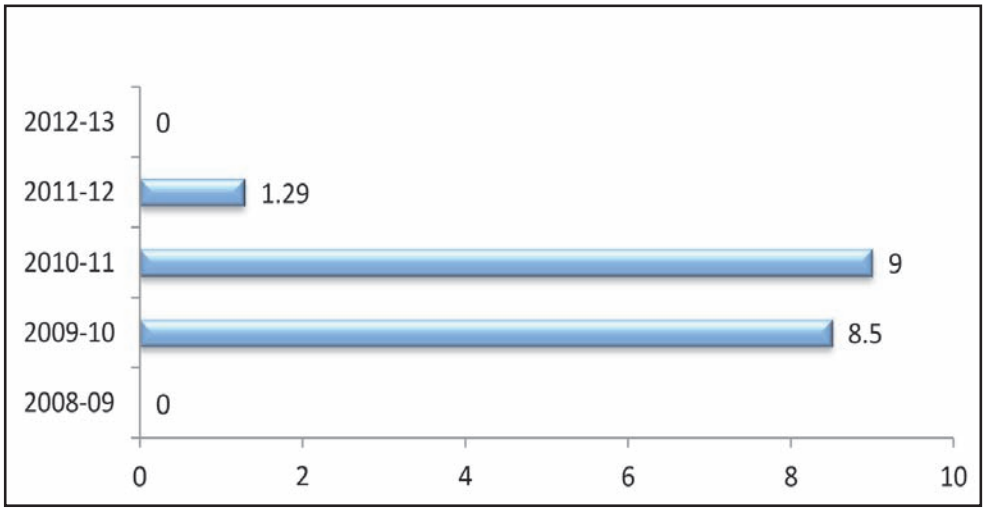
to 1364.7 thousand ha during the period 2009-10 to 2012-13. Vegetables, fruits along with cereals, such as maize and sorghum are produced organically in the State. There has been a substantial fall in the quantity of organic produce in the State from 237.1 thousand mt in 2009-10 to approximately 0.2 thousand mt in 2012-13.

Exhibit 5.7 presents the bio fertiliser production in the State over the years, as recorded by the National Centre of Organic Farming. The production was nil in the year 2008-09; however, it picked up in 2009-10 and increased further in the following year, post which, the production declined by a sizeable amount. In 2012-13, however, the bio fertiliser production in Himachal Pradesh was again nil.

Rajasthan

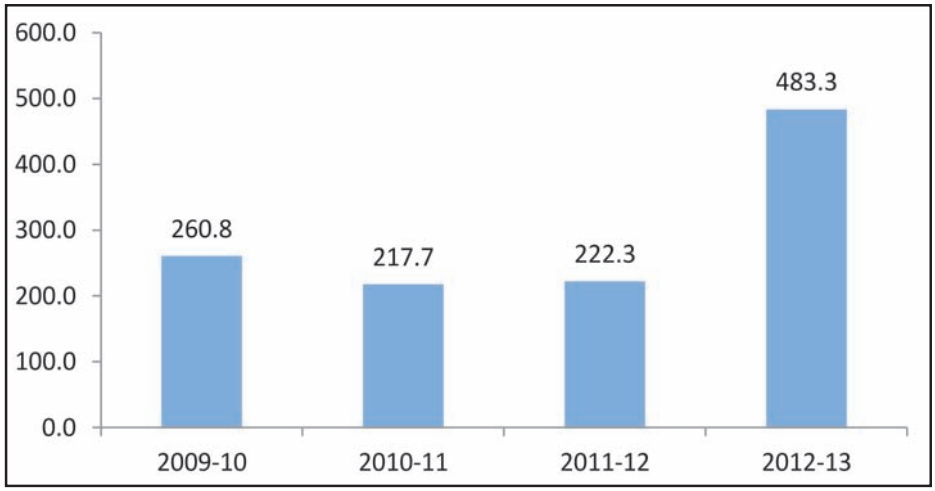
The area under organic farming in Rajasthan increased at a CAGR of 22.8 per cent during the period 2009-10 and 2012-13, from 260.8 thousand ha to 483.3 thousand ha. The state occupied the third position in terms of area under organic cultivation in the country and ranked fourth in terms of quantity of organic production during the year 2012-13. There has been a considerable rise in the quantity of organic production from the state during the four year period from 23.6 thousand mt in 2009-10 to nearly 95.9 thousand mt in 2012-13. Around 2 per cent of the bio fertiliser production in the country was contributed by Rajasthan during the year 2012-13.

Exhibit 5.7: Biofertiliser Production in Himachal Pradesh (metric tonnes)



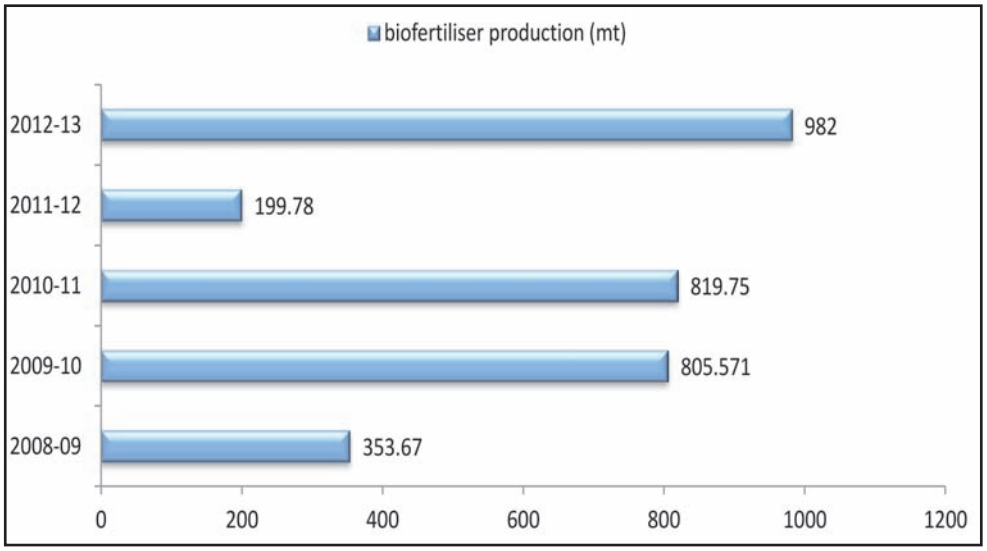
Source: Annual Report 2012-13, National Centre of Organic Farming

Exhibit 5.8: Organic Area in Rajasthan (thousand ha)



Source: Lok Sabha Unstarred Question No.3130 dated 11-02-2014

Exhibit 5.9: Biofertiliser Production in Rajasthan (metric tonnes)



Source: Annual Report 2012-13, National Centre of Organic Farming

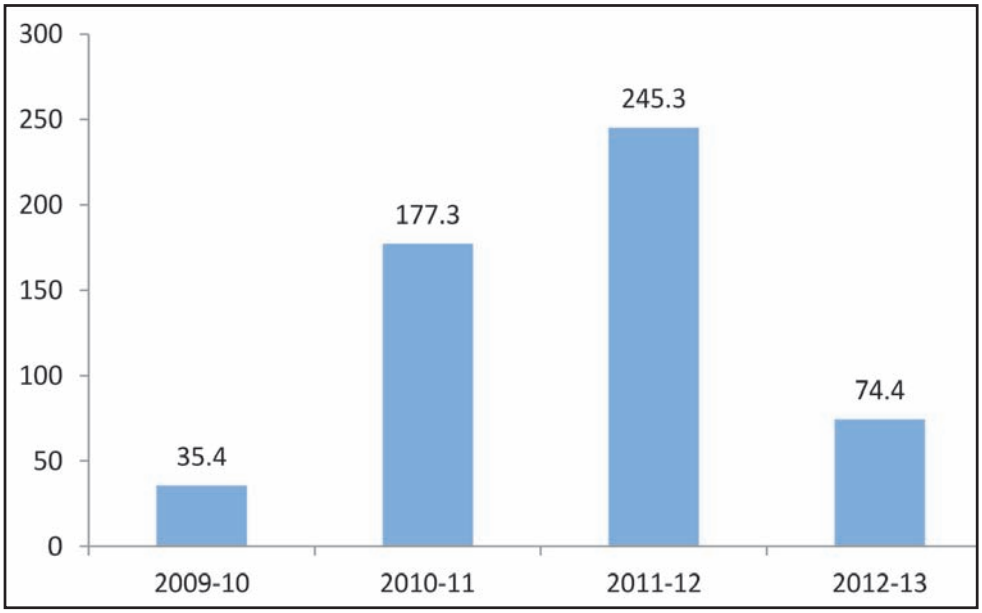
Maharashtra

The organic acreage in Maharashtra expanded at a CAGR of 28 per cent from 35.4 thousand ha in 2009-10 to 74.4 thousand ha in the year 2012-13. The organic area in Maharashtra accounted for around 1.4 per cent of the aggregate organic area in the country. The organic production increased at a CAGR of 71.8 per cent from 53.5 thousand mt in 2009-10 to 271.1 thousand mt in 2012-13. The quantity produced rose drastically in 2010-11, but eventually reduced in 2011-12, and also in the following year.

The year-on-year growth rate in the quantity of organic foods produced in the State in the year 2012-13 was 28 per cent. Cotton, oilseeds, fruits and vegetables, pulses are the organic crops majorly produced in the State.

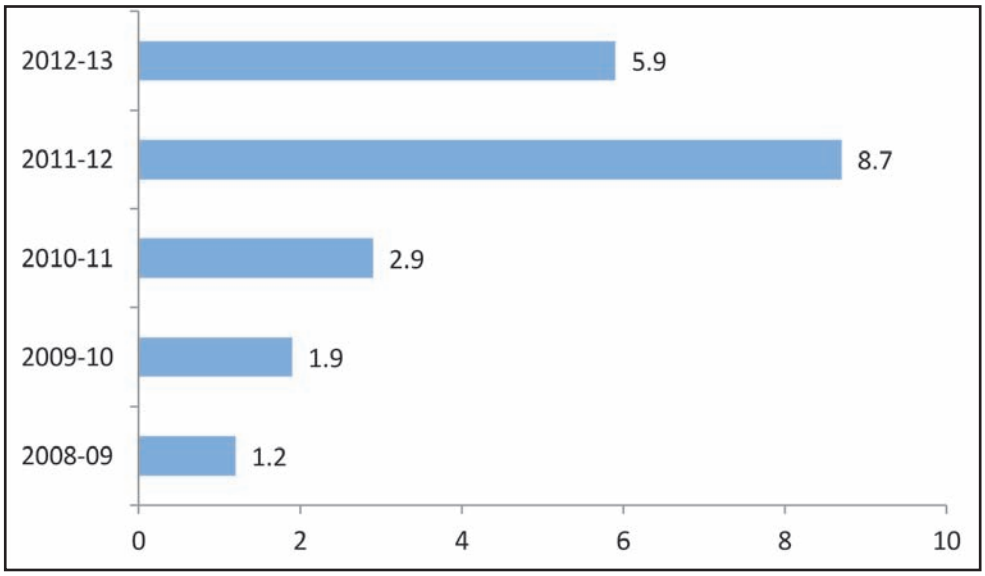
The bio fertiliser production in the State increased at a CAGR of 47 per cent during the period 2008-09 and 2012-13 and the amount produced rose from the levels of 1249.87 mt to 5897.91 mt. The bio- fertiliser production in 2012-13 reduced by 33 per cent as the production declined by 2846 mt during that period.

Exhibit 5.10: Organic Area in Maharashtra (thousand ha)



Source: Lok Sabha Unstarred Question No.3130 dated 11-02-2014

Exhibit 5.11: Biofertiliser Production in Maharashtra (thousand mt)



Source: Annual Report 2012-13, National Centre of Organic Farming

GOVERNMENT INITIATIVES TO PROMOTE ORGANIC FARMING

National Project on Organic Farming

The National Project on Organic Farming (NPOF) is a Central Sector Scheme which got implemented in the Tenth Five Year Plan. It commenced as a pilot project and came into effect from 01.10.2004, with an outlay of Rs. 57.04 crores. The scheme prolonged in the Eleventh Five Year Plan with an outlay of Rs. 101 crore. The scheme was being implemented in 2012-13 with an allocation of Rs. 21 crores. The NPOF is being implemented by National Centre of Organic farming at Ghaziabad and its six regional centres at Bangalore, Bhubaneswar, Panchkula, Imphal, Jabalpur and Nagpur.

The primary objective of the NPOF Scheme is to encourage the production of food organically, and boosting the manufacture as well as the usage of organic and biological nutrients like bio-fertilizers, organic manure, bio-pesticides and bio-control agents. The scheme is also aimed to act as a nodal agency for the implementation of quality control regime for bio-fertilizers and organic fertilizers, as per the requirements of the Fertilizer Control Order. Additionally, the goals that the Government of India envisages to achieve through the execution of the NPOF Scheme are listed below:

- To attempt regular testing and assure unrestrained supply of mother cultures of bio-fertilizers and other micro organisms for nutrient mobilization and plant protection;

- To organise certificate courses demonstrating the cultivation of organic food and on farm resource management;

- To arrange for trainings beneficial in coaching the State Government's quality control analysts and inspectors concerned with the implementation of Fertilizer Control Order, 1985;

- To encourage the undertaking of research, surveys and studies on biological soil health assessment under different farming systems and practices;

- To function as the apex centre specializing in information and data collection on all aspects of organic farming and dissemination of information through print and electronic media;

- To render assistance to the existing certification systems in defining standards and implementation protocols and providing surveillance support to alternative farmer's group low cost certification system such as PGS;

- To create an understanding about organic food among consumers through seminars and conferences and trade fairs;

- Facilitation of evaluation and monitoring services to the Central and State Governments for implementation of organic agricultural schemes;

Capital Investment Subsidy for Setting up of Organic Inputs Production

The NPOF provides financial assistance for fruits and vegetables waste compost units by providing for 33 per cent of the capital cost of the project, subject to a ceiling of Rs. 63 lakhs. The ceiling has been enhanced from Rs. 60 lakhs to Rs. 63 lakhs with effect from 1st April 2014. Further, NPOF provides subsidy for the construction of bio fertilizer or bio pesticide production unit to an extent of 25 per cent of the capital cost of the project subject to a ceiling of Rs. 40 lakhs. The remaining cost is envisaged as credit support from financial institutions and margin money. The subsidy is credit linked and back-ended and mobilised through NABARD.

Table 5.2: Details of Subsidy Received by the Top 5 States under Capital Investment Subsidy Scheme (CISS) of NPOF through NABARD for Organic Input Production

Name of States	Amount of Subsidy Approved			
	2009-10	2010-11	2011-12	2012-13
	(Rs. Lakh)			
Maharashtra	38.46	13.75	43.08	23.01
Andhra Pradesh	10	23.25	20	20
Madhya Pradesh	5.04	0	0	2.26
Haryana	0	14.75	0	2.03
Assam	2.6	1.38	22.32	0.75
Rest of India	203.14	176.1	70.71	
TOTAL	**259.24**	**229.23**	**156.11**	**48.04**

Source: Lok Sabha Starred Question No.246 dated 27.08.2013

According to an Annual Report of NABARD, during the year 2013-14, under the National Project on Organic Farming a subsidy of Rs. 3.41 crore was released in respect of six units. Cumulatively, Rs.17.42 crores has been released as on 31st March 2014 for 651 units.

National Project on Management of Soil Health and Fertility (NPMSF)

The National Project on Management of Soil Health and Fertility (NPMSF) had been taken up from 2008-09, to promote the balanced and judicious use of fertilizers and organic manure on soil test basis with an outlay of Rs. 429.85 crore during the Eleventh Five Year Plan period. The Central Sector Scheme on Central Fertilizer Quality Control and Training Institute or Regional Laboratories had been subsumed in the Scheme with effect from 1st March 2009. This Scheme provides financial assistance at Rs. 500 per ha for promoting the use of organic manure.

National Project on Management of Soil Health and Fertility (NPMSF) and National Project on Organic farming (NPOF) have been subsumed under the National Mission for Sustainable Agriculture (NMSA) in the 12th Five Year Plan, and these are envisaged to be implemented under Soil Health Management (SHM) component of NMSA with effect from 1st April 2014. The two sub-components of SHM

are soil health, Integrated Nutrient Management (INM) and Organic Farming.

Network Project on Organic Farming by ICAR

The Indian Council for Agriculture Research (ICAR) has evolved a technology for the preparation of vermi-compost from various rural and urban wastes in order to encourage the spread of organic farming in the country. Moreover, advanced strains of bio fertilizers specific to different crops and soil types are being developed under the network project on bio fertilizers. Additionally, the ICAR have initiated the Network Project on Organic Farming in the Tenth Five Year Plan with lead centre at Project Directorate for Farming Systems Research, Modipuram, Uttar Pradesh, which is involved in developing package of practices for different crops and farming systems under organic farming in different agro-ecological regions of the country. The project is running at 13 centres including State Agricultural Universities (SAUs), spread across 12 States. The crops for which package of practices for organic farming have been developed include basmati rice, rain fed wheat, maize, red gram, chickpea, soybean, groundnut, mustard, isabgol, black pepper, ginger, tomato, cabbage and cauliflower. ICAR also organises trainings and renders demonstrations to make the farmers aware about several aspects of organic farming.

National Horticulture Mission

This is a Centrally Sponsored Scheme launched in 2005-06 for strengthening the growth of the horticulture sector comprising of fruits, vegetables, roots and tuber crops, mushroom, spices, flowers, aromatic plants, cashew and cocoa. Under this scheme, the Government of India provides support to an extent of 85 per cent, while the rest 15 per cent is contributed by the State Governments. During the Twelfth Five Year Plan it was resolved to subsume the schemes of National Horticulture Mission and few other significant policies for development of horticulture under the umbrella of Mission for Integrated Development of Horticulture (MIDH).

In order to foster the growth of organic farming, and the farmers adopting organic farming for perennial and non-perennial fruit crops, vegetables, aromatic plants, and spices, additional assistance are being given at 50 per cent of cost, over and above the area expansion programme for a maximum area of 4 ha per beneficiary, spread over a period of three years. In the event of cultivation of vegetables organically, assistance limit is up

to Rs.10,000 per ha spread over a period of three years. Additionally, with the objective of advocating the organic farming system, assistance may also be used for generating on-farm inputs.

NHM also includes providing financial assistance for establishing vermi compost units and HDPE vermi beds at 50 per cent of the cost subject to a maximum of Rs. 50,000 per beneficiary for a unit having a size of 30'×8'×2.5'. In order to aid the manufacture of HDPE vermi beds of 96 cubic feet (cft) size (12'×4×2'), assistance to an extent of 50 per cent of the cost are being granted. Similarly, assistance is also being provided for organic certification of Rs.5 lakh for a group of farmers covering an area of 50 hectares.

Table 5.3: Top 5 States Receiving Financial Assistance under the National Horticulture Mission for Promotion of Organic Farming

State	Year -wise Financial Assistance			
	2009-10	2010-11	2011-12	2012-13
	(Rs. Lakhs)			
Karnataka	752.25	325.47	237.15	544.17
Orissa	89.25	0	76.50	425.00
Jharkhand	25.50	17.47	63.75	227.50
Chhattisgarh	901.00	1007.25	1462.72	172.50
Rajasthan	105.23	63.76	48.88	102.00
Rest of India	2024.02	1199.27	789.80	466.83
Total	**3897.25**	**2613.22**	**2678.80**	**1938.00**

Source: Lok Sabha Starred QuestionNo.246 dated 27.08.2013

Rashtriya Krishi Vikas Yojna

Assistance for decentralized production and marketing of organic fertilizers is also available under Rashtriya Krishi Vikas Yojna (RKVY) for projects formulated and approved by the State Level Sanctioning Committee.

There are various schemes of APEDA to provide support to organic farming. In addition, Government has been spreading awareness about organic farming through various extension activities, such as exhibitions and fairs, agri-clinics and agri-business centres, mass media support activities, radio talks and kisan melas.

REGULATORY MECHANISM FOR ORGANIC PRODUCTS IN INDIA

The National Programme for Organic Production (NPOP) defines the regulatory mechanism and is regulated under two different acts for the export and domestic market in India. The NPOP notified under Foreign Trade Development and Regulation (FTDR) Act pertains to the export requirements. The regulatory body under the FTDR Act is Agricultural and Processed Food Products Export Development Authority (APEDA) of India functioning under the Ministry of Commerce and Industry, Government of India. The NPOP notified under the

Table 5.4: Top 5 States Receiving Financial Assistance for Promotion of Organic Farming under Rashtriya Krishi Vikas Yojna (RKVY)

Name of State	Amount of assistance approved			
	2009-10	2010-11	2011-12	2012-13
	(Rs. Lakhs)			
Uttar Pradesh	398	1537	1656	2818
Karnataka	0	50	2800	2100
Andhra Pradesh	12	71	0	1500
Gujarat	197	280	10816	1163
Assam	0	450	900	1157
Rest of India	5309	10603	14459	4238
TOTAL	**5916**	**12991**	**30631**	**12976**

Source: Lok Sabha Starred Question No.246 dated 27.08.2013

Agricultural Produce Grading, Marking and Certification Act (APMC) monitors the domestic and import market. The regulatory body which governs it is the Agricultural Marketing Advisor (AMA) under the Ministry of Agriculture, Government of India.

The NPOP standards for production and accreditation system have been recognized by the European Commission and Switzerland as equivalent to their country standards. USDA has also accepted the conformity assessment system of NPOP. Consequently, products certified by an Indian accredited certification agency under NPOP can be exported to Europe, Switzerland and USA without the requirement of re-certification.

Organic Certification

The National Programme on Organic Production (NPOP) was launched by The Ministry of Commerce and Industry, Government of India, 2001 under the FTDR Act. The Programme documents the standards for organic production in India, methodology and requirements involved with the accreditation of inspection and certification bodies, and the national organic logo and regulations. The standards have been formulated in accordance with the international standards, such as those of CODEX ALIMENTARIUS and International Federation of Organic Agriculture Movements (IFOAM).

Operational Structure

The NPOP is implemented by a National Steering Committee comprising members from the Ministry of Commerce and Industry, Ministry of Agriculture, Agricultural and Processed Food Products Export Development Authority (APEDA), Coffee Board, Spices Board, Tea Board, and other Government and private organisations associated with the organic movement. The Ministry of Commerce and Industry, Government of India, has also created the National Steering Committee, which is responsible for formulating a National Accreditation Policy and Programme; the Ministry also frames the national standards for organic products and the regulations involved in the usage of the National Organic Certification Mark. The National Steering Committee also operates as the National Accreditation Body.

The functions of the National Accreditation Body include the drawing up of procedures for evaluation and accreditation of certification programmes, formulating procedures for evaluation of agencies implementing the programme and accreditation of inspection and certification agencies.

An Evaluation Committee is appointed by the National Accreditation Body for supervising the implementation of certification programmes held by the eligible inspection and certification agencies. APEDA, on behalf of the National Accreditation Body, receives and screens the applications from the certification agencies, coordinates and arranges evaluation visits to ascertain the credentials of certification programmes of the applicants. Depending on the suggestions of the Evaluation Committee, eligible inspection and certification agencies are accredited by the National Accreditation Body. The accredited inspection and certification agencies appoint inspectors for scrutinizing the operations, and certifying the organic status of products and operations.

NATIONAL STANDARDS FOR ORGANIC PRODUCTION

Crop Production

Choice of crops and varieties

Standards

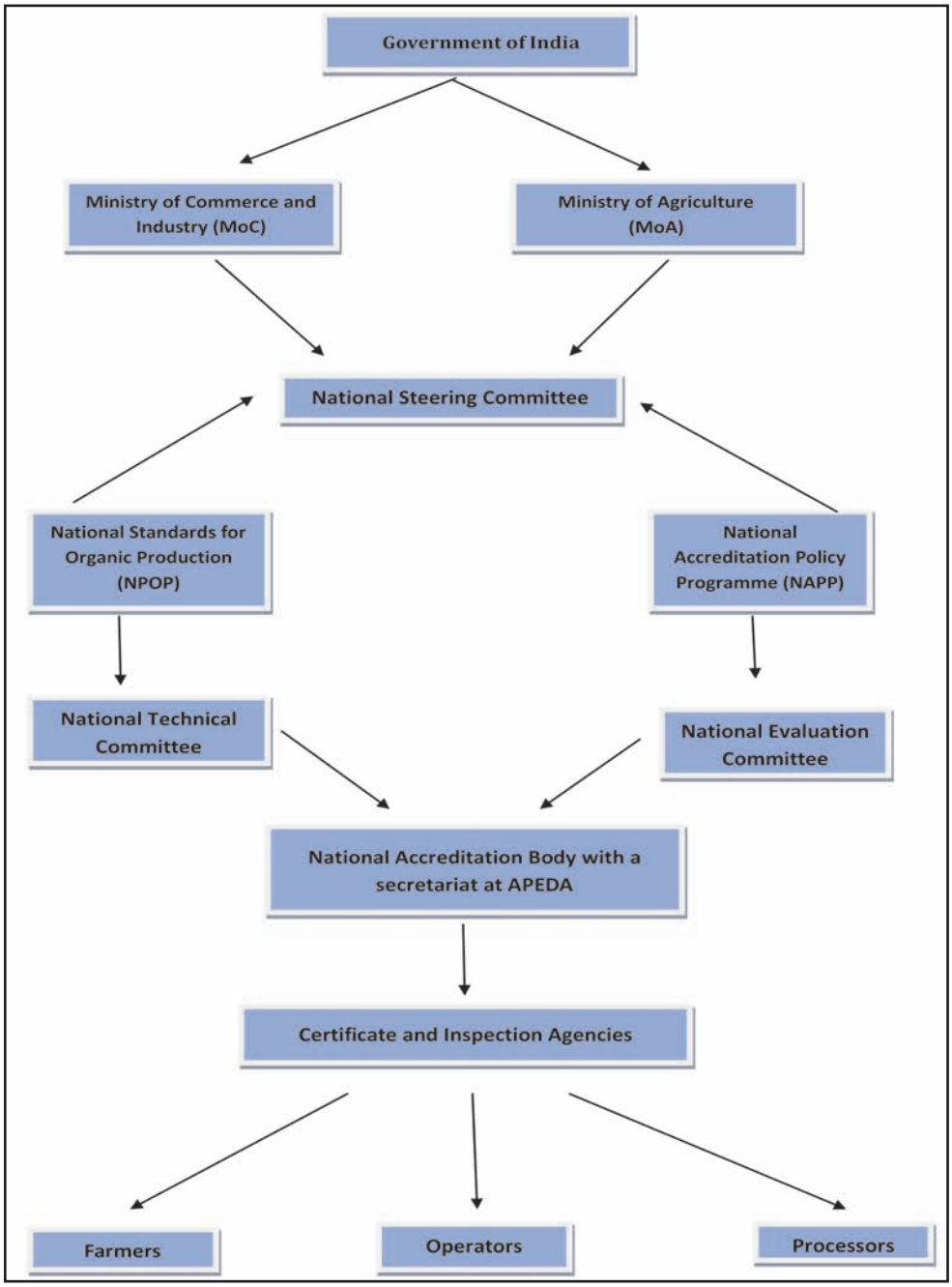
- Organic seed and plant materials shall be used. The Certification programme shall set time limits for the requirement of certified organic seed and other plant material;
- When certified organic seed and plant materials are not available, chemically untreated conventional materials shall be used;
- The use of genetically engineered seeds, pollen, transgene plants or plant material is prohibited.

Duration of conversion period

Standards

- Plant products produced can be certified organic when the national standards requirements have been met during a conversion period of at least two years before sowing, or in the case of perennial crops other than grassland, at least three years (thirty-six months) before the first harvest of products. The accredited inspection and certification agency may decide in certain cases (such as idle use for two years or more) to extend or reduce the conversion period, in the light of previous status of the land, but the period must equal or exceed twelve months;
- The conversion period can be extended by the certification programme depending on, e.g., past use of the land and environmental conditions;

Exhibit 5.12: Operational Structure of National Programme for Organic Production in India



Source: National Centre of Organic Farming

- The certification programme may allow plant products to be sold as "produce of organic agriculture in process of conversion" or a similar description during the conversion period of the farm;

- For the calculation of inputs for feeding, the feed produced on the farm unit during the first year of organic management, may be classified as organic. This refers only to feed for animals, which are themselves being reared within the farm unit and such feed may not be sold or otherwise marketed as organic. Feed produced on the farms in accordance with the national standards is to be preferred over conventionally grown / brought-in feeds.

Diversity in Crop Production

Standards

- Where appropriate, the certification programme shall require that sufficient diversity is obtained in time or place in a manner that takes into account pressure from insects, weeds, diseases and other pests, while maintaining or increasing soil organic matter, fertility, microbial activity and general soil health. For non perennial crops, this is normally, but not exclusively, achieved by means of crop rotation.

Fertilisation Policy

Standards

- Biodegradable material of microbial, plant or animal origin shall form the basis of the fertilisation programme;

- The certification programme shall set limitations to the total amount of biodegradable material of microbial, plant or animal origin brought onto the farm unit, taking into account local conditions and the specific nature of the crops;

- The certification programme shall set standards, which prevent animal run from becoming over-manured where there is a risk of pollution;

- Brought-in material (including potting compost) shall be in accordance with the standards;

- Manures containing human excreta (faeces and urine) shall not be used;

- Mineral fertilisers shall only be used in a supplementary role to carbon based materials; Permission for use shall only be given when other fertility management practices have been optimised;

- Mineral fertilisers shall be applied in their natural composition and shall not be rendered more soluble by chemical treatment. The certification programme may grant exceptions which shall be well justified. These exceptions shall not include mineral fertilisers containing nitrogen;

- The certification programme shall lay down restrictions for the use of inputs such as mineral potassium, magnesium fertilisers, trace elements, manures and fertilisers with relatively high heavy metal content and/or other unwanted substances eg. basic slag, rock phosphate and sewage sludge;

- Chilean nitrate and all synthetic nitrogenous fertilisers, including urea are prohibited.

Pest, Disease and Weed Management including Growth Regulators

Standards

- Products used for pest, disease and weed management, prepared at the farm from local plants, animals and micro-organisms, are allowed. If the ecosystem or the quality of organic products is likely to be jeopardised, the Procedure to Evaluate Additional Inputs to Organic Agriculture and other relevant criteria shall be used to judge if the product is acceptable. Branded products must always be evaluated;

- Thermic weed control and physical methods for pest, disease and weed management are permitted;

- Thermic sterilisation of soils to combat pests and diseases is restricted to circumstances where a proper rotation or renewal of soil cannot take place. Permission may be given by the certification programme only on a case by case basis;

- All equipments from conventional farming systems shall be properly cleaned and free from residues before being used on organically managed areas;

- The use of synthetic herbicides, fungicides, insecticides and other pesticides is prohibited.

- The use of synthetic growth regulators and synthetic dyes are prohibited;

- The use of genetically engineered organisms or products is prohibited;

- Accredited certification programmes shall ensure that measures are in place to prevent transmission of pests, parasites and infectious agents;

Contamination Control

Standards

- In case of reasonable suspicion of contamination, the certification programme shall make sure that an analysis of the relevant products to detect the possible sources of pollution (soil and water), shall take place to determine the level of contamination;

- For protected structure coverings, plastic mulches, fleeces, insect netting and silage rapping, only products based on polyethylene and polypropylene or other polycarbonates are allowed. These shall be removed from the soil after use and shall not be burnt on the farmland. The use of polychloride based products is prohibited.

Soil and water Conservation

Standards

- Clearing of land through the means of burning organic matter, e.g. slash-and burn, straw burning shall be restricted to the minimum;

- The clearing of primary forest is prohibited;

- Relevant measures shall be taken to prevent erosion;

- Excessive exploitation and depletion of water resources shall not be allowed;

- The certification programme shall require appropriate stocking rates which do not lead to land degradation and pollution of ground and surface water;

- Relevant measures shall be taken to prevent salination of soil and water.

Collection of Non-cultivated Material of Plant Origin and Honey

Standards

- Wild harvested products shall only be certified organic if derived from a stable and sustainable growing environment. Harvesting or gathering the product shall not exceed the sustainable yield of the ecosystem, or threaten the existence of plant or animal species;

- Products can only be certified organic if derived from a clearly defined collecting area, which

is not exposed to prohibited substances, and which is subject to inspection;

- The collection area shall be at an appropriate distance from conventional farming, pollution and contamination;

- The operator managing the harvesting or gathering of the products shall be clearly identified and be familiar with the collecting area in question.

Animal Husbandry

Animal Husbandry Management

- The certification programme shall ensure that the management of the animal environment takes into account the behavioural needs of the animals;

- All animals shall have access to open air and/or grazing appropriate to the type of animal and season taking into account their age and condition, to be specified by the certification programme;

- When the natural day length is prolonged by artificial lighting, the certification programme shall prescribe maximum hours respective to species, geographical considerations and general health of animals;

- Herd animals shall not be kept individually. The certification programme may allow exceptions, e.g., male animals, small holdings, sick animals and those about to give birth.

Length of Conversion Period

Standards

- Animal products may be sold as "product of organic agriculture" only after the farm or relevant part of it has been under conversion for at least twelve months, and provided the organic animal production standards have been met for the appropriate time;

- The certification programme shall specify the length of time by which the animal production standards shall be met. With regard to dairy and egg production, this period shall not be less than 30 days;

- Animals present on the farm at the time of conversion may be sold for organic meat if the organic standards have been followed for 12 months.

Brought in animals

Standards

When organic livestock is not available, the certification programme shall allow brought-in conventional animals according to the following age limits:

- 2 day old chickens for meat production;
- 18 week old hens for egg production;
- 2 week old for any other poultry piglets up to six weeks and after weaning;
- Calves up to 4 weeks old which have received colostrum and are fed a diet consisting mainly of full milk;
- Certification programmes shall set time limits (not exceeding 5 years) for implementation of certified organic animals from conception for each type of animal;
- Breeding stock may be brought in from conventional farms at an annual rate not exceeding 10 per cent of the adult animals of the same species in the organic farm. For brought-in breeding stock the certification programme shall allow a higher yearly maximum than 10 per cent in the following cases and with specific time limits:
- Unforeseen severe natural or manmade events;
- Considerable enlargement of the farm;
- Establishment of a new type of animal production on the farm;
- Small holdings.

Food Processing and Handling

Standards

- Organic products shall be protected from co-mingling with non-organic products;
- All products shall be adequately identified through the whole process;
- The certification programme shall set standards to prevent and control pollutants and contaminants;
- Organic and non-organic products shall not be stored and transported together except when labelled or physically separated;
- Certification programme shall regulate the means and measures to be allowed recommended for

decontamination, cleaning or disinfection of all facilities where organic products are kept, handled, processed or stored;

- Besides storage at ambient temperature, the following special conditions of storage are permitted:
    - o Controlled atmosphere
    - o Cooling
    - o Freezing
    - o Drying
    - o Humidity regulation
    - o Ethylene gas is permitted for ripening

Pest and Disease Control

Standards

For pest management and control the following measures shall be used in the order of priority:

- Preventive methods such as disruption, elimination of habitat and access to facilities;
- Mechanical, physical and biological methods;
- Pesticidal substances allowed according to the national standards;
- Other substances used in traps;
- Irradiation is prohibited;
- There shall never be direct or indirect contact between organic products and prohibited substances (e.g. pesticides). In case of doubt, it shall be ensured that no residues are present in the organic product;
- Persistent or carcinogenic pesticides and disinfectants are not permitted. The certification programme shall set up rules to determine which protection agents and disinfectants may be used.

Ingredients, Additives and Processing Aids

Standards

- In cases where an ingredient of organic agriculture origin is not available in sufficient quality or quantity, the certification programme may authorise use of non organic raw material subject to periodic re-evaluation. Such non-organic raw material shall not be genetically engineered;
- The same ingredient within one product shall not be derived both from an organic and non-organic origin;

- Water and salt may be used in organic products;

- Minerals (including trace elements), vitamins and similar isolated ingredients shall not be used. The certification programme may, grant exceptions, where use is legally required or where severe dietary, or nutritional deficiency can be demonstrated;

- Preparations of micro-organisms and enzymes commonly used in food processing may be used, with the exception of genetically engineered microorganisms and their products;

- The use of additives and processing aids shall be restricted.

Processing Methods

Standards

- The following kinds of processes are approved:
    - o Mechanical and physical;
    - o Biological;
    - o Smoking;
    - o Extraction;
    - o Precipitation;
    - o Filtration.

- Extraction shall only take place with water, ethanol, plant and animal oils, vinegar, carbon dioxide, nitrogen or carboxylic acids. These shall be of food grade quality, appropriate for the purpose;

- Irradiation is not allowed;

- Filtration substances shall not be made of asbestos nor may they be permeated with substances which may negatively affect the product.

Packaging

Standards

The materials used must not affect the organoleptic character of the product or transmit to it any substances in quantities that may be harmful to human health.

Labelling

Standards

- The person or company legally responsible for the production or processing of the product shall be identifiable;

- Single ingredient products may be labelled as “produce of organic

agriculture" or a similar description when all standards requirements have been met;

- Mixed products where not all ingredients, including additives, are of organic origin may be labelled in the following way (raw material weight):

    - o Where a minimum of 95 per cent of the ingredients are of certified organic origin, products may be labelled "certified organic" or similar and should carry the logo of the certification programme;

    - o Where less than 95 per cent but not less than 70 per cent of the ingredients are of certified organic origin, products may not be called "organic". The word "organic" may be used on the principal display in statements like "made with organic ingredients" provided there is a clear statement of the proportion of the organic ingredients. An indication that the product is covered by the certification programme may be used, close to the indication of proportion of organic ingredients;

    - o Where less than 70 per cent of the ingredients are of certified organic origin, the indication that an ingredient is organic may appear in the ingredients list. Such product may not be called "organic".

- Added water and salt shall not be included in the percentage calculations of organic ingredients;

- The label for in-conversion products shall be clearly distinguishable from the label for organic products;

- All raw materials of a multi-ingredient product shall be listed on the product label in the order of their weight percentage. It shall be apparent which raw materials are of organic certified origin and which are not. All additives shall be listed with their full name. If herbs and/or spices constitute less than 2 per cent of the total weight of the product, they may be listed as "spices " or "herbs "without stating the percentage;

- Organic products shall not be labelled as GE (Genetic Engineering) or GM (Genetic Modification) free in order to avoid potentially misleading claims about the end product. Any reference to genetic engineering on product labels shall be limited to the production method.

Storage and Transport

Standards

- Where only part of the unit is certified and other products are non-organic, the organic products should be stored and handled separately to maintain their identity;

- Bulk stores for organic product should be separate from conventional product stores and clearly labelled to that effect;

- Storage areas and transport containers for organic product should be cleaned using methods and materials permitted in organic production. Measures should be taken to prevent possible contamination from any pesticide or other treatment not listed.

Organic Logo

In order to demonstrate and establish the credibility and communicating the genuineness and the originality of the product, the trademark “India Organic” is created and owned by the Government of India. It is granted on the condition of compliance with the National Standards for Organic Production (NSOP). Only such exporters, manufacturers and processors whose products are duly certified by the accredited inspection and certification agencies, is granted the licence to use the logo, which is governed by a set of regulations.

6. ORGANIC FARMING IN NORTH EAST INDIA

India's North East region stretches from the foothills of the Himalayas in the eastern region and shares its boundaries with countries, such as Bangladesh, Bhutan, China, Nepal and Myanmar. It includes the seven states – Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim, known as the seven sisters. The region is rich in natural resources and is potential region for organic farming by virtue of availability of large stretches of virgin land and crops grown without the use of chemicals. There are vivid reasons for the expansion of organic farming in the North Eastern (NE) region of India. Firstly, the usage of inorganic fertilizers and pesticides in this region has been scanty; secondly, the benefits of green revolution could not be reaped by the farmers in this region as the system of production remained low input based. It is also assumed that the production gap due to adoption of organic agriculture may be negligible; rather, there may be chances of augmenting the productivity based on grounds of organised organic management. Thirdly, the farmers in the NE region have an added advantage as majority of the households maintain livestock, which in turn leads to the facilitation of ready availability of on-farm manures, which could be utilised for organic agriculture. Additionally, heavy rainfall received by the region helps in the production of biomass including weeds, shrubs and herbs, which may be used for farming organically.

Table 6.1 displays the fertilizer consumption in NE region of India. Assam is the leading consumer of fertilizers in the NE region. The Government of Sikkim initiated the Organic Mission in 2003 and banned the use of chemical fertilizers in the State from the same year. Thus, the cultivable land in Sikkim is organic and the farmers in the state are traditional users of organic manure. The States of Nagaland, Mizoram and Sikkim envisage practising 100 per cent organic agriculture. The Sikkim Government envisages converting the entire State into an organic farming State by 2015.

Table 6.1: Fertilizer Consumption in the North East Region of India

State	2010-11	2011-12	2012-13
	Thousand tonnes		
Assam	277.06	275.65	275.65
Tripura	15.94	18.64	25.44
Manipur	6.5	8	10.84
Meghalaya	5.03	4.76	4.85
Nagaland	1.42	1.44	2.17
Arunachal Pradesh	0.83	0.68	0.57
Mizoram	5.6	1.19	1.76
Sikkim	0	0	0
Total	**312.38**	**310.36**	**321.28**

Source: Ministry of Agriculture, Government of India

Since the NE region has tremendous potential for the development of organic farming, a sum of Rs. 100 crore has been allocated by the Government of India in its Union Budget for the development of organic farming in the NE states in the financial year 2014-15. This initiative is anticipated to enable the NE states to benefit from the development of commercial organic farming and alter the agricultural mode from inorganic to organic. The NE region, where agricultural production is predominantly organic, can be instrumental in increasing India's organic agricultural exports.

The Central Institute of Horticulture has been established for the development of horticulture in this region. One of the major objectives of the Institute is the promotion of organic cultivation of horticultural crops. The Institute has been also carrying out various promotional activities for organic farming and is involved in the process of establishing organic model farms in different states in the NE region. The Institute, in collaboration with International Competence Centre for Organic Agriculture (ICCOA), Bangalore, also conducts trainings on Organic Farming and Certification in the North Eastern States.

The Agricultural and Processed Food Products Export Development Authority (APEDA), has been building external market linkages for the food processing units with large corporates in the sector in the NE region. The corporates have established novel organic farms for

Joha rice and sugarcane in Assam, passion fruit in Manipur and pineapple in Tripura. These are now under the management of the respective State Governments.

Area and Production

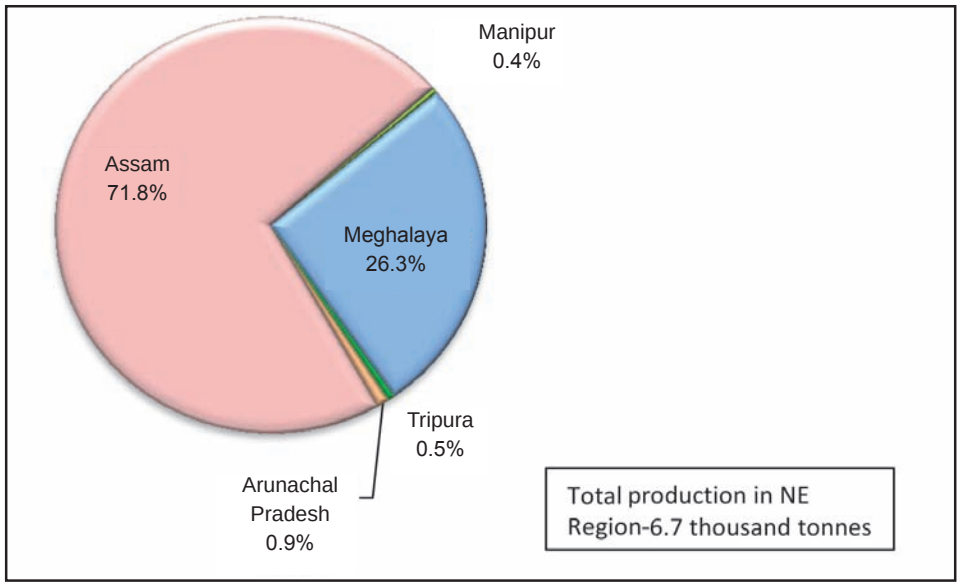
The area under organic cultivation in the north east region has declined at a CAGR of 13.4 per cent during the period 2009-10 and 2012-13 from 97 thousand ha to 63 thousand ha (Table 6.2). In the year 2012-13, the NE region accounted for approximately 1.2 per cent of the aggregate acreage maintained organically in the country. Amongst the North Eastern states, Sikkim is the leading State, constituting around 73 per cent of the total organic area in the region. There has been a substantial augmentation in the organic cultivable area in Sikkim, and the acreage rose from 7.4 thousand ha in 2009-10 to 46.6 thousand ha in 2012-13. Nagaland is the second largest State in terms of area under organic farming in the NE region and contributes 15 per cent in the aggregate area. The organic area in Nagaland reduced considerably in 2010-11 relative to the previous year; however, the State has been displaying a rising trend in organic area since then. Nagaland is followed by Meghalaya (6 per cent), Assam (4 per cent) and Mizoram (2 per cent) in terms of area under organic production. Assam is the largest producer of organic foods in this region accounting for nearly 72 per cent of the organic production in the region followed by Meghalaya.

Table 6.2: Area under Organic Agriculture in the North East Region of India

States	2009-10	2010-11	2011-12	2012-13
	(ha)			
Arunachal Pradesh	1897.27	243	520.43	231.49
Assam	6223.12	2047.33	2048.27	2299.21
Manipur	10871.3	2792.03	1296.91	11.25
Meghalaya	2254.12	2419.67	288.23	3580.49
Mizoram	38674.62	12544.13	7023.97	1182
Nagaland	29715.28	1603.54	7762.6	9771.96
Sikkim	7393.09	1726.34	25716.55	46560.4
Tripura	281.06	348.39	4.05	209.72
North East Total	97309.86	23724.43	44661.01	63846.52
All India Total	**4551899**	**4427519**	**5550405**	**5211142**

Source: Lok Sabha Unstarred Question No.3130 dated 11-02-2014

Exhibit 6.1: State wise Organic Production in the North East Region of India (2012-13)



Source: Lok Sabha Unstarred Question No.3130 dated 11-02-2014

POTENTIAL ORGANIC CROPS

Organic Ginger

Ginger is an important cash crop in India. North East region is emerging as India's organic ginger hub. Organic ginger is being cultivated in the traditional ginger growing villages of Assam, Sikkim, Mizoram, Arunachal Pradesh and Meghalaya. During the Tenth Five Year Plan, it was proposed to cover 1000 ha under the Scheme for Organic Cultivation of Ginger with a financial target of Rs. 137.50 lakhs. In 2012-13, the area under ginger cultivation in the NE region accounted for roughly 44 per cent share in terms of area and 55 per cent in terms of production in the all India estimates. Amongst the NE states, Assam is the leading state with respect to area as well as quantity produced.

Organic Large Cardamom

Large cardamom is an important cash crop cultivated in Sikkim and West Bengal. The production of organic cardamom has declined at a compound annual growth rate of 1.2 per cent from 4.3 thousand tonnes in 2008-09 to 4.1 thousand tonnes in 2012-13. During 2012-13, the aggregate area under large cardamom production in North East region of India was estimated at 26.1 thousand ha. Sikkim contributed approximately 84 per cent of the quantity produced in 2011-12. The

Table 6.3: Ginger Production in the North Eastern States of India

States/UTs	Area ('000 Hectare)			Production ('000 MT)			Productivity (MT/Hectare)		
	2011-12	2012-13	2013-14#	2011-12	2012-13	2013-14#	2011-12	2012-13	2013-14#
Arunachal Pradesh	6.8	7.0	7.0	53.0	57.0-	57.0	7.79	8.14	8.14
Assam	16.99	17.84	17.84	125.42	136.83	136.83	7.38	7.67	7.67
Manipur	2.4	2.4	2.4	3.84	3.84	3.84	1.6	1.6	1.6
Meghalaya	9.44	9.44	10	56.8	56.8	56.8	6.02	6.02	5.68
Mizoram	6.5	7.28	7.0	37.0	28.39	30.0	5.69	3.9	4.29
Nagaland	5.32	5.32	5.32	36.0	36.0	36.0	6.77	6.77	6.77
Sikkim	8.51	9.25	9.25	48.0	51.56	51.56	5.64	5.57	5.57
Tripura	1.8	1.8	1.8	7.6	7.6	7.6	4.22	4.22	4.22

Second Advanced Estimate

Source: Ministry of Agriculture, Government of India

Table 6.4: Area and Production of Organic Large Cardamom in East and North East India

State	2008-09		2009-10		2010-11(P)		2011-12(P)		2012-13(P)	
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
	(ha)	(tonnes)	(ha)	(tonnes)	(ha)	(tonnes)	(ha)	(tonnes)	(ha)	(tonnes)
Sikkim	23729	3675	23729	3540	23679	3310	23155	3234	22755	3483
West Bengal	3305	625	3305	640	3305	608	3305	626	3305	662

P; Provisional

Source: Spices Board of India

plant is a perennial bush and is used as a spice as well as an ingredient in many Ayurvedic preparations.

Organic Pineapples

Organic pineapples have huge export potential and are abundantly grown in almost the entire NE region. The leading states in pineapple production in the NE region are Assam, Tripura, Manipur, Meghalaya and Nagaland. Assam is the largest pineapple producing State in the region contributing to approximately 15 per cent in terms of area and 17 per cent in terms of aggregate production in the country in 2012-13. There is huge demand for organic pineapples worldwide, particularly in Europe. In view of its potential, APEDA has sanctioned an Agri Export Zone for the export of organic pineapples in Darjeeling. The varieties of pineapples produced in North East region of India include *Kew, Giant Kew, Queen and Mauritious.*

Table 6.5: Area, Production and Productivity of Pineapples in the North East Region of India

	2010-11			2011-12			2012-13		
STATE	Area	Pro-duction	Produc-tivity	Area	Pro-duction	Produc-tivity	Area	Pro-duction	Produc-tivity
	(000 ha)	(000 mt)	(mt/ha)	(000 ha)	(000 mt)	(mt/ha)	(000 ha)	(000 mt)	(mt/ha)
Assam	14	220.7	15.8	14.8	231.4	15.6	16.24	268.8	16.6
Tripura	6.8	153.3	22.6	11.6	153.7	13.3	11.84	165	13.9
Manipur	12.2	104.4	8.6	12.6	116.6	9.3	13.06	124.1	9.5
Meghalaya	9.7	86.0	8.9	10.6	112.9	10.7	10.82	109.4	10.1
Nagaland	3.7	57.5	15.5	8.9	100.6	11.3	9.0	85.0	9.4
Arunachal Pradesh	10.9	34.4	3.2	11.9	66.8	5.6	12.28	67.58	5.5
Total	**57.3**	**656.3**	**74.6**	**70.4**	**782.0**	**65.8**	**73.24**	**819.9**	**65.0**

Source: Indian Horticulture Database 2013

BOX 7: Major Pineapple Producing Belts in the North East region

Assam	Kamrup, Karbi Anglobg, Cachar, Dima Hasao, Hailakandi
Manipur	Kangpokpi, Thoubal, Churachandpur, Imphal East, Bishnupur, Chandel
Meghalaya	Ri Bhoi, East Khasi, Garo Hills, West Khasi Hills, Jaintia Hills
Mizoram	Aizwal, Lunglei, Chhimtuipui, Champhai, North South and Western Part of Mizoram, Chhimheipui
Nagaland	Mokokchung, Wokha, Kohima, Zunheboto, Dimapur, Mon, Tuenchang, Phek, Kiphire, Longleng, Peren
Sikkim	North, West East and South districts of Sikkim
Tripura	South Tripura, West Tripura, North Tripura, Dhalai

Source: Indian Horticulture Database 2013

Organic Turmeric

Turmeric is produced organically in all the states in the NE region. Assam is the major producer of turmeric in the NE states and contributes to approximately 56 per cent of the total area under production in the region. Mizoram is the leading producer of turmeric in the NE region and the quantity produced in 2013-14 amounted to 22.99 thousand metric tonnes. In terms of productivity in turmeric, Manipur is the dominant state. The North Eastern states put together contribute to approximately 7.7 per cent of the aggregate production in the country and account for nearly 14 per cent of the total area under turmeric production in India.

Table 6.6: Area, Production and Productivity of Organic Turmeric in the North East Region of India

States/UTs	Area (In ' 000 Hectare)			Production (In ' 000 MT)			Productivity (MT/Hectare)		
	2011-12	2012-13	2013-14#	2011-12	2012-13	2013-14#	2011-12	2012-13	2013-14#
Arunachal Pradesh	0.65	0.64	0.64	3.1	2.86	2.86	4.77	4.47	4.47
Assam	15.47	16.24	16.24	13.3	15.43	15.43	0.86	0.95	0.95
Manipur	1.4	1.4	1.4	16.4	16.4	16.4	11.71	11.71	11.71
Meghalaya	1.94	1.94	1.94	9.98	9.98	9.98	5.14	5.14	5.14
Mizoram	4.78	6.05	6.05	23.9	22.99	22.99	5.0	3.8	3.8
Nagaland	0.12	0.12	0.12	0.5	0.5	0.5	4.17	4.17	4.17
Sikkim	0.85	1.3	1.3	2.9	4.68	4.68	3.41	3.6	3.6
Tripura	1.3	1.3	1.3	6.59	6.59	6.59	5.07	5.07	5.07

Second Advanced Estimate
Source: Ministry of Agriculture , Government of India

Organic Litchi

The major litchi producing states in the NE region are Assam and Tripura. It is also grown in minor quantities in Manipur, Meghalaya, Nagaland and Sikkim. The fruit is cultivated in organic conditions in these States. The varieties of litchis grown are *Shahi, China, Bombai and Late Large Red.* The share of Assam in the aggregate litchi production in 2012-13 was approximately 8.6 per cent, while that of Tripura was 3.1 per cent, respectively.

Table 6.7: Area, Production and Productivity of Litchi in Assam and Tripura

	2010-11			2011-12			2012-13		
STATE	Area	Production	Productivity	Area	Production	Productivity	Area	Production	Productivity
	(000 ha)	(000 mt)	(mt/ha)	(000 ha)	(000 mt)	(mt/ha)	(000 ha)	(000 mt)	(mt/ha)
Assam	5.2	40.5	7.8	5.3	41.5	7.8	5.63	49.6	8.8
Tripura	2.9	16.6	5.6	3.2	16.6	5.2	3.46	18	5.2

Source: Indian Horticulture Database, 2013

BOX 8 : Major Litchi Producing Belts in the North East Region

Assam	Dibrugarh, Goalpara, Sonitpur, Lakhimpur, Jorhat, Golaghat,Kamrup, Nalbari, Barpeta, Bongaigaon, Nagaon
Manipur	Imphal West, Bishnupur, Imphal East, Thoubal, Churachandpur, Chandel
Meghalaya	East Khasi Hills, Ri- bhoi, Garo Hills
Sikkim	North Sikkim, East Sikkim, South Sikkim and West Sikkim

Source: Indian Horticulture Database 2013

Others

In North East India arecanut or betel nut, locally called supari, is grown on a large scale in Assam, Tripura, foothills of Meghalaya, Mizoram, Nagaland, Manipur and Arunachal Pradesh. Passion fruit is cultivated in the North East region in natural conditions. Both the crops hold considerable export potential. In NE Region, passion fruit is grown in Meghalaya, Manipur, Mizoram, Nagaland and Sikkim. The juice of passion fruit is extensively used in confectionaries and preparation of pie, cakes and ice creams. Joha rice cultivated in Assam has also been recognised for its export potential. These crops are mostly grown in natural organic conditions without use of any chemical inputs.

GOVERNMENT INITIATIVES

National Horticulture Mission for North East Region of India and Himalayan States

The Mission is a part of the Mission for Integrated Development of Horticulture (MIDH) Scheme, being implemented for the development of horticulture in the North Eastern and the Himalayan States, including Sikkim, and the Himalayan states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand. The Mission consists of four Mini Missions, which individually address particular objectives and covers the entire spectrum of horticulture from production to consumption through backward and forward linkages. The Scheme has various aims, such as technology generation through farm demonstrations, setting up of nurseries, area expansion under high yielding varieties, encouraging mechanisation and boosting processing and value addition. Additionally, one of the significant objectives of this scheme is to boost organic cultivation in the region. In order to achieve this goal, vermi compost units have been set up in the North Eastern and Himalayan States. Manipur was the leading state

with nearly 2200 units being set up in 2011-12. Under this programme nearly 101 certification units were set up and among these 94 were established in the North East region. Technology generation being an important target under the Mission, detailed research was carried out as a part of this Mission, including a Study on development of package of practices on organic ginger and the suitable dosage of organic and bio fertilizers.

Table 6.8: Physical Progress under Horticulture Mission for the North East Region of India and Himalayan States (2011-12)

State	Organic Farming	Vermi compost units	Certification of Organic farming
	(ha)	(nos.)	(No.)
Arunachal Pradesh	1362	180	7
Assam	0	100	0
Manipur	0	2200	0
Meghalaya	0	0	0
Mizoram	0	0	0
Nagaland	0	200	0
Sikkim	4800	0	87
Tripura	0	892	0
Himachal Pradesh	314	120	0
Jammu & Kashmir	130	0	7
Uttarakhand	507	0	0
Total	**7113**	**3692**	**101**

Source: HMNEH Annual Report 2011-12

Table 6.9: Financial Assistance Provided for Promotion of Organic Farming under Horticulture Mission for North East and Himalayan States

States	Financial Assistance Provided			
	2009-10	2010-11	2011-12	2012-13
	(Rs. Lakh)			
Arunachal Pradesh	131.0	25.8	123.48	243.45
Assam	173.1	28.6	35.6	97.3
Manipur	78.0	51.3	110.0	260.1
Meghalaya	0	0	0	0
Mizoram	126.2	152.0	16.5	20.0
Nagaland	190.0	81.5	123	202.5
Sikkim	315.25	332.48	492.5	558.48
Tripura	141.0	130.4	79.4	52.0
Jammu & Kashmir	61.5	67.25	117.1	165.91
Himachal Pradesh	107.0	216.28	398.21	79.45
Uttarakhand	84.31	201.1	53.6	59.56
Total	**1407.36**	**1286.61**	**1549.39**	**1738.65**

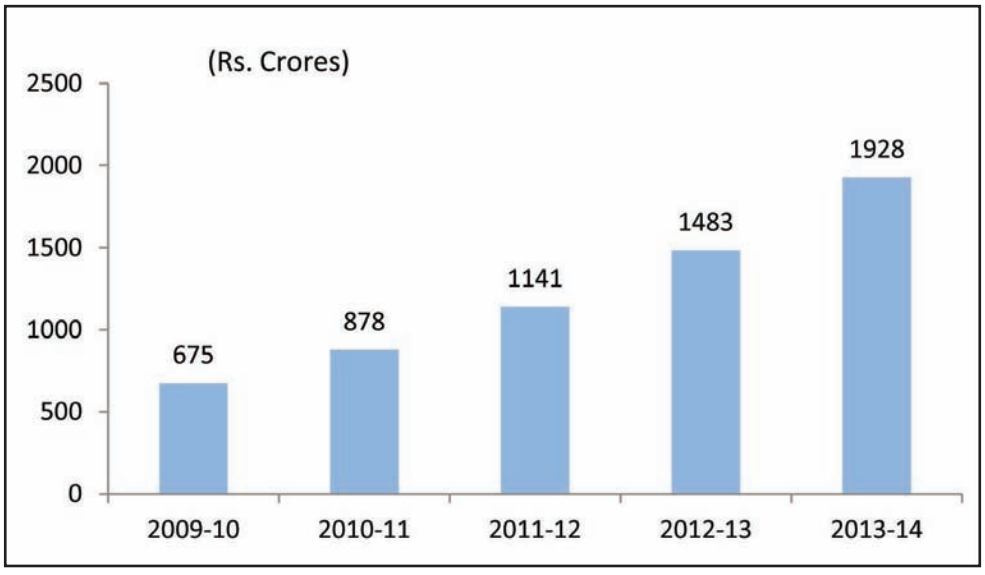
Source: Lok Sabha Annexured Starred Question No.246, dated 27.08.2013

7. ORGANIC PRODUCTS: STATUS OF INDUSTRY AND TRADE FROM INDIA

As per Industry Sources, the Organic food market in India was valued at Rs. 675 crore (USD 150 Million) during the year 2009-10. The market has been estimated to be worth Rs. 1928 crores (USD 306 Million) during the year 2013-14, growing annually at the rate of 30 per cent. The augmentation in the disposable income and concerns for health are enabling the organic food market in India to increase steadily.

The organic product industry in India can be broadly classified into two heads: organic foods and other organic products. The organic food industry in India can be categorized into six product segments: Vegetables and Fruits; Processed Foods and Other Processed Items; Dairy Products; Beverages; Bread and Grains; and Meat, Fish, and Poultry. The other organic products segment include

Exhibit 7.1: Organic Food Market in India



Source: Exim Bank Analysis

organic oilseeds, cotton, textiles, spices and condiments, aromatic oils and oleoresin, medicinal and herbal plants and products, and honey.

The organic product industry in India can be mainly segmented by trade, crops produced and products sold or in demand.

Segmentation by Trade

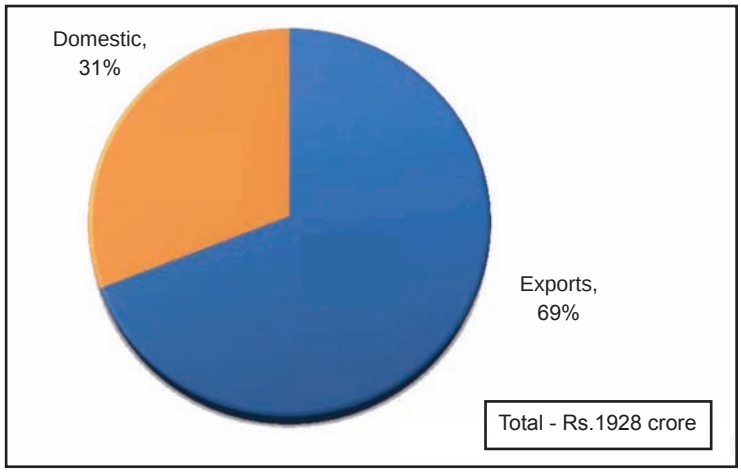
The organic product industry is mostly export oriented. The exports segment accounts for a share of around 70 percent of the industry (Exhibit 7.2). Due to high sale price of organic products, resulting out of high cost of production, major demand originates from the developed countries. The key export destinations of Indian organic products are the USA, Canada, South Africa, and the European countries. Organic cotton and textiles is the largest exporting segment from India. Other organic products with high demand in the international markets are tea, basmati rice, pulses, honey, spices, coffee, and fruits such as mangoes, bananas, and sugarcane. India is a major exporter of organic mangoes to the US.

The domestic sales segment accounts for around 30 percent of total organic products sales from India, which has been witnessing a sharp growth in the recent years. According to the industry sources, the Indian market for organic products is growing at 30 percent to 40 percent annually.

Segmentation by Crops Grown

The Ministry of Agriculture, Government of India, estimates that organic

Exhibit 7.2: Organic Food Market in India- Segmentation by Trade (2013-14)



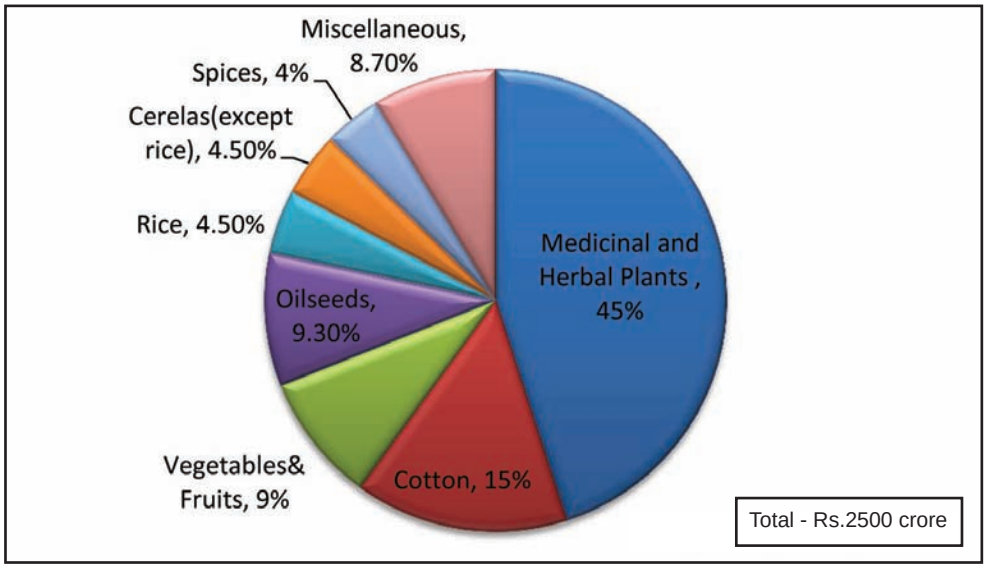
Source: Exim Bank Analysis

food products account for nearly 1 percent of the total food products grown in India[1].The cultivated area under organic certification in India was approximately 0.72 million hectares, while the area in wild harvest in 2013-14 was nearly 4 million hectares. Total area under organic farming in India is estimated at 4.72 million hectares (including wild harvest) during 2013-14. According to ASSOCHAM, the Indian organic farming market is valued at Rs. 2500 crores (Exhibit 7.3). Medicinal and herbal plants constitute the major portion of organic product industry when segmented by crops grown.

Export of Organic Foods from India

Exhibit 7.4 displays the export of organic foods from India during the period 2007-08 to 2013-14. The exports of organically managed foods have been witnessing a rising trend over the years both in terms of value as well as volume. The value of exports of organic foods increased at a compound annual growth rate of 18 percent during this period with exports increasing from Rs. 498.2 crores to Rs.1328.61 crores. The volume of exports presented considerable growth as it increased at a compound annual

Exhibit 7.3: Organic Product Industry - Segmentation by Crops Grown



Source: Assocham

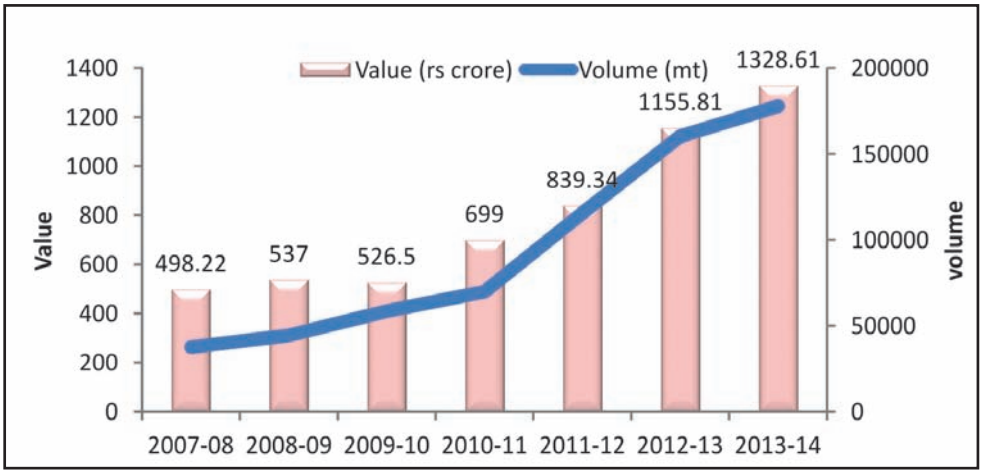
[1]Organic Food Market in India 2012-16, TechNavio Analysis

growth rate of 29 percent during the same period from 38 thousand tonnes to 178 thousand tonnes. In the year 2013-14, the exports of organic foods increased at a year-on-year growth rate of 15 percent in value terms and 11 percent in volume terms, respectively.

Exhibit 7.5 present the export destinations of organic foods from India for the year 2010-11 and 2013-14. The export of organic foods from India has risen at a compound annual growth rate of 23.9 percent from Rs.698.6 crores in 2010-11 to Rs.1328.61 crores in 2013-14. In volume terms, there has been a growth of 36.5 percent as the volume of exports increased from 70 thousand tonnes to 178 thousand tonnes during the same period.

Europe has been a major market for organic food exports for India in both the years. However, the share of EU has declined during the analysed period. The share of EU in total exports of organic foods in 2010-11 was approximately 52.2 percent, while the share in 2013-14 was 41.7 percent. In 2013-14, exports of organic foods to the European Union valued Rs. 553.85 crores and the volume of exports was nearly 56.9 thousand tonnes. Apart from countries of the European Union, Switzerland was the leading importer of Indian organic foods in Europe. Switzerland accounted for 7 percent of the share of European imports of organic foods from India in value terms, and 6 percent in terms of quantity.

Exhibit 7.4: Export of Organic Food from India



Source: Lok Sabha Starred Question No.268 dated 25th July,2014

USA accounted for 16.5 percent of India's exports of organic foods in 2010-11, with the share rising significantly to 37.6 percent in the year 2013-14. In terms of value, exports to USA increased from Rs.115 crore in 2010-11 to Rs. 498 crore in 2013-14. Rising trend in exports can be observed in volume terms as well, as the quantum of exports increased from 13 thousand tonnes to 75 thousand tonnes during the analysed period.

Asia was the third largest importing region of Indian organic foods and constituted approximately 15.4 percent share in India's aggregate exports of organic foods. This share declined substantially in 2013-14 to 2.8 percent.

In 2013-14, Japan was the leading Asian country that imported organic foods from India with nearly 43 percent share in the value of aggregate exports of organic foods from India to the Asian region. In terms of volume, Japanese imports of Indian organic foods stood at 309 tonnes in 2013-14. UAE was the second largest Asian country importing organic foods from India and constituted 11 percent of the total imports of Indian organic foods by Asia. The quantity of imports by UAE in 2013-14 was 171 tonnes and valued at Rs.4.26 crore. Israel, with import of organic foods from India worth Rs.3.72 crore, is the third largest importer of Indian organic foods in the Asian region. The other significant Asian importers of organic foods from India are Sri Lanka (7 percent), South Korea (6 percent), Philippines (5 percent), China (4 percent) Iran and Singapore (3 percent each).

Canada accounted for 14.3 percent of the aggregate organic foods imports from India and this share declined marginally and reached 13.7 percent in 2013-14. Although the share of Canada in total exports of organic foods from India has fallen, the volume as well as the value of imports has displayed a rise in absolute terms. The import of organic foods by Canada from India increased at a compound annual growth rate of 36.8 percent and 22 percent in terms of quantity and value, respectively.

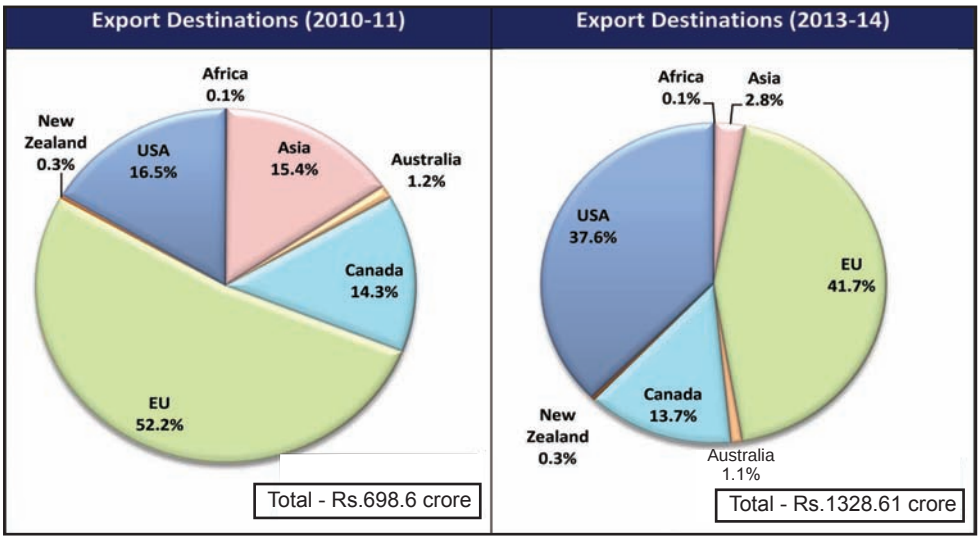
The share of exports of organic foods from India to Australia has been stable during the analysed period, 2010-11 and 2013-14; however, while the value of exports has ascended, the quantum of exports has deteriorated over the years. Similar is the case with respect to India's organic foods exports to New Zealand; the exports of Indian organic foods have surged

in terms of value, while in terms of volume it declined. The quantity of import of Indian organic foods by New Zealand has marginally declined at a compound annual growth rate of 0.5 percent during the period 2010-11 and 2013-14, while the value of imports has increased at a compound annual growth rate of 30.6 percent during the same period.

Africa occupied 0.1 percent share in the aggregate exports of organic foods from India in both the years 2010-11 and 2013-14. However, the quantity of exports of Indian organic foods decreased at a compound annual growth rate of 29 percent, while the value increased at a compound annual growth rate of 24 percent during the analysed period. In the year 2013-14, the exports of organic foods from India to Africa was valued at Rs. 1.73 crore, and South Africa constituted major share of 43 percent in the total exports. Egypt's import of organic food amounted to 12 tonnes in 2013-14 and had a share of 18 percent in the value of aggregate imports of organic foods by Africa from India. The islands of Seychelles and Mauritius had a share of 15 percent and 12 percent, respectively, in the value of exports of organic foods to Africa from India.

Table 7.1 displays the top ten destinations for organic foods from India. The European Union with a share of 59 percent registered a significant growth both in quantity and value of exports from India during the two year period 2011-13. The value

Exhibit 7.5: India's Export Destinations for Organic Foods



Source: Lok Sabha Starred Question No.268 dated 25th July, 2014

of exports of organic foods from India to the European Union increased at a year-on-year growth rate of 34 percent during the same period. The other significant Indian organic foods importing regions are USA, Canada, Switzerland, Bangladesh, Japan, UAE and Malaysia.

Organic Cotton

Cotton grown without the use of synthetically compounded chemicals and fertilizers is considered as organic cotton, which needs certification in order to be claimed as organic. Consumers globally are eager to buy organic apparels, fabrics and other products manufactured without the usage of pesticide residues. As India is the largest producer of organic fibres and textiles, there are many opportunities for the production and export of organic textiles throughout the world. A majority of the textiles produced is being exported to Europe and the US.

Table 7.1: Top Ten Export Destinations of Indian Organic Foods

	2012-13		2011-12	
Country/ Region	**Volume**	**Value**	**Volume**	**Value**
	(tonnes)	**(Rs. Crore)**	**(tonnes)**	**(Rs. Crore)**
European Union	82835.37	678.51	51138.86	505.29
USA	34292.35	228.72	37630.23	197.94
Canada	33645.8	146.05	19848.91	66.66
Switzerland	3455.27	27.57	2161.51	21.04
Bangladesh	805.48	23.56	330.75	4.6
Japan	199.22	11.11	232.77	8.79
UAE	1728.46	10.6	167	2.02
Malaysia	560.06	6.62	42.87	0.74
Australia	468.26	6.6	349.14	5.15
New Zealand	409.68	2.57	499	2.97
Total	**160277**	**1155.81**	**115417.2**	**839.34**

Source: Lok Sabha Starred Question No.268 dated 25th July 2014

As per the Textile Exchange Organic Cotton Market Report 2013, India was the largest producer of organic cotton globally. China displayed reasonable volume of growth in the production of organic cotton, while the production of organic cotton in Turkey dropped. Thus, in 2012-13, China was the second largest producer of organic cotton followed by Turkey. The other major organic cotton producing countries are Tanzania, USA, Burkina Faso, Egypt, Mali, Uganda, and Peru.

As per the Farm and Fiber Report, the total area under organic cotton global production in 2011-12 was nearly 316,907 ha with 637,153 bales of cotton fiber production.

According to the Organic Cotton Market Report, the global retail sales of organic cotton reached an estimate value of US$ 3.2 billion in 2008, registering a 63% increase over the US$ 1.9 billion market value in the previous year. There has been a growth in the market over the years as the retail market size for organic cotton in the year 2012 reached US$ 8.9 billion accounting for a 31% growth as compared to the the year 2011, when the retail market size was approximately US$ 6.8 billion.

In consideration to the rising demand for organic textiles, India's Agricultural and Processed Food Products Export Development Authority (APEDA), has developed Indian Standard for Organic Textiles (ISOT) under the National Programme for Organic Production (NPOP) which is intended to provide a major boost to the textile industry. As per the notice by the Director General of Foreign Trade (DGFT), Ministry of Commerce, Government of India any product exported as organic product will be required to be certified by the National Program for Organic Production (NPOP). The standards for organic textiles cover the cultivation and production of organic fibres and the manufacturing, processing, packaging, labelling and distribution of organic textiles. The objective behind this standardisation is to certify all the possible operations from the cultivation, including the harvesting and finally up to the final product. The final product may include fibres, yarns, fabrics, made-up and garments including home textile products.

As per the Annual Report of National Centre of Organic Farming 2012-13, the production of organic cotton in 2012-13 was nearly 111.38 thousand mt and there has been a drastic fall in the production in the two year period

as the production in 2010-11 was approximately 552.38 thousand mt. The major organic cotton growing states in India are Madhya Pradesh, Maharashtra and Orissa. The most critical challenge faced in organic cotton production is the shortage of non-GMO seeds. The seed industry both in public and private sector is focussed on catering to the created demand for BT-Hirsutum hybrid, leaving the non-BT farmers with limited choices.

As per Cotton Connect, the organic cotton sector is at a crucial stage of development, where in the sector faces the possibility of a global shortfall of up to 50% in 2015. There might be a gap between the demand and supply, as the brands continue to consume huge varieties of organic cotton, regardless of the decline in production.

Some of the issues related to the cultivation of organic cotton are:

Seed Supply: Due to the rising demand of the GM cotton seeds, the seed producing companies are not interested in the production of the non-GM seeds which are required for the organic cotton production. As per ICCOA, most of the non-GM seeds belonged to the old stock. Thus, it is extremely important that there should be regular availability of organic seeds for the farmers. The demand of the farmers should be communicated to the seed producing companies along with the guarantee of buying the output, and requisite financial advances of around 12 months ahead. Moreover, the farmers must also have the certainty that their output is sold. Thus, the seed supply chain needs to be developed by matching the demand and link groups. The supply chain can be upgraded if the stakeholders cooperate and make their contribution at the apt time.

Independent seed production can be done by producer groups, as it is a remunerative venture and the dependency on seed companies reduces. Moreover, along with the private seed producing companies, seeds can be procured from the public sector as well, such as the State Farmers Cooperatives, National and State Seed Cooperation, for instance.

Seed Research and development: Since the farmers are not aware and educated enough about the pest, disease and nutrient management, they have to depend on expensive bioinputs that are sourced at exorbitant rates from the private sector causing the cost of farming to rise. There is a

need for enhancement in the research and development activities. The agricultural research organisations should augment their research on organic cotton seeds and identify better quality hybrids

Farmers Encouragement: It is essential for the farmers to be aware of the organic farming and its advantages. The formation of a farmers group can be very beneficial as they can promote the concept on this environmentally sustainable way of farming. There should be the usage of better communication tools and increased extension services to deliver trainings to the farmers. The farmers need to be enlightened about the notion of compost making, green maturing, inter cropping and other such organic methods to improve the cotton yield along with an addition to the farmer's revenue

An Alternative to Organic Cotton *Better Cotton Initiative*:

The Better Cotton Initiative is a holistic approach to sustainable cotton production which covers the three pillars of sustainability: environmental, social and economic. The system is designed to ensure the exchange of good practices and to encourage the scaling up of collective action to establish better cotton as a sustainable mainstream commodity. Cotton Initiative is a voluntary programme, with a view to produce cotton taking into account the protection of the environment and simultaneously be economical. As per the Yes Bank Report "Cotton Market and Sustainability in India"2012; the standards developed by the BCI tend to take a moderate approach towards sustainable cotton. The purpose of this standard is to transform the market by bridging the gap between unsustainable cotton and organic cotton. The production process is manageable by the farmers, and not governed by stringent protocols. The demand for Better Cotton was created by the retailers like IKEA, Marks & Spencer's, Levi's, Adidas and H&M. Later several partners of the global retailers joined in the process.

Organic Soybean

Organic soy, since the 1970's, has been beneficial in preserving the soil and eco system and reducing the usage of agrochemical inputs. Soybeans have a wide variety of uses as it has high protein content and is used in the animal feed industry. Moreover, it is processed for human consumption and made into products like soy milk, soy flour, soy protein, tofu and many retail products. Globally,

approximately 87% of the soybean production is crushed for soy meal and soy oil and the remaining is for direct human consumption. Since such a large proportion of soybean is produced for animal feed, the demand growth for high protein diets globally is having an impact on the demand and growth of the soybean production. As per the State of Sustainability Initiatives Review 2014, the major producers of organic soybeans globally are China, USA, Brazil, Argentina and India.

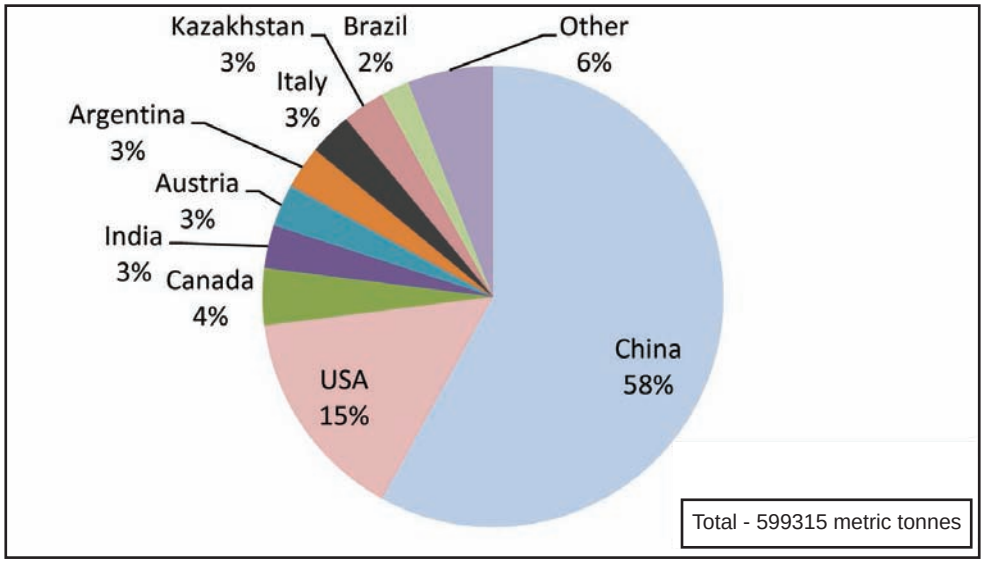
As per the International Federation of Organic Agriculture Movement (IFOAM), in 2013 almost 30 per cent of the global organic oilseed area is utilized in cultivation of soybean, followed by sunflower seeds and peanuts. During 2013, the global area under organic oilseed production was approximately 224.6 thousand ha.

In the last three years (since 2008), reported estimates of organic soybean production and harvested area have more than tripled, with an average annual growth rate of 48 per cent, although this is largely due to an incorporation of Chinese production volumes into the statistics for the first time in 2010. It is expected that the production of organic soybeans will increase over the years; partly due to an EU Regulation on Organic farming that will require 100% of protein foodstuffs for monogastric animals (eg. Poultry), be of organic origin in the near future (European Commission 2012). As the European Union is the second largest market for organic foods, it is expected that the implementation of this regulation will have an important impact on the future supply and demand of organic soybean for feed.

Organic certified soybean are sourced from seven countries namely China (58%), United States (15%), Canada (4%), India (3%), Austria (3%), Argentina (3%) and Italy (3%).

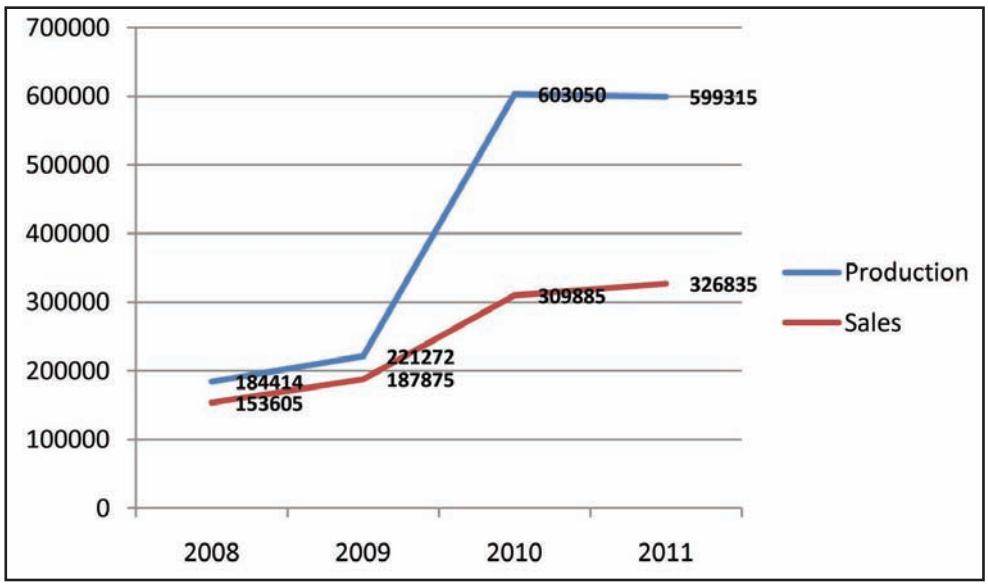
In India, organic soybean is the largest traded commodity and as per APEDA, among the organic food products exported, the organic soybeans have the largest share of nearly 70%. There is growing demand for organic meat in North America, which is leading to increased organic livestock production with a proportionally growing demand for organic feed. According to the United States Bureau Trade Data, India is a significant exporter of organic soybeans to the United States, second only to China. India exported approximately 27% of the United States' imports from the world. There was a major rise in exports from India to USA, in terms of value, which

Exhibit 7.6: Organic Soybean Production by Country, 2011



Source: SSI Review, 2014

Exhibit 7.7: Production and Sales of Organic Soybeans



Source: SSI Review, 2014

increased from US$ 5.3 million in 2011 to US$ 29.8 million in 2013. The other competing countries in India's export of organic soybean to the United States are Canada, Argentina, Romania and Kazakhstan. The organic soybean used majorly as an animal feed has considerable demand in the United States as the Organic Livestock Requirements by the USDA include that only 100% certified organic feed should be fed to the livestock, except for trace minerals and vitamins used to meet animal's nutritional requirements.

Indian Organic Products Industry – Way Forward

Exports are forecast to continue to be the growth driver for the Indian organic products industry. India majorly exports organic processed food products, organic rice, beverages and other cereals and millets to the USA, Canada, Europe, and select South East Asian countries.

Organic products market in India, currently is predominantly metro based. It is estimated that around

Table 7.2: Organic Products and Key Producing States in India

States	Total Certified Area (in Acers)	Main Crops
Madhya Pradesh	7.06 million	Cotton, oilseeds, cereals such as maize and sorghum, pulses
Himachal Pradesh	1.55 million	Vegetables and fruits, cereals such as maize and sorghum, wheat, pulses
Rajasthan	0.536 million	Oilseeds, cotton, cereals such as maize and sorghum, spices
Maharashtra	0.437 million	Cotton, oilseeds, fruits and vegetables, pulses
Uttar Pradesh	0.274 million	Cereals such as maize and sorghum, fruits and vegetables, wheat, rice
Uttarakhand	0.259 million	Cereals such as maize and sorghum, herbs and medicines, oilseeds, rice
Karnataka	0.217 million	Cereals such as maize and sorghum, fruits and vegetables, wheat, rice
Gujarat	0.118 million	Cotton; wheat; cereals such as maize, bajra, jowar, gram, tur; and vegetable and fruits

95 per cent of the organic brands market exists in the top 10 metros e.g., Delhi (NCR), Kolkata, Mumbai, Pune, Chennai, Bengaluru and the other Tier II cities – e.g. Indore, Nasik, and Nagpur.

The domestic market for organic products in India is underdeveloped, considering the historical growth in the organic farming activity in India. The growth under various organic segments in India is estimated by various studies, which is presented in Table 7.3. The growth estimates provides significant insights on the potential of these segments.

Table 7.3: Major segments in Organic Sector- Growth Trends

Product	Growth in 5 years (beginning 2010) (%)
Spices (all)	14
Pepper	5
Turmeric	4.5
Tea	14
Rice	11
Fruits (all)	8
Banana	15
Mango	5
Orange	5
Pineapple	5
Herbal extracts	8
Cotton	8

Source: Yes Bank

Based on the world export demand and products exported from India, the key organic segments in India are:

- Beverages – Tea
- Organic rice
- Organic Wheat Flour
- Organic Millets/Flours
- Organic Pulses
- Organic Ghee
- Organic, Cold Pressed Edible Oils

Based on the farm production and largest area under production, the key organic segments in India include:

- Organic cotton –(exported predominantly; used in organic clothing)
- Organic rice
- Organic wheat
- Organic pulses
- Organic millets

In India, presently, two kinds of strong under-currents of organic farming is seen; from limited to rapidly increasing certified organic farms, mainly producing for a premium price in the domestic or export market, and the large number of those noncertified

organic farms, which produce for their own households accessing local markets only. The Government of India through policy measures has started promoting organic farming, which can be a profitable strategy to raise the income level of the small and medium farmers. Some states, such as Sikkim have already declared their farms as completely organic. There are many States where the production is by default organic. Uttaranchal is one such state. However, to market organic products internationally, obtaining globally accepted certification is mandatory.

India's long tradition of ecological agriculture, in many different forms has been rooted in the farmer's approaches. For enterprises in organic industry, in order to boost trade in Indian agricultural products and capture a significant share of global market, it is an imperative that India becomes home to such organic products, which give the country and its products a competitive edge in global market.

The global competitiveness for organic products exported from India is marked with a number of weaknesses, whereas lot of opportunities does exist in the domestic and international market. The major threats are from that of competition from other peer countries for which area-specific varieties are to be developed.

8. ORGANIC MARKET: CHALLENGES AND STRATEGIES

The trade in organic products is growing rapidly. Growth rates in the sector show that the organic products, which supplied only to niche markets, a few years ago, have now entered mainstream marketing channels. Although the growing market offers considerable opportunities, it also poses several challenges. Besides market related challenges, such as supply chain and certification issues, ecological and social dumping and or bio-colonialism have also emerged as significant challenges to the organic movement itself.

Over the last decade, organic products have been marketed in increasingly larger quantities outside the area in which they are grown. Whilst seasonal production and regional markets remain an important objective in organic farming, there are nevertheless plenty of export opportunities for such products from the developing countries, such as coffee, tea, cacao, bananas, spices, herbs and other subtropical and tropical products.

'Ecological dumping' is becoming more common and is a practice strongly resisted by the organic movement. There is a very real difference between production in-keeping with the holistic principles of the organic movement and the purely commercial production of 'natural', 'biological', or 'organic' products, such as organic cash crops in monoculture.

Bio-colonialism is one of the major challenges facing the organic movement. Given the much greater economic wealth and 'buying power' of the developed countries, many products of organic quality find their way into these premium markets and so become unavailable to local and regional populations. Much more effort and marketing creativity is needed if organic food is to become accessible to more people throughout the world.

Besides, the challenges faced by the organic product industry may be broadly classified under supply chain management, marketing, and product and sector development.

SUPPLY CHAIN MANAGEMENT

Supply Chain Systems

Supply chain management is one of the key issues to the success of developing an organic market. Efficiency and quality management are determining factors and need particular attention. Key issue in quality development is the establishment of a quality assurance system throughout the supply chain. This involves quality of raw materials, procurement control system, processing quality, packaging, and stock management. Both the marketing organisations and the producers need to apply a Total Quality Management (TQM) for their operation so that product quality is continuously maintained.

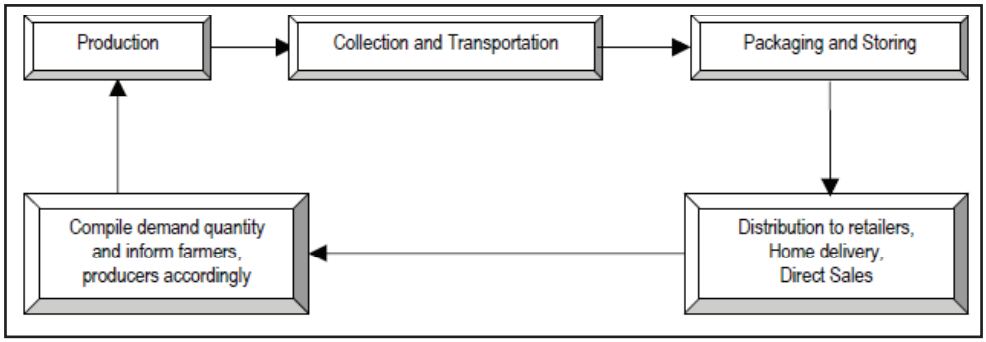
Channeling supplies for organic markets is a complex process involving multiple stakeholders. For organisations involved in wholesale, retail or operating home delivery systems, a basic flowchart prescribed which is as given in Exhibit 8.1.

Different organisations apply quality control measures at the different levels of the supply chain.

Organizing the supply has been a long standing challenge, particularly when dealing with fresh produce, such as vegetables and with different (contracted) producers. Contact with the producers is sometimes not easy (lack of reliable telephone or other communication network, farmer groups not well organised) and sometimes last-minute orders from customers cannot be included.

Often the increasing demand for organic products cannot be served because of poor collection channels, insufficient production of organic

Exhibit 8.1: Supply Chain System in Organic Product Sales



Source: IIRD

products, poor transportation facilities and (in case of processed goods) lack of proper processing facilities in-line with organic standards. The undersupply of appropriate storage infrastructure is also referred to as a major challenge in the supply chain of the organic produce.

Quality control remains a difficult area. Although many organisations in India have developed clear quality standards, often together with the farmers, and have included them in their contracts, it is difficult for the staff directly involved in purchasing from the farmers to always comply with contract strictly, especially when farmers have no other sales outlets and pressurizes collection staff to accept all their produce. In addition, when amounts are not similar to what was ordered it becomes difficult for the staff to find the balance between quality and having enough product.

Adequate training of farmers, producers and processors also has been of considerable challenge. There is a large knowledge gap spanning the marketing system in place, the value chain (i.e., activities that a firm performs to deliver a valuable product or service for the market) and the value delivery network (i.e., supply chain network) in the organic food system.

Strategies

Several organisations involved with the trade in organic products plan a number of future changes. These changes relate to improvements in the distribution (setting up own cold room, purchasing air-conditioned truck for transportation) and the packaging (packaging done fully by company staff, setting up specific packaging centre). Another focus area is to have better control over quality and availability; for example, by establishing quality control at each point in the supply chain.

Some of the strategies that may address the supply chain management challenges in the organic trade include:

- Develop direct business relations;
- Quality is the key: Implement and follow diligently quality assurance scheme, TQM;
- Planning sales in line with the production;
- Develop advance purchasing scheme to meet the farmers' expectations of sales volumes at desired price;

- Provide training to the producers;
- Technological development important to improve efficiency and lower cost of production.

Food origin and mileage

The concept of food mileage, which refers to the distance the food is transported from the time of its production until it reaches the consumer, gains prime importance in the case of organic food products. Since the past decade, the country of origin of the food and food mileage are becoming increasingly important. Maintaining supply volumes and supply continuity are major concerns for most food companies.

Further, organic food import also highlights the issue of food mileage, and is linked to agricultural sustainability, as "organic food imports" do not match with local food production, freshness and community cohesion.

Strategies

- Streamlining logistics is key to minimize food mileage. To minimize lead time from farm to shelf and thereby increase the shelf life of fresh food, a holistic approach is required, which may include revamping warehouse management, order management and transportation management,
- This may include implementation of integrated automated storage/ retrieval systems, automatic identification of products, conveyors, order-picking systems, RFID, sortation equipment, and software and systems integrations.

Size of farms and collaboration

The majority of organic farms are small, privately-owned, family enterprises. These independent operations often struggle with economic scale. The production of produce in small to medium farms is rather limited, amounting to a few hundred tonnes. This challenge is particularly evident in sectors, such as dairy, poultry, fruit and vegetables, where scale and linkage with primary processing is critical. Further, organic food requires more resources, particularly human resources, during production. Farming is a capital-intensive business, and productivity is enhanced with investment in new equipment. Similarly, marketing channels are more difficult to access for smaller producers. Further, many buyers seem to be ambivalent about channels of distribution.

Strategies

- Collectivisation of the unorganized small organic producers;

- Forming or connecting with cooperatives and producer companies enable the producers to put together their produce, obtain funds and possess the processing and storage facilities strengthening the bargaining power;

- Cooperatives and producer companies employ professionals for tasks, such as accounting and marketing, so that the farmers can solely focus on production strategies;

- Enabling the small and marginal farmers utilize the facilities of storage and processing units in the proximity of production. This would empower the farmers to engage better with other participants in the market;

- Providing trainings in marketing as well as on specialized methods of production to the farmers and producers, so that they are able to adapt to the current trends in organic product market.

Handling and Stock Management

As post-harvest chemicals and processing additives are generally to be avoided in organic production, good and quick post-harvest handling as well as accurate stock flow management is important to maintain quality, longer shelf life and minimising waste. Any loss due to deterioration is loss of potential income as well as increased cost.

Stock control procedures and stock management are very important in organic product industry in order to accurately manage the flow of products, including purchase, sales and waste, so that informed decisions can be made on planning of production, prices and purchase amounts and timing. Stock control procedures are also essential to prevent mixing, particularly when the organisation is handling different grades, for example certified organic, in-conversion organic and conventional produce, in the same product category. However, many organisations struggle with keeping their information up to date, and as a result, the information generated is not always used as effectively as could be.

In general, organisations dealing with organic products receive the products from their producers and store these in their own storage areas. Upon delivery or pick up of the produce, farmers receive a receipt from the organisation. Payments are made on the spot or after a mutually agreed period; for example once a month. Most organisations have a centralised record for all products in the storage, usually handled by the marketing

managers or another specific staff, and mostly they do not use stock inventory planning procedures.

Documentation is generally very crude based on simple forms and a regular, mostly monthly, inventory based on the average monthly sales of the products. Some organisations use a spreadsheet computer application, to record and summarise the information generated. However, sometimes this consolidation is done with delays, which makes the actual use of the information generated less effective.

Strategies

- Total Quality Management is also essential in handling and stock management;

- Monitoring purchase, waste, and sales are important so that informed decisions can be made on planning of production, and purchase volume;

- Making the system effective and use the data generated. E.g. For reordering packaging materials and packed products, it is useful to set a reorder level for each item, at which the purchase process is initiated;

- Having contingency plan for waste (promotion at some times). E.g., for unsold stock that cannot be stored (mostly fresh produce) many initiatives could be followed such as giving away to the hospitals, orphanages or to small hotels in the city. Leftovers can sometimes be also given away free as a promotion.

Marketing and Sales Management

Marketing of organic products, worldwide as well as in India, generally could be distinguished as follows:

- Direct Sales/Farmers Markets, for example the organic bazaars organised by the Institute for Integrated Rural Development (IIRD);

- Retail;

- Wholesale/Retail/Export.

Most organisations fall into the second category, but some organisations also do wholesale or low volume exports. Marketing organic products is an educational process and it takes many years to educate the people. Marketing efforts are related to both the social and ecological aspects of the products. In doing so, a lot of efforts need to go into capacity building, production related issues, quality parameters and the logistics of procuring products, especially

from remote and inaccessible areas. However, in most cases the products sell more because of their quality and competitive pricing, rather than the social marketing. The key is quality of produce; it is the fundamental criteria to secure the market position and product branding.

Organic certification is also becoming increasingly important in relation to marketing, as there are many self claimed green products in the market. Consumer confusion and loss of confidence on organic products can create long-term implications for future market. This is especially true for new consumers having little knowledge about the organic products.

Supermarkets are potentially attractive channels for the sale of organic products. However, they are often very demanding in terms of product quality, availability and price. Usually, supermarkets, dictate the type of packaging material for the products they will purchase, which creates additional expenses for the marketing organisation or the producers.

Strategies

Marketing Communication

- Pro-active with certification (expensive, but essential to build consumer trust);
- Good packaging with clear (corporate) identity;
- Product development (in maturing market consumers ask for more variety of products);
- Collaboration with others in the organic sector for generic promotion activities;
- Using the media (print, television and radio);
- Display messages: on quality, benefits of organic, health, fairtrade, help indigenous people, direct from producer (may change over time as market develops).

Customer Servicing

- Obtaining regular feedback of customers on products and services;
- Providing regular information about products, sales (location, timing);
- Staff interacting with customers should have adequate knowledge on organic farming, products and services, and be able to convey effectively the philosophy of the operation;

- Strategising ways to build trust (particularly at start) for certification;

- Customer communication should be easy and convincing for all strata of customers;

- Readiness for Supermarkets (interesting market but very demanding);

- Staff interacting with dealers should have extensive knowledge on organic farming, products and services, and be able to convey effectively the philosophy of the operation.

Cost, margins, price setting and value addition

The price of an organic product has a direct impact on sale. Currently, organic products are purchased mostly by high income group consumers whose decision to purchase is not so much influenced by price. However, for market expansion to broader consumer groups price becomes a critical factor for market success.

The failure to make a price comparison with conventional products is often a marketing challenge for organisations involved in manufacture and sale of organic products. The need to review the price of organic products is even more important when the local economy is in recession and more producers turn to organic production, as happened in the last few years in many countries in Asia.

Organic farmers largely assume that the produce from an organic farm will command a premium price. The inflated prices often reflect the usually small scale of production and the underdevelopment of the market.

The prices for organic products vary significantly among different companies, different retail formats and across product categories. It has been determined that the prices are generally lower, when lesser middlemen are a part of the supply chain. When there are many intermediaries participating in the system, the price rises and the farmers are able to attain a very minimal portion of the price premium.

Strategies

- Initially, basic price may be determined by the producer, but future pricing should be based on more specific cost-benefit calculations for organic production;

- Setting price of organic products in relation to conventional products (making that comparison);

- Premium being fixed for organic products must be acceptable in mature markets (10-20%).

- Reaching economies of scale is important for sustainable development;

- Incorporating a condensed supply chain, making use of the arrangement of direct marketing and instructing the farmers to use a Participatory Guarantee Scheme, so that it involves lesser cost, can enable reduction in the prices of organic food, comparatively.

SECTOR DEVELOPMENT

Market assurance and certification

Establishing credibility is particularly crucial when promoting alternative qualities in a competitive market environment. Despite the fact that several Asian countries, such as China, India, Thailand and Malaysia, have developed national regulations for organic agriculture, there is no effective regulation in place yet controlling the use of the terms "organic" in most of the markets in this region. Some local certifiers, both private and governmental, are operational in this region; however, the use of their services is still mostly on a voluntary basis.

Organic certification is becoming increasingly important, as there are many self-claimed green products in the market. Consumer confusion and loss of confidence in the organic product can create long-term implications for the organic market.

Strategies

- Pro-active in obtaining certification;

- Though certification is a cost-intensive exercise, it is essential to gain consumers' trust, especially if the produce is not sold directly from the farm, but through the third party, such as retail shops;

- Alternatively, farmer-consumer relationship is essential;

- Self-inspection systems, which involve both producers and consumers, should be recognised.

Sector cooperation and market norm building

Although an organic marketing initiative is generally supposed to focus on sales, ensuring constant supply is as also an important element. For an organic marketing sector to develop

and grow, initiatives for the sector as a whole is required including a full array of services for production support as well as for the full chain of custody, from farm to table.

In a number of countries, different actors have developed mechanisms for collaboration. However, as the number of players in the organic market is small, there is not much possibility for collaboration. Some of the exporting companies also don't show interest in collaborating with organisations focussing on the domestic market. Sometimes, where there are a few pioneering organisations in a country, they also are not eager to collaborate because they wish to keep their unique image as pioneer. In larger countries, it is also logistically difficult for small local organisations and individuals, with fewer funds and geographically distant from each other, to work together.

Strategies

- More cooperation with other organic trading organisations is necessary in order to promote organic consumption;

- Joint publicity campaigns with contribution from different stake-holders (producers, processors, traders, consumers, competent government departments) can create more impacts among consumers compared to individual efforts.

CHALLENGES AND STRATEGIES SPECIFIC TO INDIAN ORGANIC PRODUCTS INDUSTRY

Transition Assistance

The conversion period may turn out to be a difficult phase for the farmers owing to several direct and indirect costs involved in the process. As far as the yield behaviour of farms undergoing conversion is concerned, it largely depends upon the agricultural practices followed before the conversion. Conversion from a traditional low external input system of cultivation rarely results in lower yields. However, when switching from external input intensive forms of agriculture, the yield may decline significantly, at least in the initial years of conversion – until the natural soil tilth and fertility are sufficiently developed.

Moreover, during the early stages of the transition, there is requirement of heavy and additional investments in farm-undertakings, such as machinery, storage and soil fertility building mechanisms. Organic techniques are generally more labour intensive and thus the wage cost rises. Cost may also arise from information and knowledge seeking, which is required

for certification and labelling from an established certification agency. The high cost of inspection and eventually certification, which needs to be done during the conversion period, adds to the expenses.

The prime hurdle faced by an organic farmer during the transition period is the inability to sell his produce at a premium price because during the official transition period products cannot be sold as organic.

Strategies

- There is vital need for a programme that is particularly designed to provide aid to the organic farmers during the three year conversion period;
- The policy should involve the provision of annual payment during the transition period; to compensate for the loss of income occurred in the course of converting from non-organic to organic;
- While per hectare financial support is available in several State and Central Government Schemes there is a lot of scope to spread these initiatives in the rest of the country.

Issues in Certification

As per the National Centre of Organic Farming, the process of Organic certification is aimed at regulating and facilitating the sale of organic products to consumers. This procedure requires extensive paperwork, detailing farm history and usually including the results of soil and water tests. It also involves annual on-farm inspections and the fee needs to be paid by the growers to the certification bodies for annual surveillance. Moreover records in written form related to day to day farming and marketing should be made available for inspection at any time.

Most certifiers charge inspection and certification fees based on the number of person days involved along with the fees for the issue of certificates. Occasionally different fees are applied for small farmers, large farmers and processors or traders.

The cost involved along with the prolonged procedure and lack of knowledge and understanding is acting as an obstacle in the organic certification procedure in India, particularly for the small and marginal farmers.

Further, the third party certification system involves inherent expense and paperwork in a multi-level system and discourages the small organic producers from being certified. It is generally designed for the produce meant for exports and not considered feasible for the small and marginal farmers.

Strategies

- In order to persuade the farmers to undertake the certification process, there is a need to make the procedures simple and less expensive;
- Government initiatives may be required to bring down the cost of certification;
- Increased assistance should be provided for the Participatory Guarantee Scheme.

Inadequate knowledge on organic production

Organic farmers in India often report of not getting a proper, system based understanding of organic farming, they rather use isolated technologies. There is also non-availability of suitable designs of organic farming systems for various climatic conditions and crops, supported through appropriate technologies. Availability of insufficient biomass on-farm and inaccessibility of external inputs, such as organic manures and pesticides, organic ways of post-harvest handling and packing have also been cited as challenges in organic production in India.

Strategies

- Capacity building of producers on organic farming techniques;
- Balancing demand and supply of organic input requirement;
- Increased funding for research, education and extension activities and promoting continued economic analysis of the issues and trends in the organic sector;
- Encouraging the development of seeds, varieties and livestock breeds suitable for the organic farming system would facilitate the extension of organic farming.

Market intelligence

The information available in the country regarding organic products produced and exported is limited, and thus do not lead to any business or policy decisions. Data are also not available to calculate prices of different organic commodities under variety of farming cultures of India. In the absence of appropriate and adequate information, a vague mechanism of organic pricing and premiums prevails.

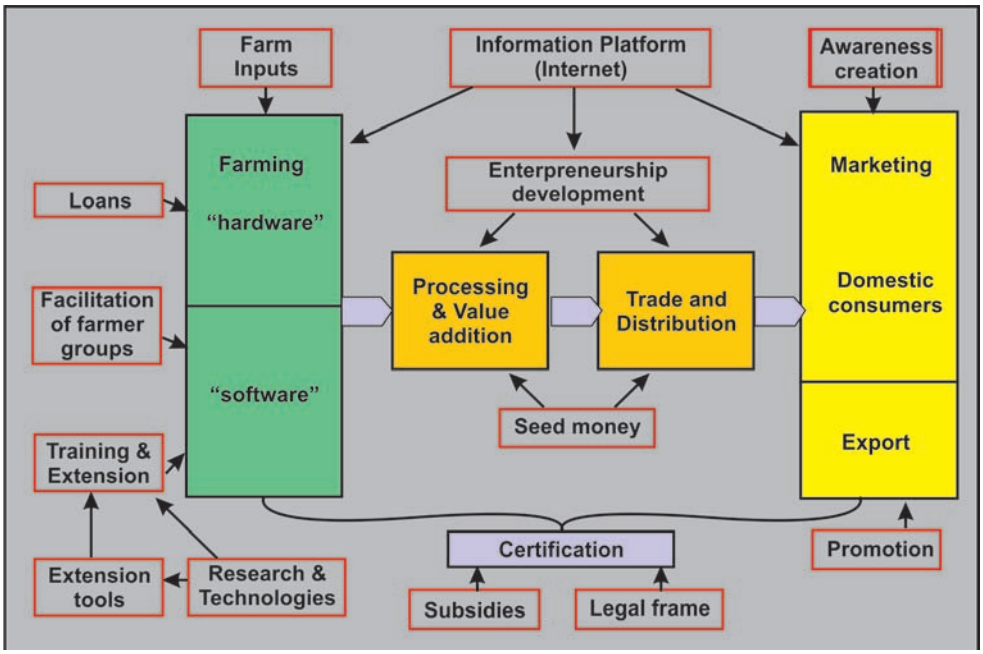
Strategies

- There is an urgent need to undertake cost benefit analysis and developing a framework for price discovery of organic commodities;
- Strengthening of data collection and dissemination is also required to take informed decision on markets and products potential for India;
- Research covering assessment of demand scenario in major export markets is also required in order to match the supplies from India
- There is a need for comprehensive studies on organic niches of India to help bring organic farmers into the export market, with comparative advantage. The survey on potential niche crops for organic farming under different agro-ecological zones and farming cultures across India, will naturally lead to mapping of organic niches of India.

Insurance Options for Risk Management

Vagaries arising out of natural calamities are common to both conventional and organic farming.

Exhibit 8.2: Policy Interventions for Market Development



Source: B.K. Sikka, Sapna A. Narula and M.S. Jairath

There are various perils in organic farming, which may cause damage to crops such as drought, excess moisture, freezing, insect damage, disease and weeds. Also, there is income loss for producers transitioning to organic production.

Strategies

- The development of viable and effective risk management programs that address the need of organic farmers in a more focussed way, such that losses can be avoided and there is enough revenue to support diverse operation;
- There is a necessity of an insurance coverage for producers transitioning to organic production. This would enable a farmer to even out his income and reduce the stress of worrying about possible losses.

ANNEXURE - 1

List of Accredited Certification Bodies under NPOP

Name of the Certification Agency	Accreditation Number	Scope of Accreditation	Certification Mark
Bureau Veritas Certification India (BVCI) Pvt. Ltd.	NPOP/ NAB/001	NPOP USDA NOP	
ECOCERT India Pvt. Ltd.	NPOP/ NAB/002	NPOP USDA NOP	
IMO Control Pvt. Ltd.	NPOP/ NAB/003	NPOP USDA NOP	
Indian Organic Certification Agency (INDOCERT)	NPOP/ NAB/004	NPOP USDA NOP	
Lacon Quality Certification Pvt. Ltd.	NPOP/ NAB/006	NPOP USDA NOP	

OneCert Asia Agri Certification (P) Ltd.	NPOP/ NAB/008	NPOP USDA NOP	
SGS India Pvt. Ltd.	NPOP/ NAB/009	NPOP (not for EU) USDA NOP	
Control Union Certifications	NPOP/ NAB/0010	NPOP USDA NOP	(w.e.f: 01-07-2013)
Uttarakhand State Organic Certification Agency (USOCA)	NPOP/ NAB/0011	NPOP USDA NOP	
APOF Organic Certification Agency (AOCA)	NPOP/ NAB/0012	NPOP	
Rajasthan Organic Certification Agency (ROCA)	NPOP/ NAB/0013	NPOP USDA NOP (w.e.f 01-07-2015)	
Vedic Organic Certification Agency	NPOP/ NAB/0014	NPOP USDA NOP (w.e.f 01-10-2011)	

ISCOP (Indian Society for Certification of Organic Products)	NPOP/ NAB/0015	NPOP	
Food Cert India Pvt. Ltd	NPOP/ NAB/0016	NPOP USDA NOP (w.e.f 1-6-2011)	
Aditi Organic Certifications Pvt. Ltd	NPOP/ NAB/0017	NPOP USDA NOP (w.e.f 1-6-2010)	(*w.e.f: 22-10-2014*)
Chhattisgarh Certification Society, India (CGCERT)	NPOP/ NAB/0018	NPOP	
Tamil Nadu Organic Certification Department (TNOCD)	NPOP/ NAB/0019	NPOP	
Intertek India Pvt. Ltd.	NPOP/ NAB/0020	NPOP USDA NOP (w.e.f 01-10-2011)	

Madhya Pradesh State Organic Certification Agency	**NPOP/ NAB/0022**	**NPOP (w.e.f 01-10-2011)**	
Biocert India Pvt. Ltd	**NPOP/ NAB/0023**	**NPOP** **USDA NOP (w.e.f 01-12-2011)**	
Odisha State Organic Certification Agency (OSOCA)	**NPOP/ NAB/0025**	**NPOP**	
Natural Organic Certification Agro Pvt. Ltd.	**NPOP/ NAB/0026**	**NPOP**	**(*w.e.f:1-12-2011*)**
Fair Cert Certification Services Pvt. Ltd.	**NPOP/ NAB/0027**	**NPOP**	

Gujarat Organic Products Certification Agency (GOPCA)	**NPOP/ NAB/0028**	**NPOP (w.e.f 20.06.2014**	
Uttar Pradesh State Organic Certification Agency	**NPOP/ NAB/0029**	**NPOP (w.e.f 20.06.2014)**	

Source: ncof.dacnet.nic.in

ANNEXURE - 2

Inspection and Certifications Charges in India according to Organic Regulation by IMO Control India Private Limited

Category	Type of service	Certification according to NPOP (Rs)	Additional NOP certification (Rs)	Additional JAS certification(Rs)
Groups of small Holders with Internal Control Systems(ICS)	- Inspection (on site) - Travel(time) - ICS audit & travel(on site) - Evaluation (at office) - Certification lumpsum - Additional Certification - Procedures for a ICS Sub group	2,950/- per day 2,950/- per day 10,500/- per day 10,500/- per day 19,000/(lumpsum) 3,000/-(lumpsum)	- - - - 4000/(lumpsum) 1000/(lumpsum)	- - - - 25000/(lumpsum)
Groups of farmers - without ICS,100% external inspection	- Inspection (on site) - Travel(time) - Evaluation (at office) - Certification lumpsum	4,950/- per day 4,950/- per day 10,500/- per day 19,000/-(lumpsum)	- - - 4000/(lumpsum)	- - - 25000(lumpsum)
Individual Farms (less than 25 ha), Small Processors	- Inspection (on site) - Travel(time) - Evaluation (at office) - Certification lumpsum	6,950/- per day 6,950/- per day 6,950/- per day 9,500/-(lumpsum	- - - 25000/(lumpsum)	- - - 25000(lumpsum)
Individual Farms/ Estates (less than 80 ha), Medium sized Processors	- Inspection (on site) - Travel(time) - Evaluation (at office) - Certification lumpsum	10,500/- per day 10,500/- per day 10,500/- per day 13,000/-(lumpsum)	- - - 3500/(lumpsum)	- - - 25000/(lumpsum)

Estates (more than 80 ha), Manufacturers, Exporters/Importers	- Inspection (on site) - Travel(time) - Evaluation (at office) - Certification lumpsum	14,000/- per day 14,000/- per day 14,000/- per day 16,500/-(lumpsum)	- - - 4500/(lumpsum)	- - - 25000/(lumpsum)
Off-farm inputs acceptance (for inputs restricted according to the standards)	Any input requested after the annual inspection Any input used without request and acceptance	500/-per input 1000/-per input	500/-per input 1000/-per input	
Certificates of Inspection	For each transaction	1000/- per certificate (transactions within India) OR 1,500/- per certificate (exclusive of overseas courier charges) OR 2,800/- per certificate (inclusive of overseas courier charges)	1000/- per certificate (transactions within India) OR 1,500/- per certificate (exclusive of overseas courier charges) OR 2,800/- per certificate (inclusive of overseas courier charges)	
Special services Based on specific requests from clients or authorities	Within India Outside India	1,750/- per hour 6,000/- per hour	- 6,000/- per hour	- 6,000/- per hour
Expenses	Travel& Hotel Expenses Communication Expenses* Laboratory Analysis	-Actuals, where applicable -Actuals -Actuals, where applicable	- -	- -

Note *: Communication expenses include costs incurred by IMO towards telephone calls, faxes, photocopies, couriers charges related to each project.
Budget: Based on above mentioned fees, a detailed estimation of the overall costs will be presented before each inspection. The project mandator has to approve the cost estimate before the inspection.
Payment: An advance payment of 80% of the overall estimated costs is necessary before the inspection. Balance is to be paid when the report is finalized, on the basis of the detailed invoice enclosed with the final report.
Source: APEDA

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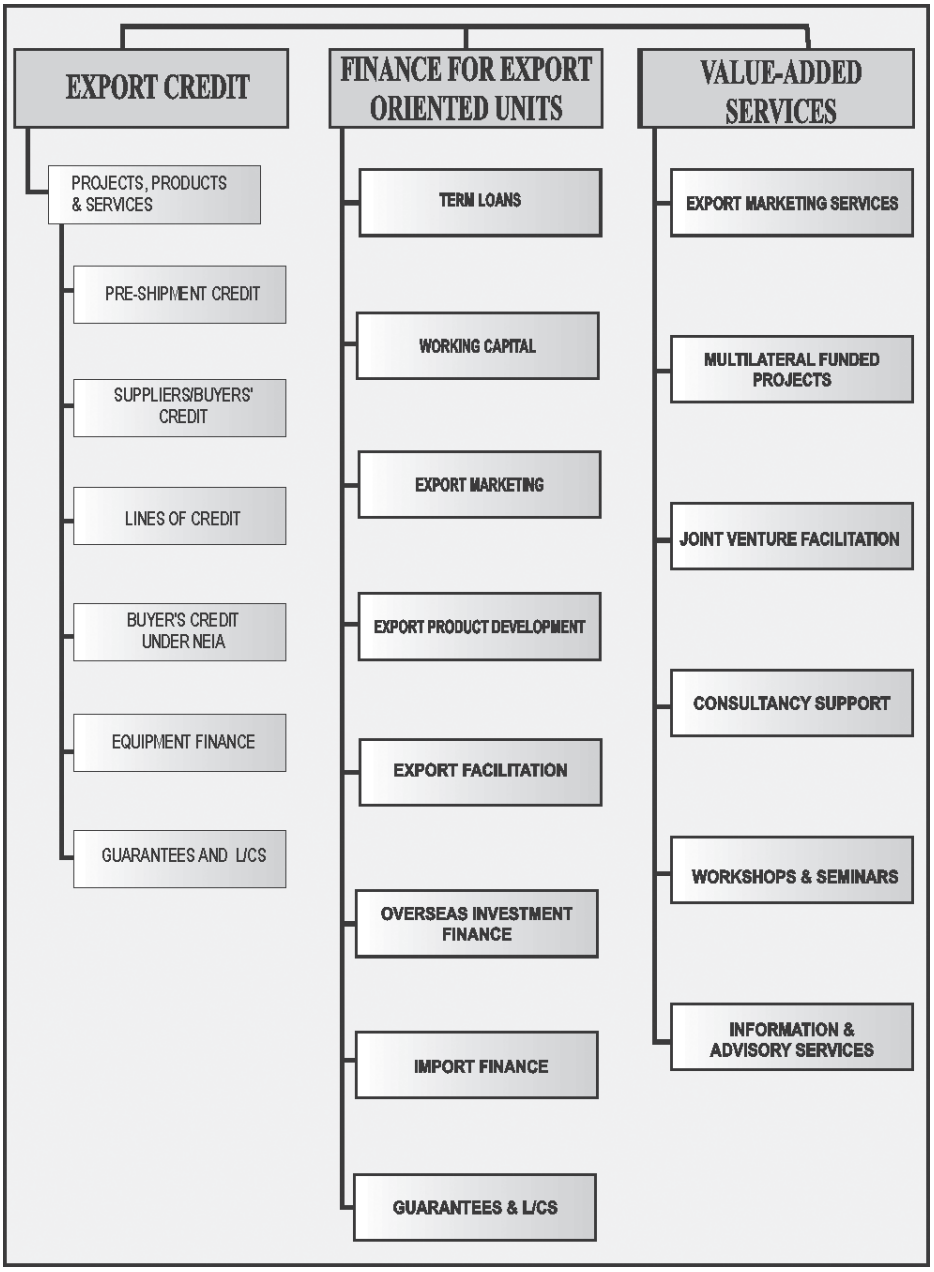

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