

ROLE OF ORGANIC FARMING IN SUSTAINABLE DEVELOPMENT

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ABSTRACT

Organic agriculture contributes to meaningful ecological and socio economically sustainable development specially in developing countries. It is possible because of the application of organic principles of efficient management of local resources and its cost effectiveness . On the other hand the market of organic products are growing tremendously day by day on the national and international level . The main objective of this paper is to find out the feasibility and efficiency of organic farming as a part of sustainable development and to eradicate hunger and its success in providing quality food . this paper also revised the scenario of organic farming in India , its importance for Indian economy , emerging issues related to organic farming system and their appropriate solutions .As the resources are abundance for organic farming in India , it might be a good opportunity for shifting away from inorganic farming to organic farming , as a result sustainable development can be achieved in the country .

KEY WORDS Organic farming , sustainable development , cost effectiveness and ecological development .

Sustainable development is need of hour; it has become a burning issue mainly after 1960's. Due to rapid industrial development, mass consumption of hydro carbons as fuel; consequent environment degradation at global level. In. As per article 9 of the UN declaration of human rights "All people should promote sustainable development all over the world to assure dignity, freedom, security and justice for all people. Sustainable development meets the need of the present generation without compromising the ability of future generations to meet their own needs (1987 UN convention on Environment and Development). It is not simply the use of resources at a rate which could be maintained without diminishing future levels, but development which also takes environmental and social implications into account. Sustainable development contains the integration of economic social and environment objectives. Agenda 21 of Earth Summit held at Rio (Brazil) clearly states that aspects of sustainable development need to be developed to provide solid bases for decision making at all levels and to contribute to a self regulating sustainability of integrated environment and development systems.

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Food and agriculture organization said that sustainable agriculture is successful management of resources locally available: to satisfy the changing human needs while enhancing quality of natural environment and conserving natural resources. Organic farming is main thrust of sustainable agriculture. In this era of rapid economic development sustainable agriculture is vital component of various government plans and policies as remedy to various social, economic and political issues. There are many components that separate organic farming from traditional farming viz. Application of bio fertilizer

- Vermin compost
- Green leaf manure
- Bio fertilizer
- Animal husbandry
- Crop rotation
- Crop residue management
- Contour budding
- More leguminous crop
- Inter cropping

ORGANIC FARMING COMPONENTS

- Manures
- Vermicompost
- Greenleaf manures
- Crop rotation
- Biological management
- Animal husbandry
- Bio fertilizer
- Ecological balance maintaining abilities
- Compared to the green and golden revolution organic farming tends to be cheaper.

NATIONAL MISSION FOR SUSTAINABLE AGRICULTURE

In India, organic farming is a vital component of National Action Plan on Climate Change. NAPCC is a comprehensive plan which outlines measures on climate change related adaptation and mitigation while simultaneously advancing development. The eight missions form the core of plan. It will make Indian agriculture more resilient to climate change by identifying new varieties of crops and alternate cropping patterns. Make suggestions for safe guarding farmers from climate change like introducing new credit and insurance mechanism and great access to information.

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Basically organic farming is based upon several certification programmes that prohibit use of chemical fertilizers, insecticides and pesticides. Health of soil is main thrust component under it. Thus quality of water resource and soil is maintained under organic farming.

NEED FOR THE PAPER

There are three categories of opinions about the relevance of organic farming for India. The first one simply dismisses it as a fad or craze. The second category, which includes many farmers and scientists, opines that there are merits in the organic farming but we should proceed cautiously considering the national needs and conditions in which Indian agriculture functions. They are fully aware of the environmental problems created by the conventional farming. But many of them believe that yields are lower in organic cultivation during the initial period and also the cost of labour tends to increase therein. The third one is all for organic farming and advocates its adoption wholeheartedly. They think that tomorrow's ecology is more important than today's conventional farm benefits.

However, among many a major reservation, the profitability of organic farming vis a vis conventional farming, is the crucial one from the point of view of the Indian farmers, particularly the small and marginal.

REVIEW OF LITERATURE

Howard's (1940) Agriculture Testament draws attention to the destruction of soil and deals with the consequence of it. It suggests method to restore and maintain the soil fertility. The study contains a detailed deposition of the famous Indore method of maintaining soil health. The reasons and sources of the erosion of soil fertility and its effect on living things are discussed. The criticism of the agriculture research and examples of how it had to be carried out to protect soil and its productivity are discussed in detail.

Bemwad Geier (1999) is of the opinion that there is no other farming method so clearly regulated by standards and rules as organic agriculture. The organic movement has decades of experience through practicing ecologically sound agriculture and also in establishing inspection and certification schemes to give the consumers the guarantee and confidence in actually. Organic farming reduces external inputs and it is based on a holistic approach to farming. He describes the worldwide success stories of organic farming based on the performance of important countries in the west. The magnitude of world trade in organic farming products is also mentioned. To the question of whether the organic farming can feed the world, he says that neither chemical nor organic farming systems can do it, but the farmers can.

Kaushik(1997) analyses the issues and policy implications in the adoption of sustainable agriculture. The concept of trades off has a forceful role to play in organic farming both at the individual and national level planning; current vis-a-vis future income and consumption are very important issues to be determined. Sharma (2001) said that organic farming most widely recognised alternative farming system in place of conventional

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farming. He describes demerits of conventional farming in a very efficient manner. He also talks about other alternates like biological farming, natural farming etc. The whole emphasis on organic farming which is extensively discussed by him. But he did not consider the relevant issues regarding organic farming in India like lack of awareness regarding organic farming among farmers.

Somani and others (1992) have said in their 42 papers presented at national level seminar for organic farming. They talk about various problems regarding natural farming and made a comparison between modern and natural farming. Yields cannot be compared because mono culture of chemical farming with those of multi crops cultivated under organic or natural farming. They also advocated that economic analysis is not possible because of intangible resource contribution.

The above given over view of the literature makes it clear that opinions about organic farming are different among farmer and experts problems regarding profitability and yield increases in organic farming and acute but there is a common opinion regarding its environment impacts and natural ability to conserve the biodiversity soil health and food security. There are some strong opinions against organic farming also. There are many scholars who propagates a mix system of organic and conventional farming because they said that it is not possible to fully adopt organic farming at once in India as to become fully organic at once mainly to sharp fall in food quantity production. It will directly hamper our food production.

OBJECTIVES OF THE PAPER

- To understand the relation between organic farming and sustainable development
- To analysis the challenges regarding adoption of organic farming in India

METHODOLOGY

The paper is purely is based on secondary data from International Federation of Organic Farming Movements (IFOFM), annual report of agriculture by ministry of agriculture and farmers welfare government of India and newspaper reports etc. are used for preparation of the paper. **NEED OF**

NEED OF ORGANIC FARMING

Agriculture is the mainstay of livelihood and continuous to be the backbone of Indian economy. It is the single largest sector which provides direct or indirect livelihood to more than 57% of India's population. Besides, it contributes to 1/5th of total GDP, 10% of the total export earnings and raw materials to a large number of industries.

Food production has increased over four folds from 51 million tonnes in 1950 to an estimated in 2015-16. India witnessed a significant increase in grain productivity and cropping intensity till the 1980's. There after several factors have led to a major slowdown in growth rate of agriculture. One of the major reasons for this decline is

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the large scale nutrient depletion through crop harvests. At the same time high use of chemical fertilizer insecticides and pesticides also causing soil quality degradation. Thus in agriculture soil health is main component.

Deterioration in soils physical and biological properties are responsible for poor performance of agriculture sector. In a country such as India where population growth rate is much higher than food production growth rate, there is a huge need to ensure food security with nutrition value. To achieve the goal of improving agriculture growth rate and food security needs at present and in the coming years for a long time would be needed. In this regard organic farming or the nutrient management based farming is a handy tool. Most of farmers are careless about preparation of organic manures as most of dung is utilized as dung cake for fuel.

The streamlining of the nutrient management practice. The use of green manure and vermin compost is very beneficial for soil health and environment. The process of manufacturing these natural manures is labour intensive and of long term. Indirectly the application of these natural manures would provide employment to millions of skilled and unskilled workers through its forward and backward linkages.

The application of green manure and bio-fertilizers dung manure helps in maintaining soil moisture efficiently and increase infiltration of ground water, ultimately lead to growth of underground water feeble. Another important aspect about application of natural manures; it reduces water quantity during irrigation.

The use of vermin compost and green manure helps in growth of biological activities in the soil and make a self mechanism in the soil to increase its fertility.

India is a country of rain fed agriculture thus in areas of rainfall less than 75cm. Organic farming is a suitable option under dry agriculture farming. In the state of Punjab some district have underground water containing uranium, Ganga Valley region has arsenic etc. This is all due to high use of chemical fertilizer and industrial effluents.

India is second largest country of world in terms of population; if we want to provide food security to each citizen and every class of society in real sense, organic farming can do much more in this regard. Because the use of natural manures in farming helps in maintaining nutritional value in food product. In this way organic product particularly food items can make our teeming population a weapon that can harness the benefits of demographic dividend in country.

Organic farming in itself relies on sustainable development. India is a geographical divers country, here some ecosystem are very fragile. Hence organic farming is a good alternate to conserve fragile ecosystems. Organic farming is a farming technique that sustains, enhances and maintains the quality of all aspect of all ecosystems. It does not have any harmful and deteriorating effects on the ecosystem. On the other hand traditional farming mainly focussed upon output. The changed course of Indian agricultural history with introduction of green

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revolution has pulled our country from various famines. But also pushed country towards other drawbacks. Like depletion of ground water table, contamination of water resources, soil quality deterioration etc. Thus organic farming brings eco friendly techniques. In Laymen way we can say that sustainable development is an economic development conducted without depletion of natural resources and quality degradation of natural ecosystems.

BENEFITS OF ORGANIC FARMING

- Conservation and protection of biodiversity
- Restore soils fertility
- Reduce water pollution as natural manure does not contaminate ground water
- Beneficial for micro biomes present in soils, thus provides a self mechanism to restore soil fertility
- Enhance food nutrition quality as there is no use of chemical fertilizers, insecticides and pesticides
- Due to its nature of labour intensiveness it provides manual labour to masses
- Better management of crop residues, as crop residues use in making of natural manures
- Very beneficial for pollination processes, thus increases the fruits and vegetables production

PROBLEMS OF ORGANIC FARMING

- Mass illiteracy among farmers: that's why they are not able to adopt organic farming with ease
- Labour intensiveness: the making of organic manures, green manures, and natural composts is a long time and labour intensive process. It is not possible for small farmers to afford it
- Lack of awareness: even literate farmers in India have vague opinions regarding organic farming and its merits. They are lacking technical knowhow-regarding process of natural compost making. Even they do not know about proper management of irrigation during farming of particular crops
- Lack of government policies in India there are very few government schemes promoting organic farming. About 2% farmers are taking advantages from such schemes like Parampragat krishi vikas yojna etc.
- Lack of marketing facilities in India there is no regulation regarding procurement of organic products

SOLUTIONS

- Agriculture research institution like ICAR, State and Central agriculture universities should organised awareness programmes at various level vis block level and district level
- Agriculture Engineering Research Institute like CSIR should setup memorandum of understanding regarding technical aspects of organic farming
- Central and State Government should organised various awareness programmes with the help of Panchyati Raj Institutions, Mass communication means like newspaper, radio and television should use as awareness platform regarding organic farming among masses

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- In India about 55% population is still agrigarian thus government at Central and State level should formulate proper policies regarding natural or organic farming
- Central government should provide a proper regulation mechanism or registration of organic products and marketing facilities

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