Production and trade in Organic Agricultural products

By Veena Jha

Introduction

Some companies in India and other parts of the developing world have benefited from emerging niche markets for "ORGAINC AGRICULTURAL" products in developed country markets. Several NGOs such as LEISA (Low external input sustainable agriculture) have provided funding and other types of assistance, including assistance for pilot projects. The scope of such programmes however has been relatively limited. In addition, it is not clear to what extent such projects have been successful in the long run and to what extent "organic agricultural" products will continue to be exported once donor support is discontinued. Therefore, the overall economic, social and environmental effects have so far been limited. The ground reality in India and in several other developing countries however is that 60-80% of its agriculture still uses very little chemicals and could easily be converted to organic agriculture. However market premiums are relatively limited and organic food continues to operate in niche market areas

Recent analysis nevertheless appears to indicate that niche markets for "organic agricultural" products continue to hold promise for developing country producers. According to an ITC market review while their market share on an average is no more than 2% in most developed countries, the rate of growth is close to 25-30% for such products in most countries.

The challenge is now (a) to mainstream production and trading opportunities to ensure that a larger number of producers in developing countries, can take advantage of such markets; and (b) to ensure that production and exports can be maintained and expanded in the long run, independent of continued donor support. Export opportunities exists both in niche markets where organic food labels are required for product certification and differentiation, and in mainstream markets, where self-certification under particular corporate brands increasingly influences green consumerism. An important example in this context is the marketing of organic Darjeeling tea by STARBUCKS in the United States of America.

Based on current experience, one promising way of achieving these objectives is by promoting partnerships between developing country producers, their clients, retailers, environment and development organisations and Government agencies in developed countries. Particular emphasis should be placed on international business partnerships along the supply chain.

The emphasis of developing country governments on organic agriculture originates from two basic concerns (i) use of hybrids, excessive irrigation and chemicals have now started lowering agricultural yield, in other words diminshing returns have started accruing. This implies that in order to make agriculture economically viable it is necessary to revert to organic farming (ii) from an environmental point of view, the excessive use of chemicals is proving to be extremely harmful. In addition, while a large proportion of agriculture does not use chemicals, it is necessary to upgrade non-chemical agriculture to organic agriculture and use modern and well known methods of organic and bio-dynamic cultivation to increase agricultural yield.

However, one of the major bottlenecks in converting to organic agriculture for producers has been the lack of assured markets and market premiums. The next section on the basis of an ITC survey examines the issue of markets and premiums.

Global suppliers and markets for organic products

The organic market in most countries is still relatively small and characterised by niche markets. However, there are indications that this is changing with the development of the industry and greater targeting of main stream distribution channels reaching potentially larger markets. A particular problem with assessing the extent and potential of the organic sector is the lack of data. Much of the information available is the result of piecemeal studies which makes it difficult to do cross-section or time series comparisons. The analysis below should be seen in this context.

The organic sector is, on average, under half a percent of the total agricultural sector in most of the countries, the exceptions being Germany and Austria which have between two and three per cent of their agricultural area under organic production.[1] In 1992 the world market for organic produce was estimated to be US$3 to 4 billion per year, with the European market estimated to account for half of this.[2] However, according to some estimates that the worldwide market potential for organic produce is likely to be in excess of US$12 billion by the year 2000.[3]It may be pertinent to mention here that total Indian exports of plantation and agricultural products in 1998-99 was almost US$ 5 billion, of which plantation export was almost US$ I billion, cereals US$ 1.5 billion and spices, nuts and seeds US$ 0.9 billion.

Price premiums for organic products range from 10 to 100 per cent although 20 per cent seems more typical. However, these can disappear when supply increases especially in those countries with policies to encourage organic farming. At the same time, liberalisation of international trade in agriculture, in particular the elimination of export subsidies and reduction of domestic support could shift the comparative advantage to countries like India.

There are 30 countries in Africa, 30 in Asia, 20 in Central America and the Carribean, and 10 in South America, 5 in Australia and the Pacific region, among the developing countries who supply organic products to the global markets.

[1] Lampkin and Padel, 1994.

[2] Verschur 1993

[3] Inder 1995

The major organic products sold in global markets include in order of importance dried fruits and nuts, processed fruits and vegetables, cocoa, spices, herbs, oil crops, and derived products, sweeteners, dried leguminous products, meat, dairy products, Alchoholic beverages, processed food and fruit preparations. Non-food items include cotton, cut flowers, animals and pot plants.

Among the major developed country suppliers for organic food, Germany tops the list but the rate of growth has slowed since 1997. The most spectacular growth was seen in Italy in the second half of the 1990's. Sweeden is considered another important European market. In the UK large farms have been set up to provide a regular supply of organic products. One-eighth of total agricultural exports are organic in nature.

Among the major markets for organic food, USA is leading retail sales with a total market capitalization of US$4200 million. While this accounts for only 1.25% of the total retail sales in USA of food, the average growth rate is estimated at 10-15% per annum. In GERMANY, retail sales of about US$1800 million per annum has been registered. In DENMARK, sales are about 2.5% of the total, with growth rates of 25-30% per annum. In Sweden, the growth rate is about 30-40%, whereas in UK with a total retail sale of US $ 450 MILLION and growth of 25-35% per annum, the share in total retail trade is only 0.4%. Switzerland has a total retail sale of 2% with growth rates between 25-30% per annum.

Some developments in International certification for organic food

- Development of international standards through Codex Alimentarius on organic food should be supported.

- These international standards are likely to be based on IFOAM which has consultative status with EU and Codex Alimentarius as well as Liaison status with FAO.

- Demeter's certification (international certification from Germany) is a network of 19 certification bodies in Africa, Europe, Australia and North America.

- European Union's production and certification council regulation governs the basic EU regulation on organic food products, but the basic regulation relies heavily on IFOAM.

- For meeting the requirements for equivalency, the third country may be approved by the European Commission as having standards and inspection measures equivalent to those of EU.

- Until 31st December 2002, organic products from countries which are not in the approved list under Article 11 can be imported into EU under import permits provided the importer submits documentation to confirm that the products are produced and certified according to the rules of EU. About 60 countries export in this framework to the EU.

- Certification in Exporting countries can be carried out either by local or international certification bodies under a partnership arrangement.

Market Potential for developing countries

The organic sector in most countries is still small and typically a niche market. However, whilst these sectors are small relative to the size of their markets, they are large in relation to most developing countries potential to export organic food. In addition, many of these are growing and thus, so are potential opportunities for developing country exports. In several developing countries the inherited tradition of organic farming are an added advantage. Efforts are required however, to establish marketing channels for organic produce in these countries and to provide a stable, predictable source of supply.

The economic structure of organic farming is characterized by three types of farming. The first category is that of traditional farmers who are using organic methods but are not aware of it. This applies to about 70% of the farming in India, Vietnam and several other Asian and African developing countries. The second category is of traditional organic farmers generally supplying to the domestic market and likely to be of mixed farming type. In India, as in other countries, many of these producers adopted organic production techniques largely because of a philosophical viewpoint. Their motivation is based on concern for the environment or because of a lifestyle decision, and certainly not because of strong financial incentives. The third type of farming is generally aiming at production for the export sector. The number of these farms has grown since early 1990 with a number of processing companies such as Sampad Vikas ltd., Mikaal Fibers ltd., Bombay Burma Trading Corporation, etc. marketing organic produce in India. These farms are of two kinds; those producing permanent crops and those on broadacre production systems where the export crop is rotated with other crops. A main limitation for these farms is finding organic markets for the other crops to complete their rotations.

Promotional Avenues in developing countries with particular reference to India[4]

In recent years, the organic agriculture movement is spearheaded by the members and associates of International Federation of Organic Agriculture Movement (IFOAM) in Asian developing countries. IFOAM membership in India includes a spectrum of NGO’s, farmer’s organisations, promotional bodies, corporate units and Institutions.

STANDARDS & CERTIFICATION

The IFOAM was established in 1972 in France. There are 600 organizational members of

[4] This section draws upon the study conducted by Mr. Mohammed Saqib and Atul Kaushik for the India project on trade and environment IND/97/955.

IFOAM from 120 countries. The main thrust of IFOAM was to define the concept of organic farming through their basic standards. Another important task of IFOAM is to harmonize certification programme through accreditation system. The other activities of IFOAM include participation in the UN and contact with international NGOs and communication through seminars, magazines etc.

The IFOAM Members in India constituted a National Standards Committee in January 1996 with scientists and experts from 13 organisations located in different parts of India and entrusted them with the task of preparing Basic National Standards for Organic Agriculture in India. The Committee examined in detail the basic standard of Organic Agriculture developed by IFOAM and other organisations in order to prepare the National Standards for India. It also drafted the National Standard and got them ratified before the IFOAM membership in India and a cross section of farmers and policy makers drawn from different parts of India at the Water and Land Management Institute (WALMI), Aurangabad. The Basic Standards have been submitted to the Government, Universities and other organisations. These standards would be subject to review every year on the basis of developments in our national organic agricultural movement. The Standards are also expected to provide a broad framework for systematic promotion of organic agriculture in our country and expected to form the basis for certification agencies in drafting their detailed standards for domestic and international markets.

SKAL of the Netherlands is an independent, non profit organization. It has been designated by the Dutch Ministry of Agriculture as the sole Inspection Authority in the Netherlands, which is used by the operators who are producing, preparing or importing from the third world countries. Article 1 of EEC regulation No. 2092/91 in general ensures that the requirements and objectives are fulfilled to cover unprocessed agricultural crops and products for human consumption, such as sanction rules, sufficient qualified personnel, adequate administration systems and equipment, reliability etc. SKAL standards are based on IFOAM basic standards and attaches more importance to informing licencees on the applicable rules of production.

SKAL has been active in India since 1990, providing inspection and certification services in coffee, tea and other sundry agricultural export products. Since SKAL is a recognised inspection body in the EU, its certification gives a good access to the European market. SKAL also helps in identifying importers of organic food in Europe.

In India, apart from IFOAM members, other institution and movements are also involved in the task of promoting organic agriculture in the country and are making concerted efforts to bring about change in the policies favoring ecological agriculture. During January 1994, farmers and institutions committed to organic agriculture came together through the efforts of PRAKRUTI (IFOAM members organisation) at Mahatma Gandhi’s Ashram in Sevagram and made a declaration known as Sevagram declaration. This declaration contained several recommendations for promoting organic agriculture in the country. In April 1994, a national level conference was organised at Cochin by UPASI on organic farming and environment. During the conference, over 400 participants clarified their vision about organic agriculture. For the first time, Indian members of IFOAM came together for a networking workshop organised by Institute for Integrated Rural Development (IIRD) in April 1995 at Aurangabad. The important recommendations of this workshop covered promotion of training and education, development of standards, market development, lobbying and image building for organic agriculture.

In different parts of the country, NGOs and people's organisations are now spearheading the movement for organic agriculture in India. Some of them could be listed. Society for Equitable Voluntary Actions (SEVA), in eastern India with its thrust area in 24 Parganas in West Bengal is promoting organic agriculture through training programmes for farmers and through field action programmes. PRAKRUTI is playing an important role in mobilising public opinion for organic agriculture, by facilitating marketing of organic agricultural products and organising organic cotton growers in western India. IIRD at Aurangabad in central India, is involved in training women's groups in organic agriculture and networks at the national level with NGOs and other groups in organic agriculture. The organisation has also set up a school for organic agriculture, which is the first of its kind in the country. The Sangvi farm and Mr. Save are promoting natural farming techniques in western India. The LEISA network (Low External Input for Agriculture) is also making headway in different part of the country by strengthening its network through Agriculture Man Ecology (AME), Bangalore. The Gloria farms as well as the Auroville in Pondicherry are also contributing an effective role in strengthening organic agriculture movement in the country. Society for Organic Agriculture (SOA) of Secunderabad, Andhra Pradesh is involved in developing marketing strategies for organic products. Society for Employment Welfare and Agricultural Knowledge (SEWAK) in Nainital is involved in training programmes and documentation of indigenous agricultural practices in Uttar Pradesh. The Bombay Burma Trading Corporation Limited (BBTC), is the first corporate leader who demonstrated the feasibility of organic agriculture by producing and marketing organic tea from southern India. Sampad Vikas Limited, in north eastern India has become an unique organisation with almost total tea acreage under organic production thus having the largest area under organic tea in the country. A number of other tea estates are also involved in converting to organic production. The India Bio-Organic Tea Association has already been formed to promote organic and bio-dynamic tea production. The Bio-dynamic practitioners in different parts of India are also consolidating their efforts by forming the Association of the Bio-dynamic movement in India. The Bio-dynamic movement has great scope in India as our country is a land of traditions and several concepts of bio-dynamic agriculture are in our systems.

Alongside the efforts of NGOs and private bodies, the government had recently evolved some intensive programmes to encourage organic agriculture. These include institution of prizes for individual farmers practising organic farming and effort through Agricultural and

Processed Food Export Development Authority (APEDA), Commodity Boards to promote export of organic agricultural products, etc.

To vitalise the organic agricultural movement, a number of our universities and scientists of ICAR have also started playing a key role. Bidhan Chandra Krishi Vidalaya in West Bengal and the University of Agricultural Sciences, Bangalore have already organised national workshops on organic agriculture. The University of Agricultural Sciences (UAS) Bangalore has also initiated a correspondence course on organic agriculture to reach a large number of farmers.

INPUT SUPPLIERS

A) LAND AND MANURE

There are several doubts in the minds of not only farmers but also scientists whether it is possible to supply the minimum required nutrients to crops only through organic sources and even if it is possible, how are we going to mobilise that much of organic matter. At this juncture it is not required to switch overnight from fertilizer-use to organic manure everywhere. Only 30 percent of our total cultivable area is covered with fertilizer where irrigation facilities are available and the remaining 70 percent of the arable land, which is mainly rainfed area, has not been using any fertilizer. Here is where our ingenuity and efforts are required to increase the productivity and the production.

According to a conservative estimate, around 600 to 700 million tonnes of agricultural waste is available in the country every year but most of it is not properly used. We must convert our 'filth into our wealth' by mobilizing all the biomass in rural and urban areas. Several options are available to increase the biomass to meet the requirement of minimum plant nutrients. A portion of cropping land may be made available for growing the green manure along with regular crops. This green manure can be harvested at the right time and composted, stored and used in the next growing season. The land lost in growing the green manure is compensated by increased yield in the remaining area and year after year the productivity remains the same, if not increased. Our social forestry can be planned to augment biomass requirement, in addition to fodder and fuel now being supplied.

The rainfed areas constitute nearly 70 percent of the total geographical area. The rainfed agriculture or dryfarming has not received as much attention as the irrigated area in terms of transfer of technology to increase the yields of crops, although, the dryfarming research has been going on in several parts of the country for more then two decades for generating technologies in the area of soil and moisture conservation. The thrust and focus on making these thirsty soils sustainable with maintenance of soil organic matter and thus supply soil nutrients adequately under tropical conditions has been elusive. This is to be regarded as a major problem of equal importance as that of soil moisture availability.

There is great scope to increase the production and productivity in the rainfed areas. Seventy percent of our total cultivable area is rainfed or under dryfarming but it contributes only 40 percent of the total food production. Even a 10 to 20 percent increase in yield achieved in these areas will add substantially to the granaries of the nation in addition to supplying the export market for organic products. The post-harvest technologies are as important as production technologies and in sustainable agriculture ‘a grain saved is a grain grown’.

B) ORGANIC FERTILSER & PESTICIDES

To make millions of acres of our starved land productive, adequate organic inputs have to be provided. This requires not only enormous quantities of biomass, but also needs ingenuity and techniques to enrich the biomass to supply required quantity of nutrients to the crops. Even if the present production of around 13 million tonnes of fertilizers is increased to around 20 million tonnes by the turn of the century, it may not be available at affordable prices to the farmers. Unless plant nutrients are supplemented adequately through compost and biofertilisers, sustainability of production cannot be achieved. Therefore, it is unavoidable that we pay adequate attention to enriching our soil with as much organic matter as possible. Similarly, biopesticides and biological agents together with biofertilisers play a great role in laying a strong base for sustainable agriculture. Reduction of nitrogenous fertilisers, may itself be able to reduce the pest and disease incidence of crops proportionately.

There are several alternatives for supply of soil nutrients from organic sources like wormi-compost, biofertilisers etc. Technologies have been developed to produce large quantities of wormi-compost. There are specific biofertilisers for cereals, millets, pulses and oilseeds.

The biofertlisers and biopesticides have not become very popular in India for two reasons. The first is the lack of marketing and distributing network. The retailers are not interested in selling bio inputs because their demand is low, supply is erratic and farmers are ignorant about bio inputs. The second reason is over presence of chemical fertilsers and pesticides, heavy advertisement of the same and higher margin for retailers. However some big firms have started marketing bio inputs and hopefully the scenario will change.

There are organisations like Terra Farma in Banglore and Organic Pesticides in Belgaum producing fertilsers and pesticide on commercial basis. Manure is mostly developed locally. There are three kind of technologies available to manufacture organic fertiliser. They are Aerobic Reduction, Microbial reduction and Wormi-composting. The last one is very popular in India because the cost of production and investments are very low and it does not require a big set up for it.

Sector specific studies - the case of Organic Darjeeling Tea

The Darjeeling Organic Tea industry shows some interesting findings. First of all, one of the major reasons for tea gardens to turn organic was because yields were decreasing. For example, the total Darjeeling tea production was about 14 million tons in 1980, but had decreased to 7 million tons in the early 1990's. The decrease in yield was not merely due to excessive usage of chemicals and fertilisers, but also because of the fact that most of the tea bushes are over 140 years old and need replanting. Secondly, in the beginning of the 1990's restrictions from the export markets on chemical residues implied that most of the tea gardens had to substantially reduce the usage of pesticides and chemicals. Hence moving from reduced use of pesticides and chemicals to organic tea was not seen as a big step forward. Thirdly, in the beginning of the 1990's market premium of over 80% were realised for organic tea. This prompted many growers to begin exporting organic tea. Most importantly, chemical cultivation was leading to soil erosion and landslides in the Darjeeling district. This led to considerable destruction of property and some converted to organic agriculture as a response to these environmental problems.

There are 87 tea gardens in Darjeeling. Most of them are 100% export oriented. Only twenty of these have converted to organic tea production. Of these twenty, only ten are able to make profits. Those that are able to make profits have directly tied up export contracts with their buyers and export mainly to Germany, Japan and USA. Most of the profitable enterprises have invested a substantial portion of their profits in marketting tea in their main markets for over ten years. As the owner of a very successful tea garden 'Makaibari" told me that "A legend has to be created" in the minds of buyers.

All twenty gardens reported a decrease in yield of about 20 percent from the original yields. The pre-conversion yield has only been reached by some gardens. Most are still experiencing declining yield. The length of time taken to recover original yield depends on the condition of the garden before conversion. If the bushes are old and the soil is degraded it takes much longer to restore the pre-conversion yield levels.

Variable costs also vary according to the condition of the garden. In converting to organic agriculture labour inputs increase by about 30% per year. Other costs such as manure, organic pesticides and bio-fertilisers depend upon the extent to which integrated farming can be practices. If there is sufficient livestock in the garden and thus adequate supplies of manure are available, then there may be an actual decline in variable costs. For bio-pesticides, the tea gardens planted citronella plants in between the tea bushes as they act as an insect repellant. In most cases weedicides were replaced by manual weeding as chemical weedicides are known to lead to severe health problems.

Some of the problems reported by non-organic tea growers in converting to organic were the fact that price margins between good quality non-organic and organic tea were narrowing steadily. This is because even the non-organic gardens use relatively low levels of pesticides and weedicides. Morever, most non-organic tea growers claimed that as tea was just an infusion the difference in the taste of organic and non-organic tea was not very different. Moreover, apart from yield declines with organic cultivation for about 7-10 years depending on the condition of the garden, variable costs increase by about 50%. R&D in organic agriculture to improve productivity is relatively scarce. In order to truly benefit from organic farming of tea, market diversification into other products such as herb tea, eco-tourism, green tea, and other products are required. Only then do integrated management gardens become profitable. In most cases organic cultivation would also imply reducing the acreage under tea in order to promote naturally grown herbicides etc.

Most organic growers agreed that before converting a lead time of two years is required and the period of conversion should be preferably stretched to three years. This time if required to first of all begin the task of planting grasses and other bio-pest repellants around the garden. Secondly, for ensuring enough manure it is necessary to keep adequate livestock. Thirdly, a number of herbs should be grown along with tea to ensure adequate mulching and to fertilise the soil. Thus an integrated approach is needed. In fact the most successful organic tea gardens are not only exporting organic tea, but also herb teas. They have also started opening their gardens to eco-tourism. Community management is also evident in some tea gardens.

Bio-dynamic agriculture is a step beyond organic agriculture, which is being practiced in some tea gardens. This was a practice which was prevalent in ancient India under which planting and harvesting is carried out according to the cycles of the moon. It is supposed to lead to higher productivity and those who practice it appear to find their yield rising. Very few tea gardens practice it, but both Swiss and German buyers have shown considerable interest in it.

Apart from organic tea which was recently concluded, it is also envisaged to do similar studies on coffee, spices and rice. Time and resources permitting similar studies on processed fruits and vegetables will also be carried out.

NEXT STEPS

Those who have not converted to organic agriculture have stated that their main concern is the lack of markets and market premium. The best way of creating these markets would be to put the buyers directly in contact with the growers, so that they could satisfy themselves about the veracity of organic tea cultivation. In this context the DFID project would be of immense help in building International Business Partnerships along the supply chain.

Secondly, most agree that the cost of certification is exorbitant. Thus national certification agencies should be set up, so that the costs could come down. DFID could help in this by assisting in the accreditation of national bodies to SKAL, Demeter etc.

Thirdly, DFID could assist in the development of some of these farms as eco-tourism sites. Branding is essential so that the value added from organic products can be improved. Thus packaging should also be done in an eco-friendly way in the farm itself so that retailers could directly retail these products. This would also improve the margins for organic producers.

Websites and the possibility of electronic commerce for organic exports right from the farmgate should also be explored.

Some golden rules for exporting organic products should also be followed. THE PRODUCTS :

- Must be certified organic.
- The distribution channels, whether exporter, importer or distributor should be selected carefully.
- Close contacts and prompt communication with importers need to be established.
- Knowledge of Foreign markets should be built up on the basis of customer requirements when and where the product is to be sold.
- Price premiums may be falling.
- Working in collaboration with other producers or in co-operatives is advantageous to promoting R&D and in the production of marketable quantities at economic costs.
- Do not ignore domestic markets even though exports may yield higher premiums.