

Land is natural and free for creatures

If we love, it loves us

Protect, protects us

Enrich, enriches us

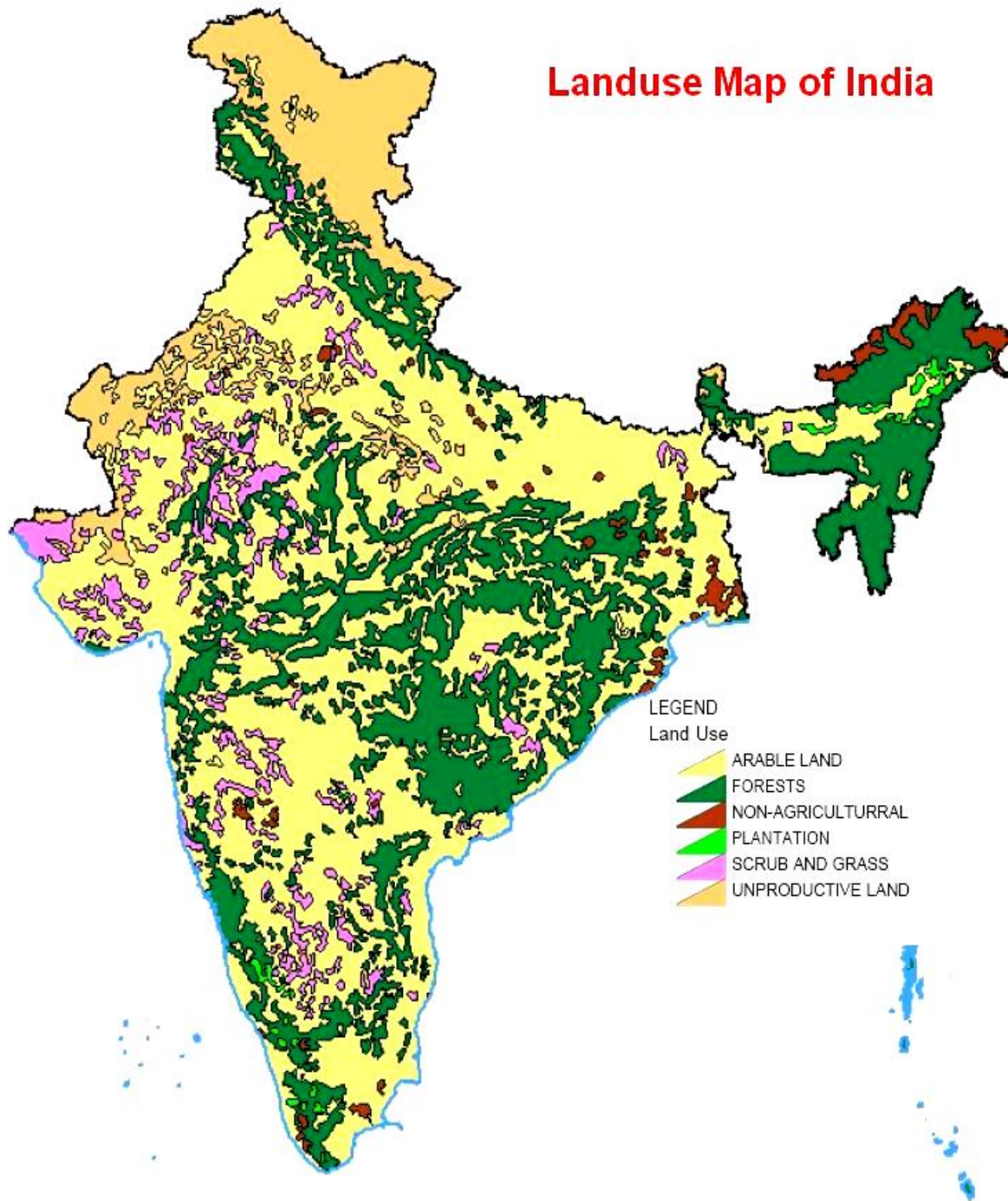
Poison, poisons us

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Healthy Land, Healthy Creatures

Landuse Map of India



PART-I

AN OVERVIEW ORGANIC FARMING

India is bestowed with lot of potential to produce all varieties of organic products due to its various agro climatic regions. In several parts of the country, the inherited tradition of organic farming is an added advantage. This holds promise for the organic producers to tap the market which is growing steadily in the domestic market related to the export market. Currently, India ranks 33rd in terms of total land under organic cultivation and 88th position for agriculture land under organic crops to total farming area. The cultivated land under certification is around 2.8 million ha (2007-08, 1.9% of the GCA). This includes 1 million ha under cultivation and the rest is under forest area (wild collection).

The organic land area has increased substantially between 2005 and 2006 and is now more than 500"000 hectares.

India produced around 3,96,997 MT (2007-08) of certified organic products which includes all varieties of food products namely Basmati rice, Pulses, Honey, Tea, Spices, Coffee, Oil Seeds, Fruits, Processed food, Cereals, Herbal medicines and their value added products

The production is not limited to the edible sector but also produces organic cotton fiber, garments, cosmetics, functional food products, body care products etc. The commodity wise details of quantity exported and its value is presented in table.

Organic food production in India, 2007-08:

Total production	9,76,646 M.T.
Total quantity exported	37,533 M.T
Value of total export	USD 100.4 million
Total area under certification (including wild harvest)	2.8 million hectares
Total area under certified organic cultivation	0.45 million hectares
Share of exports to total production	4% approx.
Increase in export value over previous year	30% approx.

Commodity wise organic food exports, 2007- 08:

Commodity	Export Contribution (of volume)	Export Contribution (of value)	Export Contribution (Rs. Cr)
Cotton	43%	25%	123.88
Basmati Rice	15%	13%	59.20
Honey	11%	10%	46.41
Tea	8%	20%	92.13
Dry fruits	7%	18%	84.31
Processed food	5%	4%	17.99
Sesame	4%	2%	9.13
Spices	3%	4%	20.09
Medicinal & Herbal plants/products	2%	2%	10.59
Others	2%	2%	5.05

Analysis of Organic farming:

The present Indian organic market is a typical example of a market in the pre-growth phase, suffering from the incertitude about the potential market, lack of successful pioneers and courageous imitators, and incertitude about positioning. Typical nature of the pre-growth-phase of an organic market is the incertitude of consumers and many stakeholders. The unique selling proposition (USP) of organic products and the differences from the conventional production are not clearly defined yet.

The awareness about the residual effects of pesticides is good in some states and in the agglomeration of cities and metropolis of India. This awareness is a very important factor in the assessment of the present status. Actually, some products that are sold as products “with less pesticide” are available in the market but law in India does not protect the term "organic". analysis on organic farming is presented in table.

Summary of analysis on organic farming:

Strengths	Weaknesses
<p>Safety food</p> <p>Comparative advantage in organic food production</p> <p>Low cost of production</p> <p>High quality and improved nutrition</p> <p>Improved soil health</p> <p>Premium prices</p> <p>Environmental sustainability</p> <p>High water-use efficiency</p> <p>Government policies (like NPOP)</p> <p>Preserves traditional varieties/species and high self-life</p>	<p>Productivity gaps</p> <p>Lack of established markets</p> <p>Poor quality management in production and processing</p> <p>Less incentives from Government</p> <p>Low R&D investments on Organic farming research</p> <p>Organic market buyers/consumers driven market</p> <p>Lack of strategy for development of organic market</p> <p>Disjointed producers, processors and traders</p> <p>Adulteration and poor quality of organic inputs</p> <p>Large number of small farms with weak organizational building</p> <p>Intensive in nature and high labor costs</p>
Opportunities	Threats
<p>Big and growing market potential</p> <p>Growing purchasing power of consumers</p> <p>Growing health awareness</p> <p>70% of GCA is under rain fed agriculture</p> <p>Reduce heavy subsidies on food and fertilizers</p> <p>Control the nitrate losses and Co2 emissions</p> <p>Earn high export earnings</p>	<p>High cost of organic food</p> <p>Costly and complex organic certification process</p> <p>Lack of infrastructure facilities (like labs) and certification bodies</p> <p>Only export regulated organic market</p> <p>Low awareness about organic inputs</p> <p>Most of the fields are contiguous and problem of contamination</p> <p>Introduction of GM crops</p>

Strengths:

Organic farming has much strength than modern/conventional farming practices globally and in particularly in India. These strengths have been validated by several studies and researchers in the last one decade.

The important strengths are:**1. Safety food:**

Generally, consumers attribute positive qualities and characteristics to organic foods. Such attributions include the following: healthy, tasty, authenticity, “lives up to its promise”, local, highly diverse, fresh, low in processing, whole food, natural, free from pesticides, antibiotics, low in nitrate content, safe and certified. Organic plant products contain markedly fewer value-reducing constituents (pesticides, nitrates); this enhances their physiological nutritional value. They are just as safe as conventional products as regards pathogenic microorganisms (mycotoxins, coli bacteria). These products tend to have lower protein content and higher vitamin C content.

Health claims are generally not substantiated by scientific research, even in cases where the organic production system provides inherent nutritional advantages (e.g. higher contents of bioactive compounds in fruits and vegetables or higher contents of fat-soluble vitamins or polyunsaturated fatty acids in organic milk or meat). These findings were also verified by other studies in UK. Nutritionally desirable CLA, omega-3 fatty acids, vitamin E and carotenoids were increased in milk from organic farms with grazing dairy cows. These compounds have all been linked to a reduced risk of cardiovascular disease and cancer. By contrast, less desirable fatty acids (i.e. omega-6 fatty acids and CLA10) were not increased in organic milk, which helps to improve the crucial ratio between the two

Wheat and rice samples taken from market (conventional farm) showed significant level of pesticide residues (table 2.6). Method used for extraction of pesticides was validated with recovery studies, which showed more than 80% recoveries for organ chlorine, organ phosphorous, carbonates and pyrithroids respectively.

2. Pesticides residues in different market samples:

Name of Pesticide	Pesticide Residue (mg/L)	
	Rice	Wheat
Organochlorine (endosulfan)	0.02	0.3
Organophosphorous (phorate)	0.04	0.024
Carbofuran	4.85	–
Permethrin	0.02	0.05

Comparative advantage in organic food production :

India is strong in high quality production of certain crops like tea, some spices of rice specialties, ayurvedic herbs etc. India also has a rich heritage of agricultural traditions that are suitable for designing organic production systems .Sophisticated crop rotation or mixed cropping patterns, organic production techniques have proved to achieve comparable or in some cases (especially in the humid tropics) even higher yields than conventional farming. Compared to input costs, labor is relatively cheap in India, thus favoring the conversion to less input-dependent, but more labor-intensive production systems, provided they achieve sufficient yields, where farmers have access to established organic markets within the country or abroad, products can achieve a higher price compared to the conventional market. Especially in the trend of decreasing prices for agricultural products, this can be an important way to stabilize or even increase incomes.

Crops for which comparative advantage in production:

Product	Season	States	Major Locations
Tea	Throughout the year	Assam, West Bengal, Uttranchal	Darjeeling, Guwahati, Dehradun
Spices	Throughout the year	Kerala, Tamil Nadu, Karnataka	Cochin, Coimbatore, Idduki, Coorg
Coffee	Throughout the year	Kerala, Tamil Nadu, Karnataka	Coimbatore, Coorg, Wayanadu, Peeremede
Rice	Kharif & Rabi*	Punjab, Haryana, Assam, Maharashtra, Tamil Nadu	Amritsar, Jalandhar, Darrang, Ratnagiri, Kanchipuram, Thiruvallur
Wheat	Kharif & Rabi	Punjab, Haryana, Uttar Pradesh	Ambala, Patiala, Bhatinda, Faridkot
Vegetables	Throughout the year	All India	Various locations
Fruits	Throughout the year	All India	Various location
Cotton	Kharif	Maharashtra, Gujarat Madhya Pradesh,	Akola, Amravati, Amreli, Kheda, Indore

High quality and improved nutrition:

Growers and consumers of organic food products (raw vegetables and fruits, in particular) widely claim that organic food products have a better shelf life and taste. Evidences suggest that food items produced using alternative sources of crop nutrients (i.e. without fertilizers) foods were more nutritious than those produced conventionally. Organic food products generally had more of vitamins, minerals and less of nitrates than those grown with conventional agricultural food. This aspect can contribute to the nutrition security of a nation and equally to its food security.

Differences in nutritional status between Organic and non-organic produce:

Product	Nutrients in organic food per 100 g	Nutrients in chemically produced food per 100 g
Apples		
Sugars (total)	8.8 g	9.5 g
Vitamin C	21.6 mg	19.3 mg
Tomatoes after dehydration		
Sugars (total)	63.4 g	70.0 g
Tomatoes		
Vitamin C	21.8 mg	18.0 mg
Vitamin A	4.7 mg	3.5 mg
Tomatoes after dehydration		
Vitamin C	349 mg	288 mg
Vitamin A	7.3 mg	5.5 mg
Carrots		
Glucose	0.9 g	1.3 g
Potassium	269 mg	217 mg
Carrots after dehydration		
Sugars (total)	42.8 g	52.8 g
Potatoes		
Sugars (total)	0.7 g	0.8 g
Vitamin C	13.5 mg	17.8 mg
Potassium	329 mg	370 mg
Zinc	310 g	260 g
Potatoes after hydration		
Sucrose	1.0 g	2.4 g
Fructose	1.2 g	0.7 g
Glucose	2.0 g	1.2 g
Iron	5.7 mg	4.7 mg
Calcium	64.0 mg	56.4 mg
Zinc	1810 g	1

Preserves traditional varieties/species:

Seed is the embodiment of the ideas and knowledge of the culture and heritage of the people. Seed thus, represents the wisdom of the years of research of the farmers in that region. It is the first link in the food chain and is the ultimate symbol of food security as well. Traditional seeds are locally available and collected good seeds from the farmers own plots. Farmers either buy or exchange their seeds with other farmers. So the cost of seed is either minimal or nil. An outstanding feature of native seeds is diversity. They are hardy, developed resistance to the pests and diseases in that area. These also have high levels of tolerance to conditions of stress and are adapted to local agro-climatic conditions. The conservation of the seed is of paramount importance. Thus, organic farming preserves the traditional varieties/species.

Foods are often picked before they are ripe and allowed to ripen in transit, at the market or during home storage. The artificial ripening is also done by adding growth hormones and chemicals in large quantity which adversely affects the physiology of the food. They do not acquire their whole set of minerals and vitamins, which on natural course of ripening are present during the later stages of growth. Food products kept for longer duration as in transit or in market make them stale and deteriorate their nutritional statue of the food. Fruits and vegetables lose significant amounts of vitamin C with in three days in cold storage, and even more at room temperature. We can over come these problems if we grow or buy organically grown food.

Weaknesses:

Despite of many large benefits about organic farming why do most farmers still operate by modern/conventional farming practices? In general, organic farming has certain weaknesses when compared with

modern/conventional farming. Here, we tried to explore these issues from consumers and producers as well as from processors.

Productivity gaps :

Yields on organic farms are generally lower than those on conventional or integrated farms. The recent meta-study modeled from National surveys showed significantly smaller differences between organic and conventional yields from intensive farming in developed countries. Based on 160 field experiments, the average yields of all crops grown organically were only 9% lower than those grown conventionally. As most of the data came from trials conducted on research stations, the actual productivity gap may have been underestimated in this meta-study. On marginal soils and in less favorable climatic conditions, under permanent or temporary water stress and generally in subsistence agriculture, organic agriculture enhances food productivity. In many situations, the adaptation of state-of-the-art organic farming offers considerable potential for yield increase and yield stability.

Intensive in nature and high labor costs:

It is true that converting to organic farming will not instantly solve all your problems as a farmer. However, there are very few farmers, who revert back to conventional farming after having converted to organic farming. Yet, the transition would be far easier in this direction (organic to conventional) than it was from conventional to organic because of conversion period requirements. This demonstrates that, overall, organic farmers are happy with their situation, that they can make a living from it, and that they find the advantages it brings more important than the disadvantages.

Organic farming also does not necessarily mean spending more time on farm. In the absence of mechanization (due to lack of research support from the mainstream system), several protocols of organic farming are indeed labour intensive. But this fact should go in favour of developing countries such as India where about 80% farmers are small-holder farmers and the government guarantees employment to its rural masses, for 100 days in a year. In due course, it should be possible to reduce the requirement of labour for several organic farming practices.

Lack of established markets:

Lack of established marketing channels or green markets are the major weaknesses in Indian organic food industry. Absence of or incomplete product information and certification procedures were also slowdown the growth of organic market in India. Improving the quality of products, packaging, logistic infrastructure and technical support to the producers and exporters are the need of the hour. More investments are required for improving the quality of research and development in the country. Government should apply and get for accreditation under different countries' national organic regulations. Participation and promotion of Indian organic products at international fairs (e.g. Bio-Fach) and creation of awareness to consumers will boost the sales of organic products globally as well as domestically.

Poor quality management in production and processing:

While the government has taken measures to make organic products popular in the domestic market, the consumer is still waiting for the price to be on a par with other products. Prices are likely to come down when the farmer completes the conversion process and the output increases. As the

demand goes up, other factors such as 40 economies of scale will automatically set in, leading to a further drop in prices. Quality management in production and processing is an important step for organic market development. Success in the Indian organic market will be a dream without successful implementation of high quality standards. The quality management manuals are useless, unless they are prepared based on the work done in the field. The principles and standards of organic agriculture has to be known to all stakeholders, such as, farmers, processors, traders, exporters government etc. and the last but not the least to the consumers.

Less incentives from Government:

Despite designating organic farming a major thrust area, India accounts for only \$123 million in a \$40 billion global organic food market. Promoting transparency and accountability, a traceability mechanism will build confidence internationally, particularly in Europe where nearly 70 per cent of our exports go. Countless small farmers are described as practicing organic farming "by default" because they can't afford to invest in chemical fertilizer-reliant agriculture. This isn't necessarily a bad thing if they can gain from it with greater access to training for skills upgrade, awareness about marketing opportunities and even absorption into big, scientifically run farms.

Low R&D investments on organic farming research:

Research and technological development conducted within functioning organic systems is essential to overcome some of the technical problems which still exists and to improve further increase in the potential of organic farming in the country. Current organic farming practices have been developed primarily by existing organic farmers against the

background of scientific knowledge. So, significant public funding for research and development is crucial to boost organic farming sector further. There is also a need for introduction of special courses on organic farming and increase in number of training programs, particularly in state agricultural universities which will boost the trust and awareness in farmers. The outcomes of these research and experiments would also help to overcome the apprehensions about organic farming in the country.

Lack of strategy for development of organic market:

The Indian organic market is a typical example for a market in the pre-growth-phase. In this phase, there is already some awareness about food quality and pesticides residues among consumers. This is advantageous for the fast growth of the organic market. But, there is also a danger that the awareness is not based on the true values of organic agriculture. Surprisingly different meanings for the word “organic” are exists in the India. The expression “organic” is still not protected and the awareness is diffused. It will be a difficult task to find the right approach to transform this improper awareness in the correct way among consumers. So, the first important strategy at the beginning itself to define what are organic products, how are they different from conventional products. It will help in describing the USP (Unique Selling Position) of organic products in the market.

This is the reason why awareness has to be created at the beginning. Positioning and credibility of the organic products for the future are second important strategy for the organic market development. Without consumers trust, organic farming is lost. Quality management is the third important strategy for building up of an organic market. There will be no success in Indian organic market without quality assurance on a high level.

Disjointed producers, processors and traders:

Mainstreaming of organic foods has serious implications for the governance of domestic and international supply networks. Collaboration between trade partners has become increasingly important for the successes of any business sector. Basically, Indian organic market is characterized by disjointed producers, processors and traders. In countries like India, small scale producers play a crucial role in expanding organic export sector due to organic farming being labor intensive in nature and its compatibility with traditional peasant practices. Connecting these small and marginal producers with organic export networks/chains is need of the hour. Development of organic supply chains is viable solution to achieve this collaboration.

Adulteration and poor quality of organic inputs:

Absence of recognized/established organic input marketing channels led to the problems of poor quality and adulteration of organic inputs in India. Conventional/modern input dealers and retailers are not showing interest to deal with organic inputs marketing because of low demand and lack of distribution network. The erratic supplies of organic inputs and low levels of awareness of cultivators also added to this situation. However, recently government has formulated product standards and specification for vermin-compost, city-compost and for bio-fertilizers.

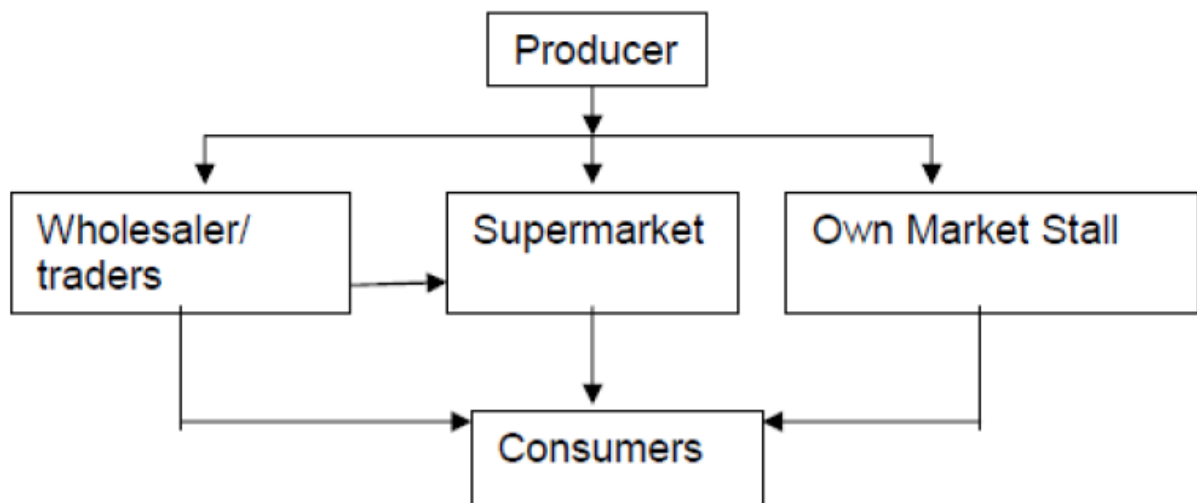
Large number of small farms with weak organizational building:

The domestic market for organic products is not yet developed as the export market. The products available in the domestic organic market are rice, wheat, tea, coffee, pulses, fruits and vegetables. Wholesalers / traders

and supermarkets play major roles in the distribution of organic products. As most organic production originates from small farmers, wholesalers / traders account for a 60% share in the distribution of organic products. Large organized producers distribute their products through supermarkets as well as through self-owned stalls. Considering the profile of existing consumers of organic products, supermarkets and restaurants are the major marketing channels for organic products. While certification is mandatory for exports, products for domestic consumption are mostly uncertified.

This is because most producers are either small or marginal farmers, small cooperatives or trade fair companies. The small farmers, scattered across the country, offer an incomplete product range that are mostly available as a small or local brand. In contrast, in countries like the US and Europe, every supermarket houses a complete range of 44 certified organic products. Therefore, the need of the hour is organized retailing and marketing from the prevalent unorganized pattern.

Typical marketing channel of organic products in India:



Reduce heavy subsidies on food and fertilizers:

Food grain production in India has almost hit a plateau in recent years. In any case the production is not commensurate with the increased use of high cost inputs like seeds of hybrid/improved varieties, fertilizers and plant protection chemicals. Agriculture production has tended to remain either stagnant or is declining despite application of high cost inputs in large number of agricultural zones. Agriculture production despite troughs due to drought and aberrant weather conditions showed remarkable resilience but the quantum jump in production is conspicuous by its absence. Experts attribute this stagnation to destruction of soil health due to application of fertilizers and pesticides.

However, estimates of fertilizer subsidy as per central government budgets over the years in the post-reforms era show that it has increased significantly. Table presents the estimates of major subsidies including the food and fertilizer subsidies in the post-reforms period (1991-92 to 2008-09). It is evident from the table that total subsidies have increased from Rs. 12158 crore in 1990-91 to Rs. 129243 crore in 2008-09, an increase by 10.6 times. The fertilizer subsidy has increased from Rs. 4389 crore in 1990-91 to Rs. 75,849 crore in 2008-09 representing an increase of over 17 times. As a percentage of GDP, this represents an increase from 0.85 percent in 1990-91 to 1.52 percent in 2008-09 .

India can with drawl this high burden of fertilizer subsidies by transforming major cropped area to organic farming in systematic manner. It not only saves our economy but also provides safety and sustainability to our soils and environment. Government should develop a strategic plan for the phased conservation of conventional/modern system to organic agriculture. An investment of 49 the same amount for encouraging the

organic inputs use and on organic agricultural research will propel our agricultural exports/ export earnings.

**Food and fertilizer subsidies in India,
1990-91 to 2008-09 (Crores):**

Year	Food	Fertilizers				Total Subsidies
		<i>Indigenous Urea</i>	<i>Imported Urea</i>	<i>decontrolled fertilizers</i>	<i>Total</i>	
1990-91	2450	3730	659	-	4389	12158
1991-92	2850	3500	1300	-	5185 ²	12253
1992-93	2800	4800	996	-	5796	11995
1993-94	5537	3800	762	-	4562	11605
1994-95	5100	4075	1166	528	5769	11854
1995-96	5377	4300	1935	500	6735	12666
1996-97	6066	4743	1163	1672	7578	15499
1997-98	7900	6600	722	2596	9918	18540
1998-99	9100	7473	333	3790	11596	23593
1999-00	9434	8670	74	4500	13244	24487
2000-01	12060	9480	1	4319	13800	26838
2001-02	17499	8044	47	4504	12595	31210
2002-03	24176	7790	-	3225	11015	43533
2003-04	25181	8521	-	3326	11847	44323
2004-05	25798	10243	494	5142	15879	45957
2005-06	23077	10653	1211	6596	18460	47522
2006-07	24014	12650	3274	10298	26222	57125
2007-08	31328	12950	6606	12934	32490	70926
2008-09 (RE)	43627	16517	10981	48351	75849	129243

Costly and complex organic certification process:

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

An example of the fee structure of a certification body operating in India is given.

Over the past few years, many international certifiers opened branch offices in India. The cost of certification is coming down but still it is very high for small holders group and individual farmers. With the local certification bodies started to emerge, the costs will soon reach lowest possible level while ensuring quality. Cost, quality of certification, lengthy procedures, ability of services, international validity and complicate in nature are constraints faced by the farmers.

So while pursuing export-friendly strategies, the authorities must think of innovative ways to ease the certification process.

Making universally recognized accreditation simpler and cheaper for small organic farmers to acquire is the first step to increasing their formal participation in the sector.

Annual expenses for inspection and certification:

Annual expenses for inspection and certification (Eg: Ecocert)	NPOP + International Certifications (EC, NOP or JAS)
Type	
1. Inspection and reporting	
1.1 Small Holder Groups	Rs. 16,000 per day
1.2 Estates	Rs. 16,000 per day
1.3 Individual Farmers	Rs. 8000
1.4 Small Processors	Rs. 16,000 per day
1.5 Medium Size Processors	Rs. 16,000 per day
1.6 Manufacturers/exporters/importers	Rs. 17,000 per day
2. Certification	
2.1 Small Holder Groups	Rs. 15,000 per day
2.2 Estates	Rs. 15,000 per day
2.3 Individual Farmers	Rs. 15,000 per day
2.4 Small Processors	Rs. 15,000 per day
2.5 Medium Size Processors	Rs. 15,000 per day
2.6 Manufacturers/exporters/Importers	Rs. 15,000 per day

Lack of infrastructure facilities and certification bodies:

The organic supply chain currently suffers lack of infrastructure and high costs linked to handling small quantities for growing niche markets. The greater diversity of enterprises in organic production means that economies of scale are less easily achieved. Post-harvest handling of relatively small quantities of organic foods results in higher costs, especially

given the mandatory segregation of organic and conventional produce, particularly for processing and transportation. Marketing and the distribution chain for organic products are relatively inefficient and costs are higher because of the relatively small volume. As demand for organic food and products increases and the sector get developed in infrastructure, technological innovations and economies of scale are likely to reduce costs of production, processing, distribution, and marketing for organic produce.

This phenomenon is already perceived by consumers in the main organic markets such as Germany and the US, where some organic products are now being sold through usual marketing channels. Till 2010, there were only 18 accredited certification bodies in the country (table 2.18). The number of bodies is growing up slowly which are in-adequate. Many state government agencies are in the queue and are getting ready for obtaining accreditation. But, the recognized green markets are very few; the trade channels are yet to be formed in the country.

Low awareness about organic inputs:

Many farmers in the country like India have only vague ideas about organic farming and its advantages as against the conventional farming methods. Farmers lack knowledge of compost making using the modern techniques and also its application. Use of bio-fertilizers and bio-pesticides requires awareness and willingness on the part of the farming community. Government should conduct more conferences, seminars, and farmers' fairs to raise awareness and encourage adoption of organic farming in the country. Programs demonstrating how to establish organic systems, and training in how to produce and manage organic inputs, should be started at the village level. Under the NPOF, sufficient provision has been made to train farmers for organic production and internal control and to develop

both model organic farms and a nationwide network of organic service providers (to provide guidance, establish farmers' groups and arrange organic inputs). There is also a need for establishment of organic input channels for better marketing and timely availability.

Price structure for organic products:

Often the prices expected by farmers are unrealistic. There have been many documented examples where a non-certified organic farmer wanted a price varying from 100-400 per cent more than comparable conventional products. A drop in the yields is often claimed as the reason for claiming a higher price. It is important to note that awareness rising for farmers is of equal importance as it is for consumers. Self-claimed organic agricultural produce can only be sold in the local market. But, a well defined organic market in the country is virtually non-existent.

As for certified organic products, the situation is quite different in the export market. If the farmer has paid the costs for certification and thus owns the certificate and export directly, the premium is around 50 per cent. If he owns the certificate and sells it to an exporter, the premium is around 25-30 per cent. If he does not own the certificate, the premium is between 15 and 25 per cent

Future prospects :

Although India has traditionally been a country of organic agriculture, but the growth of modern scientific, input intensive agriculture has pushed it to wall. But with the increasing awareness about the safety and quality of foods, long term sustainability of the system and only hope for rain fed resource poor farmers, the organic farming has emerged as an alternative

system of farming which not only address the quality and sustainability concerns, but also ensure a debt free, profitable livelihood option. Within a short span of five years organic agriculture has grown from a controversial niche subject to a mainstream agriculture.

It has grown at a rate of nearly 200% in the last two years and is likely to grow by more than 100% in the next five years to come. Institutional mechanisms and governmental support has ensured its sustained growth during the 11th plan period.

But to keep the hopes of these farmers, efforts are necessary to link them to market. For this efforts need to be done on the same scale, as has been initiated for increasing the area.

Part-II

Policy Implications

The Ministry of Agriculture should introduce favorable governmental policies and strategies for the promotion of organic farming in India. These should include:

- A single authority at national level with a well-defined role should be responsible for the organic sector. An important role would be the responsibility for regulating and supervising the organic sector at domestic level, including any foreign bodies active in the country. With regard to export, the national authority should act as counterpart to the authorities of the importing countries and could thus strengthen the organic sector's export potential.
- The national authority should link with other institutes, NGOs, farmers' organizations and the private sector in designing strategies to support and energize the organic sector, particularly in the fields of research, training, extension, post-harvest handling and marketing. Through linking with the different sectors, substantial experiences can be brought together and organized in a strategic and coordinated way.
- Current market demand is considerably higher than the supply, a situation which creates potential opportunities for countries in the short and medium term. So, India should use this opportunity timely to tap the national and international markets by framing a well defined strategy on organic farming sector at the national level. The development of international markets can also stimulate domestic as well as regional market opportunities.

- The quality organic input production (compost, bio-fertilizers and bio-pesticides) in the country should be further encouraged with latest technologies and improved way of financial assistance so as to reduce the high dependency on inorganic-fertilizers in a phase manner and to save our domestic subsidies. It not only protects our soil health but also sustains the environmental and natural resources.
- The organic input units established under various schemes in the country should be linked up with suitable market channels to improve their capacity utilization or to make use of entire installed capacities. NABARD /state Agil dept/ IFFCO should intervene in providing necessary support for their marketing of organic inputs. Establishment of organic input marketing channels is the need of the hour for expansion of organic farming in the country.
- The technical efficiency of organic input production should also be enhanced by imparting more production skills to the promoters. The economic and scale efficiency of the units should also be improved by providing more technical guidance, quality seed stock and training programs.
- Government should take a lead role in conduct of training and demonstration programs for creating more awareness about use of different organic inputs and their benefits.
- The state agricultural department and state agricultural universities should also actively involved in these programs and should also promote through their extension services. So that it will not only boost the confidence of the farmers and but also increases the demand for organic inputs.
- The demand should also be enhanced by subsidizing the usage of organic inputs in the country.

- Creation of „Green markets“ or output market channels/linkages should be developed for marketing of organic produce in the country. The promotion of the organic sector in the country must involve development of complete product chains including some value addition and export strategies.
- Support structures should be introduced for small farmers“ group certification. Local competencies for inspection and certification are increasing, which leads to a strengthening of the local organic sector. Methodologies for group certification are functioning technically, but need political recognition. Competencies for inspection and certification are increasing in the country and providing opportunities to „localize“ the organic sector. This trend needs more political strengthening vis –à-vis international trade.
- A comprehensive program/scheme should be developed to assist the farmers that who want to convert their lands from conventional to organic farming. It includes some conversion or input subsidies, providing technical guidance and finally certification of farm. It will dramatically expand the organic farming in the country and ultimately sustains our food production.
- Increase investments are needed on research and development activities in organic agriculture and to scale-up the projects that have already proven successful. The efficiency of organic farming should be improved by disseminating improved methods of cultivation and packages of practices. The Indian Council of Agricultural Research (ICAR) should take an initiative in developing common course curricula on organic farming across different universities in the country.

- The establishment of a monthly information bulletin for farmers on local and international prices for organic food items as well as inputs should be developed. Similarly, establishment of systematic data/information about various levels of organic product chains and market opportunities at internationally, regionally and domestically are needs to be developed.
- Regional information exchange on organic farming methods and research results should be encouraged from international players like FAO, ESCAP, the International Trade Centre and IFOAM etc to country level players and finally to local farmers.
- Finally, the most important task would be to ensure consistency of government policies on organic sector. Through focusing of policies and activities, the organic sector can be developed more quickly and more effectively. Institutional barriers to the development of the organic sector are considered greater than the technical and trade barriers. So, most relevant institutions and partners should be prepared to competently involve in the promotion of the organic sector in the country.