

Status of Organic Farming in Haryana

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Abstract:

In ancient India, the entire agricultural activities were practiced using organic techniques, where the fertilizers, pesticides etc. were obtained from plant and animal husbandry products. But after 1960s this scenario was drastically changed during the green revolution period. The focused area of green revolution was Punjab, Haryana and North Utter Pradesh. Due to intensification of agriculture under green revolution has led to many problems such as loss of soil fertility, soil toxicity, diminishing water resources, increased incidents of human and livestock disease and global warming in that area. But nowadays increasing concern about protection of environment as well as health hazards associated with agrochemicals and consumer preferences to safe food are the determining elements that lead to the growing interest in the alternate form of agriculture; Organic Farming. Organic Farming is a “method of crop, livestock production and crop diversification that involves much more than choosing not to use pesticides, fertilizers, and genetically modified organisms”. The present study assessed the current status of organic farming in Haryana. Haryana is endowed with various type of naturally available organic form of nutrients in different districts and it will help for organic cultivation of crops substantially. The total cultivated area in Haryana is 6605000 hectare and out of this area 5303 hectares came under certified organic farming.

Keywords: Organic Farming, Agriculture, Fertilizers.

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I. Introduction:

India is an agro based economy it ranks 2nd in agricultural products in the world. So organic farming plays an important role in agro field. India has many natural resources of various organic compounds so it is a great opportunity to produce sufficient quantity of organic food to meet the domestic and global demand. Organic farming is a method of farming system which primarily aimed at cultivating land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal, farm wastes and aquatic wastes) and other biological materials along with beneficial bio fertilizers to release nutrients to crops for increased sustainable production in an eco friendly pollution free environment.

As per the definition of United States Department of Agriculture study team on organic farming, “organic farming is a system which avoids or largely excludes the use of synthetic inputs (fertilizers, pesticides and feed additives etc.) and to maximum extent feasible rely upon crop rotations, crop residues, animal manures, of farm organic waste and biological system of nutrients mobilization and plant protection.”

But the description offered by Lampkin (1990) appears to be the most comprehensive one covering all essential features as per this definition, “organic farming is a production system, which avoids or largely excludes the use of synthetic compounded fertilizers, pesticides, growth regulators and livestock feed additives.” To the maximum extent feasible, organic farming system relies on crop rotations, crop residues, animal manures, green manures, of- farming organic wastes and aspect of biological pest control to maintain soil productivity to supply plant nutrients and to control insects, weeds and other pests. The concept of soil as living system that develops the activities of beneficial organisms is central to this definition.

Need of Organic Farming:

With the increase in population our compulsion would be not only to stabilize agricultural production but to increase it further in sustainable manner. The scientist has realized that the “Green Revolution” with high input use has reached a plateau and is now sustained with diminishing return of falling dividends. Thus, a natural balance needs to be maintained at all cost for existence of life and property.

Key Characteristics of Organic Farming:

- Protecting the long term fertility of soil by maintaining organic matter level, enhance soil biological activity and careful mechanical intervention.
- Providing crop nutrients indirectly using relatively insoluble nutrient sources which are made available to the plant by the action of soil microorganism.
- Nitrogen self sufficiency through the use of legumes and biological nitrogen fixation, as well as effective recycling of organic materials.
- The extensive management of livestock, paying full regard to their evolutionary adaptation, behavioral needs and animal welfare issues with respect to nutrition, housing, health and rearing.
- Careful attention to the impact of the farming system on the wider environment and the conservation of wild life.

Objectives:

The main objectives of the study are as follows:

- 1) To examine the current status of organic farming in Haryana.
- 2) To identify the challenges in the growth of organic farming in Haryana.
- 3) To study the future prospectus of organic farming in Haryana.

II. Research Methodology:

This study used descriptive research design because it will ensure the minimization of and maximization of reliability of data collection. The study based on secondary data gathered from Annual report of National Project on Organic Farming, Agricultural Statistics, Statistical Abstract of Haryana and Economic Survey of Haryana etc.

Agricultural Economy of Haryana:

The economic growth of Haryana has been exemplary since its creation as a separate State. Though Haryana is geographically a small State, the contribution of the State to the NGDP at constant prices (2011-12) has been estimated as 3.8 per cent (2018-19).

Agriculture is an important sector of our State economy and majority of the population is directly or indirectly dependent on agriculture and its allied activities. Accordingly, the state has accorded high priority to agriculture sector since its creation on 1st November, 1966. Strong infrastructure facilities such as metalled roads, rural electrification, extensive network of canals, development of market yards etc. were created which provided much needed impetus to agriculture development in the State. Creation of these facilities coupled with agricultural research support and excellent extension network to disseminate information related to improved farm practices for farmers yielded tangible results. The State has been converted from a food deficient to a food surplus State.

The agriculture and allied sectors has been an important contributor to GSDP of the State. However, as a result of rapid structural transformation of the State economy over the year the contribution of the agriculture and allied sectors at constant prices went down to only 16.6 per cent of the GSVA during the year 2019-20.

Table GSVA from Agriculture and Allied Sectors at Constant (2011-12) Prices.

(□ in crore)

Sector	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 (Q)	2019-20 (A)
Agriculture & Allied	64538.86	63264.99 (-2.0)	65025.14 (2.8)	63576.61 (-2.2)	66022.21 (3.8)	71263.06 (7.9)	75636.89 (6.1)	79621.19 (5.3)	83174.62 (4.5)

Q: Quick Estimates, A: Advance Estimates * Figures in brackets show the percentage growth over previous year.

Source: Economic Survey of Haryana (2019-20).

In this table, estimates of Agriculture and Allied Sector indicates that the growth rate increased from 3.8 percent in 2015-16 to 7.9 percent in 2016-17 but it fell to 6.1 percent and 5.3 percent in 2017-18 and 2018-19 respectively. The advance estimates also shows the declining growth rate of this sector which is a matter of deep concern and this shows that the economic growth of the State has become more reliant on the growth in Industry and Services Sectors during the past few years. However, recent studies suggest that high GSVA growth without sustained and rapid agricultural growth is likely to accelerate inflation in the State jeopardizing the larger growth process. Therefore, the growth of Agriculture and Allied Sectors continue to be a decisive factor in the overall performance of the State's economy.

Status of Organic Farming in Haryana:

The total cultivated area in Haryana is 6605000 hectare and out of this area 5303 hectares came under certified organic farming. Out of these 5303 hectares of organic farming area, 4903 hectares comes under the National Programme for Organic Production and 400 hectares comes under the Partnership Guarantee System Certification. In 2020-21, 5439 MT of agriculture production in Haryana was produced by organic farming. Haryana has one of the lowest organic farming areas but it is the fifth largest exporter of organic products in the country. So there is a lot of potential for organic farming in Haryana. Some of the major states of India like Sikkim, Maharashtra, Tamilnadu, Madhya Pradesh and Karnataka are very good example of organic farming States where Haryana is far more behind them. So there is a lot of efforts required to become a fully organic state.

Bio fertilizer production (carrier base + liquid base) in Haryana:

Year	Carrier Base (MT)	Liquid Base (KL)
2014-15	872.955	46.489
2015-16	1097.457	58.032
2016-17	2360.64	70.148

Source: National Project on Organic farming Annual Report (2016-17).

Bio-fertilizers are very significant components for organic farming, plays very important role in maintaining long term soil fertility and sustainability by fixing atmospheric dinitrogen (N=N). fixed macro and micro nutrients in the soil. In this context, organic manures (bio-fertilizers) would be the reliable option for farmers to increase the productivity per unit area.

The table shows that Bio fertilizer production (carrier base + liquid base) in Haryana is increased during the past few years. This shows that chemical pesticides and fertilizers were replaced with some extent to Bio fertilizers but there is a lot of efforts required to fully replaced the former with the later.

Fertilizer and pesticide consumption in Haryana:

At present a huge amount of chemicals are used in agricultural production. These chemicals are interacting with different components of plant ecosystem and contamination may take place in respect of component or the other. In recent years use of chemicals especially fertilizers and pesticides have a reason for serious concern as it has been marked out as pollutants having adverse effects on environment including human being. In recent years several reports suggest that the agrochemical, especially the chemical fertilizers are resulting in environmental degradation by way of polluting plant and soil environment, water bodies, affecting the ozone layer etc. they also infect the ground water and surface water resulting in eutrophication of water bodies. Pesticides are now extensively used to control various pests, which are harmful to crops raised by man for food, feed and fiber production. Though they also have played very significant role in boosting the agricultural production, however, most of the chlorinated pesticides are non-biodegradable and leave residues, which are injurious to human beings, animals and the environment.

Keeping the hazardous effects of inorganic fertilizers and the agrochemicals on environment as well as on human being, therefore, it is an urgent need for the developing country like India and state like Haryana to shift to the organic agriculture from the existing inorganic agriculture as most of the arable soils in Haryana contain organic carbon below the threshold level and majority of the farming community have less resources and purchase of fertilizers and chemicals in adequate quantities is beyond their capacity.

Organic Agriculture is a production system that avoids or largely excludes the use of chemical fertilizers, pesticides and growth regulators. The main aim of organic agriculture is to ensure sustained productivity, environmental protection and making available food and food products raised without use of any chemicals. With increasing concern about health and concern for environment, organic farming system has been drawing attention all over the world. Organic farming is a holistic management system, which promotes and enhances agro-ecosystems health including bio-diversity, biological cycles and soil biological activities. As a result, there is an extensive organic movement and increasing the demand for organic products.

Haryana have a lot of potential in the area of organic farming but still the usage of chemical pesticides and fertilizers is increasing in the state, so there is a need to control this usage and replace it with Bio fertilizers.

Consumption of pesticides in Haryana:

Year	Quantity (in Tonnes)	Area covered (in 000 hectares)
1966-67	273.00	1,917
1970-71	412.00	3,206
1980-81	2,150.00	5,058

1990-91	5,164.53	6,420
2000-01	5,025.00	8,798
2010-11	4,060.00	7,110
2018-19	4,015.00	7,085
2019-20(P)	4,116.00	7,080

P : Provisional

Source: Statistical Abstract of Haryana 2019-20.

Fertilizer consumption in Haryana:

Year	Consumption			
	N	P	K	Total
1966-67	12,626	574	147	13,347
1970-71	60,972	6,860	2,228	70,060
1980-81	1,87,335	31,340	12,098	2,30,823
1990-91	4,43,245	1,38,006	5,042	5,86,292
2000-01	7,14,308	2,06,319	9,668	9,30,295
2010-11	9,74,045	3,35,950	47,627	13,57,622
2017-18	10,49,270	2,80,270	46,211	13,75,751
2019-20(P)	10,49,069	3,17,002	42,206	14,08,277

N: Nitrogenous

P: Phosphatic

Note : For the years 1974-75 to 1980-81 fertilizer year has been taken as February to January.

P: Provisional

K: Potassic

Totals may not tally due to rounding off. Figures of Charkhi Dadri district included in district Bhiwani.

Source: Statistical Abstract of Haryana 2019-20.

Major Issues in Organic Agriculture of Haryana:

- The problems of soil degradation, multiple nutrient deficiency, low organic carbon content and decline in the total factor productivity have been observed under different production systems in the state. The diversion of agricultural land for non-agricultural use is also a big problem.
- The per unit productivity of most horticulture crops in Haryana is low compared to the best obtained in other states.
- The availability of horticultural produce has to be improved to meet the increasing needs of population resulting from urbanization, change in food habits and growing emphasis on nutritional security, value addition and export.
- Inadequate infrastructure facilities for storage, marketing, processing and post harvest handling, especially for perishable horticultural produce.
- Inadequate cold chain facility is one of the major factors responsible for post harvest losses particularly in fruits and vegetables.
- Agriculture is the only venture where prices are determined by others than the producer. Also the long chain of middlemen for marketing absorbs the farmer's margin leaving them with minimal profit for their produce.
- Farmers lack knowledge of latest technologies and various government schemes, this lack of information limits their ability to make profits.

III. Conclusion:

Agriculture is an important sector of our State economy and majority of the population is directly or indirectly dependent on agriculture and its allied activities. But the use of chemicals fertilizers in agriculture degrades the quality of soil and affects human health and environment adversely. Keeping the hazardous effects of inorganic fertilizers and the agrochemicals on environment as well as on human being, therefore, it is an urgent need for Haryana to shift to the organic agriculture from the existing inorganic agriculture as most of the arable soils in Haryana 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. At present the area under organic farming in Haryana is very small. Well developed research and extension system

to bridge the existing productivity gaps in crops, animals and other sectors, developing infrastructure for agro-processing to utilize the available raw materials are some of the rising opportunities that needs to be harnessed.

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