IMPORTANCE OF ORGANIC FARMING IN INDIA (CHEMICAL FREE INDIA)

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INTRODUCTION:

Agriculture is backbone of Indian economy. An average Indian still spends almost half of his/her total expenditure on food, while roughly half of India's work force is still engaged in agriculture for its livelihood. Given that India is still home to the largest number of poor and malnourished people in the world, a higher priority to agriculture will achieve the goals of reducing poverty and malnutrition as well as of inclusive growth. But the contribution of agriculture to the overall Gross Domestic Product (GDP) of the country has fallen from about 30 percent in 1990-91 to less than 15 percent in 2011-12.

With the declining share of agriculture to GDP, the continuing high pressure of population on agriculture, inefficient use of more fertilizers on land and mismanagement of productive resources, especially land, water, energy and agro-chemicals has vastly reduced fertility and damaged the physical, chemical and biological properties of the soil. The limit of land availability for agriculture has already reached. In order to achieve stable growth in agriculture sector, high productivity of land and labour, structural transformation have to be made from fertilizer based agriculture sector to Organic farming.

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TRANSFORMATION IN AGRICULTURAL SECTOR:

During the earlier period of agriculture in India, the use of chemical pesticide was limited mainly to the high value crops only. The traditional varieties did not face much problem of insect pest and diseases. When days went, thousands of chemicals are used for agricultural production. Those chemicals interact with different components of the plant ecosystem and contamination may take place in respect of one component or the other. In recent years use of chemicals especially fertilizer and pesticides have become a cause for serious concern as it has been marked out as pollutants having adverse effects on environment including human being. In recent years several reports suggests that the agrochemical, especially the chemical fertilizers are resulting in environmental degradation by way of polluting plant and soil environment, water bodies, effecting the ozone layer etc.

While both the fertilizer and the pesticide usage has lead to increased crop production and greater economic return to the farmers within short span of time, their impact on soil and water environment and crop quality was not considered significant and reproducible.

Considering the hazardous effects of inorganic fertilizers and the agro-chemicals on environment as well as on the human being, it is an urgent need for the developing country like India to shift to the organic agriculture from the existing inorganic agriculture as most of the arable soils in India contain organic carbon below the threshold level and majority of the farming community is resource poor and purchase of fertilizers and chemicals in adequate quantities is beyond their capacity.

With increasing health consciousness and concern for environment, organic farming system has been drawing attention all over the world. Organic farming is a holistic production management system, which promotes and enhances agro-ecosystems health including bio-diversity, biological cycles and soil biological activities. As a result, there is widespread organic movement and large demands for organic products.

Organic farming is the practice of growing crops without the use of chemical pesticides, herbicides and fertilizers. It relies mainly on crop rotation, organic fertilizers and plant-based pesticides and herbicides to maintain soil productivity.

HISTORY OF ORGANIC AGRICULTURE IN INDIA

The system of organic farming is not new to India. Organic farming was practiced in India since thousands of years. Indian farmers make the entire world to look after the development of India by its traditional organic farming. When the days went, shift in agriculture pattern, rise in population, huge profit in short span of time transforms the nature into chemicals and pesticides. In traditional India, the entire agriculture was practiced using organic techniques, where the fertilizers, pesticides, etc., were obtained from plant and animal products.

Organic Agriculture has been become popular and expanded gradually in India because of following reasons:

1. In Indian scenario organic manures (like cow dung, tree leaves and plants, human and animal wastes) are easily available in rural areas that is why agriculture based on organic manures has been more habitats other than agriculture based on high investment fertilizers (like Chemical fertilizers).

2. Continuous application of chemical fertilizers depleted the soil as well as product quality due to which Indian farmers has been emphasized on organic agriculture.

3. Indian agriculture market was improved and commercialization based farming has been started by which agricultural market became more competitive and qualitative that is why the organic based product have more customer due to its freshness, nutrition value and microorganism free characteristics. So the organic agriculture expanded gradually

During 1950s and 1960s, the ever increasing population of India and several natural calamities lead to a severe food scarcity in India. As a result, the government was forced to import food grains from foreign countries. Natural and organic fertilizers were replaced by chemical fertilizers and locally made pesticides were replaced by chemical pesticides.

As time went by, extensive dependence on chemical farming has shown its darker side. The land is losing its fertility and is demanding larger quantities of fertilizers to be used. Pests are

becoming immune requiring the farmers to use stronger and costlier pesticides. Due to increased cost of farming, farmers are falling into the trap of money lenders, who are exploiting them no end, and forcing many to commit suicide.

Both consumer and farmers are now gradually shifting back to organic farming in India. It is believed by many that organic farming is healthier. Though the health benefits of organic food are yet to be proved, consumers are willing to pay higher premium for the same. Many farmers in India are shifting to organic farming due to the domestic and international demand for organic food. Further stringent standards for non-organic food in European and US markets have led to rejection of many Indian food consignments in the past. Organic farming, therefore, provides a better alternative to chemical farming.

ROWTH OF ORGANIC FARMING:

According to the International Fund for Agriculture and Development (IFAD), about 2.5 million hectares of land was under organic farming in India in 2004. Further, there are over 15,000 certified organic farms in India. India is one of the most important suppliers of organic food to the developed nations. Currently, India ranks 10th among the top ten countries in terms of cultivable land under organic certification.

The following table explains the growth of organic farming in India. This shows the transformation of agriculture sector from inorganic farming to organic farming.

TABLE: 1

GROWTH OF AREA UNDER ORGANIC MANAGEMENT

Years	Area under Organic management in Ha
2003-04	42,000
2004-05	76,000
2005-06	1,73,000
2006-07	5,38,000
2007-08	8,65,000
2008-09	12,07,000

2009-10	10,85,648
2010-11	777517

Source: National Project on Organic Farming, Annual Report 2012-2013

PRODUCTION OF ORGANIC FARMING:

India produced around **1.24 million MT** of certified organic products which includes all varieties of food products namely Sugarcane, Cotton, Oil Seeds, Basmati rice, Pulses, Spices, Tea, Fruits, Dry fruits, Vegetables, Coffee, organic cotton fiber, functional food products and their value added products.

TABLE:NO:2

SALES AND ORGANIC PRODUCTION IN INDIA

Product	Domestic sales (Metric Tones)	Export (Metric Tones)
Rice	5000	6877
Wheat& Flour	3000	-
Pulses	2500	-
Tea	1500	2928
Coffee	750	320
Spices	500	-
Fruits and Vegetables	5000	1639

Source: Data provided by APEDA Accredited Certified Agencies in Tracenet), National Project on Organic Farming, Annual Report 2012-2013

EXPORTS OF ORGANIC FARMING:

India is bestowed with lot of potential to produce all varieties of organic products due to its various agro climatic regions. India exported 135 products last year (2013-14) with the total volume of 194088 MT including 16322 MT organic textiles. The organic agriculture export realization was around 403 million US $ including 183 US $ organic textiles registering a 7.73% growth over the previous year. Organic products are exported to US, European Union, Canada, Switzerland, Australia, New Zealand, South East Asian countries, Middle East, South Africa etc.

TABLE: NO:3

SALES AND EXPORT OF ORGANIC FARMING IN INDIA

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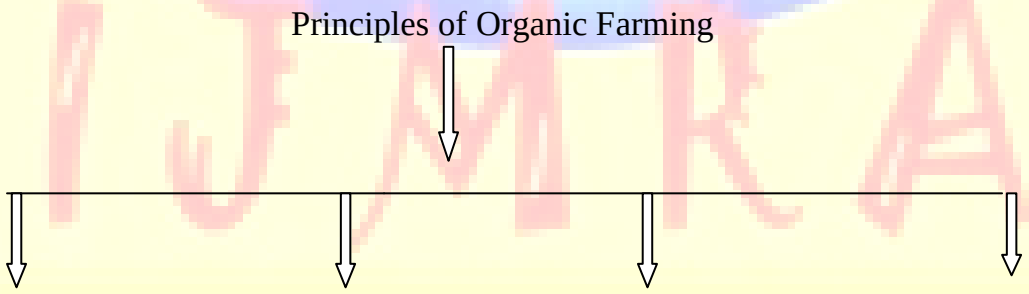
Source: (Aivalli, G. 2013)

PRINCIPLES OF ORGANIC AGRICULTURE:

These principles are the roots from which organic agriculture grows and develops. They express the contribution that organic agriculture can make to the world.



Principle of Health:

Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible. The role of organic agriculture is to sustain and enhance the health of ecosystems and organisms from the smallest in the soil to human beings. In particular, organic agriculture is intended to produce high quality, nutritious food that contributes to preventive

health care and well-being. In view of this it should avoid the use of fertilizers, pesticides, animal drugs and food additives that may have adverse health effects.

Principle of Ecology:

Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them. Organic farming, pastoral and wild harvest systems should fit the cycles and ecological balances in nature. These cycles are universal but their operation is site-specific. Organic management must be adapted to local conditions, ecology, culture and scale. Inputs should be reduced by reuse, recycling and efficient management of materials and energy in order to maintain and improve environmental quality and conserve resources.

Principle of Fairness:

This principle emphasizes that those involved in organic agriculture should conduct human relationships in a manner that ensures fairness at all levels and to all parties - farmers, workers, processors, distributors, traders and consumers. Organic agriculture should provide everyone involved with a good quality of life, and contribute to food sovereignty and reduction of poverty. It aims to produce a sufficient supply of good quality food and other products.

This principle insists that animals should be provided with the conditions and opportunities of life that accord with their physiology, natural behavior and well-being.

Principle of Care:

Organic Agriculture is a living and dynamic system that responds to internal and external demands and conditions. This principle states that precaution and responsibility are the key concerns in management, development and technology choices in Organic Agriculture. Science is necessary to ensure that Organic Agriculture is healthy, safe and ecologically sound. However, scientific knowledge alone is not sufficient. Practical experience, accumulated wisdom and traditional and indigenous knowledge offer valid solutions, tested by time.

Conclusion: Lack of location specific technology to recycle organic waste and lack of awareness to recycle organic waste in agriculture are the main reason for the slow adoption of organic farming. So, in order to popularize this eco-friendly farming practices like organic farming we have to give attention to strengthen the production of good quality organic manure,

bio-pesticides, bio-fertilizers and green manuring crops, discourage the indiscriminate use of inorganic fertilizers and pesticides, development of pesticides of plant origin (such as Neem) and use of agents especially under integrated pest management system as well as steps to reduce hazardous chemical residues in seeds, fodder, food products and milk.

Organic farming is a production system that relies on ecological processes, biodiversity and cycles adapted to local conditions to sustain the health of soils, ecosystems and people. Instead of using synthetic inputs such as fertilisers, pesticides, hormones or feed additives, organic agriculture combines tradition, innovation and science to benefit the shared environment for a good quality of life for all involved. The system largely depends on crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilisation and plant protection. A growing awareness, rising market demand, inclination amongst farmers to go organic and increasing institutional support has contributed towards making organic farming a lucrative career opportunity.

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