

# A STUDY OF ORGANIC FARMING PRACTICES IN THE SELECTED POCKETS OF SOLAN DISTRICT (HIMACHAL PRADESH)

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**Abstract-** The farmers of the Himachal Pradesh are using the organic farming by default. They have later adopted the industrial farming to increase their productivity and to meet their day to day their needs. The concepts of the cash-crops have also contributed for the upliftment of industrial farming in the state. Now the farmers of the state are adopting the organic farming due to its health benefits and increased demand of these products nationally and internationally. The state is showing the path to those farmers converting their industrial farming into the organic farming and natural farming. The present study discusses the various practices related to the organic farming in Solan District of Himachal Pradesh.

**Keywords:** Organic farming, products, conventional and industrial farming, Paramparagat Krishi, Zero budget natural farming, Crop residue and air quality.

## INTRODUCTION

In India, a cumulative area of 29.41 lakh ha, 38.19 lakh ha and 59.12 lakh ha have been brought under organic cultivation in the last three years (2019-20, 2020-21 and 2021-22) using organic manure and other organic inputs, which constitute 2.10%, 2.72% and 4.22% of the cultivable land of 140 million ha. Apart from this, Integrated Nutrient Management (INM) is prescribed for entire cultivable land in the country that promotes balanced use of fertilizers including chemical, organic and bio-fertilizers. Government has been promoting organic farming through dedicated schemes of *Paramparagat Krishi Vikas Yojana* (PKVY) and Mission Organic Value Chain Development in North East Region (MOVCDNER). Farmers are provided financial assistance (Rs. 31000/ ha/3 years in PKVY and Rs. 32500/ ha/ 3years under MOVCDNER) for organic inputs such as seeds, bio fertilizers, bio-pesticides, organic manure, compost/vermi-compost, botanical extracts etc. Apart from this, support is also provided for group/ Farmers Producers Organization (FPO) formation, training, certification, value addition and marketing of their organic produce. In addition, Organic cultivation on either side of River Ganga and Large Area Certification has also been introduced under PKVY to increase acreage under organic cultivation using organic manure / bio-fertilizers<sup>1</sup>.

## ORGANIC FARMING IN HIMACHAL PRADESH

In Himachal Pradesh the agriculture is the main occupation of the people. More than 70% of the people are dependent on the agricultural income. This is the main source of direct employment of the people of hilly state. The net sown area is 525894 (Ha.) and total cropped area is 898583 (Ha) in the state of Himachal Pradesh. Only 75 per cent of the total reporting area is available for cultivation<sup>2</sup>. The CSK-HPKV Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya (CSKHPKV), established "*Model Organic Farm*" in 2006 and later in 2016 first initiated the *Zero Budget Natural Farming* (ZBNF) activities in 20 hectares of the university farm.

## REVIEW OF LITERATURE

Dutta & Subhashini, (2021)<sup>3</sup> studied the importance of organic farming for the sustainable growth of our nation. Organic products are now a day's demanding everywhere and India has becoming a major producer of organic food. Organic farming is the most promising substitute of conventional farming which ensures health benefits.

Das et al., (2020)<sup>4</sup> observed that organic farming has a significant impact on a country's health by assuring long term development. Environmental health, economic profitability, and social and economic fairness are the three fundamental goals of sustainable agriculture. Sustainability is based on the idea that we must meet current demands without endangering future generations' ability to meet their own needs.

<sup>1</sup> (2022). Union Minister of Agriculture and Farmers Welfare, Shri Narendra Singh Tomar in a written reply in Lok Sabha.

<sup>2</sup> (2019-20) Statistical Abstract of Himachal Pradesh. Department of Economic and Statistics Government of Himachal Pradesh Shimla.

<sup>3</sup> Dutta, N., & Subhashini, S. (2021). Organic Farming : A Vision for a Sustainable Nation. *International Journal of Modern Agriculture*, 10(2), 2948–2957.

<sup>4</sup> Das, S., Chatterjee, A., & Pal, T. K. (2020). Organic farming in India: A vision towards a healthy nation. *Food Quality and Safety*, 4(2), 69–76.

Sharma et al. (2017)<sup>5</sup> in their report showed that 'Organic Agriculture' is the only solution to nurture the land and to regenerate the soil by going back to our traditional method of farming i.e., free from chemicals, pesticides and fertilizers. According to the latest survey, India accounts 5.2 million hectares of organic land and 650,000 organic producers.

Ullah, A (2015)<sup>6</sup> conducted study on 100 respondents, which were randomly selected from the four different cultivated areas of Peshawar, namely Palosi, Regi, Ternab and Pushtakhara. Binary logistic regression was used in this study to categorize the organic farming into adoption and non-adoption. The purpose of this model was to check the event probability for a categorical response variable with two outcomes. The results of the study show that factors affecting adoption of organic farming have a significant effect on the farmer productivity. Moreover, cost, productivity, profitability, compatibility and efficiency have a positive and significant effect.

## METHODOLOGY

The present study was carried out in the Solan District of Himachal Pradesh. The district has switched over to cultivation of off-season vegetables, mushrooms and floriculture, for instance, Solan had more than 42% of total area and more than 44% of total production of tomato in Himachal Pradesh. Tomato showed a positive trend in increase of area and production from last four-five years. Solan, Kandaghat and Dharampur are the main tomato producing blocks in Solan district. Though the farmers in the district have been practicing the organic farming, but as a result of the green revolution, the people switched over to use of chemical fertilizers, which has impacted the fertility of soil. Then again people started renewal of organic farming. Thus, the impact made by organic farming practices can best be studied in this district.

Out of five blocks Solan, Nalagarh, Kunihar, Dharampur and Kandaghat of Solan District two blocks i.e. Solan and Dharampur blocks were randomly selected having 35 and 38 Panchayats respectively Parag, Salogra, Neri Kalan and Bhoj Nagar of Solan block and Nareini and Pratha block of Dharampur block were selected for the purpose of the study.

The study was carried out during the harvesting season. The farmer /respondents were selected by using purposive sampling method from the selected Panchayats of Solan (30 respondents) and Dharampur (30 respondents). In all, 60 respondents, who are practicing organic farming, were selected for the purpose of study from these areas.

## RESULTS

More than half, i.e. 37 (61.66 percent) of the respondents were involved in conventional farming and using fertilizers / chemicals / pesticides in the field while, 23 (38.34%) were not involved in the conventional farming and were not using harmful chemicals like fertilizers / chemicals / pesticides in their fields. Only 11 (18.34) respondents were availing the subsidies on the agricultural products like, seeds, tools, manure, etc. while 49 (81.66%) of respondents were not getting such benefits from the concerned government department. It also shows the lack of awareness about the subsidies or govt. supporting schemes in the study area.

The results showed that out of 60 respondents, 49 (81.66%) participated in the training programs, while 11 (18.34 percent) did not attended any program.

All respondents converted conventional farming to organic farming. It was observed that they were not satisfied with the income generated from organic farming but were happy to know that this is good for their health as well as for their family. This study investigates the reasons behind why the farmers switch from conventional farming methods to organic farming practices. The identification of these factors will be helpful for the farmers to know the benefits of organic farming and also other related issues of conventional farming. It provides food security to people besides improving the soil and providing nutrients to the soil.

The data shows that 21 (35%) respondents opting organic farming provides food security and 20 (33.33%) respondents gave the reason that it was good for their health. The study depicts that 15 (25 percent) respondents agreed that it improves the health and only 2 (3.33%) respondent stated that it improves the soil and is important for sustainable development.

The result shows that all the respondents were using the organic manure in their field meant for organic farming. It was also observed that the respondents were preparing it at their own level from animal wastes. Organic manures increase the organic matter in the soil. However, organic manure should not be seen only as carrier of plant food. These manures enable soil to hold more water and improve the drainage in clay soils. They provide organic acids that help to dissolve soil nutrients and make them available for the plants. The respondents told reasons for using the organic manure in their fields.

<sup>5</sup> Sharma, N. & Singhvi, R. (2017) Organic Agriculture in India-A Summary. *International journal of agriculture innovations and research*, Vol.5, issues 6.

<sup>6</sup> Ullah, A., Shah, S.N.M., Ali, A., Naz, R., Mahar, A. and Kalhor, S.A. (2015) Factors Affecting the Adoption of Organic Farming in Peshawar-Pakistan. *Agricultural Sciences*, 6, 587-593.

Further, the data reveals that the respondents were using the organic manure in the study area. Out of 60 respondents, 34 (56.66%) respondents were of the view that this type of manure reduces acidity in soil. 18 (30%) respondents gave the reason that it increase crop production, while remaining 8 (13.34%) respondents gave reason that it was beneficial for the soil. On the one hand, soil productivity decreases over the time due to persistent use of chemical fertilizers. On the other, it leads to environmental and health impacts too. To make things worse, farmers are increasingly facing the vagaries of nature vis-à-vis the changing climate, including erratic rainfall and increasing temperatures. The condition of Nepalese farmers is not different from their Indian counterparts. But many of them have found a savior in *Jhol Mol*. In this study, it was found that some of the respondents were preparing the organic manure at their household level and some of them were purchasing from the nearby market. They knew that the use of organic manure was good for crop productivity as well as for the soil. It reduces the acidity in soil and do not cause leaching.

Out of total 60 respondents, 95 percent of the respondents were preparing this organic manure at their household level and only 5 percent were purchasing this from the market. After the good productivity in in the field 35 (58.34%) respondents were marketing their produces immediately after the harvesting. Remaining respondents, i.e. 25 (41.66%) waits for the for the favorable market situations like price hike. As a result out of 60 respondents, 46 (76.66 percent) of the respondents were not satisfied with the efficiency of marketing system meant for organic farming. Only 14 (23.34%) respondents were satisfied with marketing system. The satisfaction of farmers from the income generated by selling the organic produce of their fields was also enquired during the survey. When the respondents were asked about the satisfaction from their income, 42 (70%) were found satisfied, while 18 (30 percent) were not satisfied with this occupation.

The data shows that 30 respondents (50 percent) of respondents were of the view that the organic yield was lower as compared to the conventional farming, while 50 percent agreed that there was not difference between the yield from organic and industrial farming.

The study finds that the neighbors of the farmers involved in the organic farming also converted their farming from conventional farming to the organic farming. The survey shows that 56 respondents (93%) were influenced by this farming system and they converted their fields into the organic farming. Only 4 respondents (6.66%) not got such motivations. The organic mode of farming made the impact on the respondent's neighbors and adopted this system in their fields. The respondents enquired about this impact in the study area. The survey shows that only 45 respondents (75 percent) were getting the seed locally, while 15 respondents (25 percent) were facing the scarcity of seeds locally for their organic farming.

It was also found in the study area that the majority of the respondents 58 (96.66%) continue to burn the residues after the threshing or harvesting in the same fields. This issue was found serious in the study area. The table 15 also shows that the remaining 2 (3.34%) respondents were not preferred to burn the residues in the field. Crop residue burning in Punjab and Haryana is often blamed for worsening air quality in the Delhi National Capital Region. Now a new study by scientists working in the US and India has found that impact of crop residue burning in the Northwest region can spread to central and southern states - Maharashtra, Madhya Pradesh, Telangana, Chhattisgarh and even parts of Odisha.

In the study area the awareness level of the respondents regarding the latest Government schemes w.r.t. organic farming was also investigated. Majority of the respondents, i.e. 45 (75%) were aware about the schemes, while remained 15 (25%) were not aware about the schemes. The respondents were enquired to know that whether the farmers are getting the benefits from the schemes launched by the state/Centre government. Only 15 (25%) respondents were getting the benefits from the government schemes, while remaining 45 (75 %) respondents were not aware and were not getting the benefits from the scheme.

To find out the satisfaction level of the respondents, respondents were enquired about the policies and programs being run by the government in Himachal Pradesh. The majority of the respondents 48 (80%) were found satisfied, while remaining 12 (20%) were found unsatisfied from these schemes.

The awareness regarding the testing of soil testing by the agriculture department was also enquired by the researchers. Only 58 (96.66%) respondents were found aware about the soil testing, while only 2 (3.34%) respondents were not aware about it. Only 52 (86.66%) respondents tested the soil of their organic farms and got benefitted from it, while remaining 8 (13.34%) respondents were not found interested in this task.

The respondents in the study area were also enquired about the water crisis for their farms. 22 (36.66%) respondents were getting enough water supply required for the fields while 38 (63.34%) were not getting the requisite water for their farms (Table 22).

## SUMMARY

The study shows that the 98.34 percent of the respondents were practicing organic agriculture in the study area. This study shows the participation level of the respondent in various training programs organized by the concern department. It shows that out of 60 respondents 49 (81.66%) participated in the training programs.

In the study area, all the respondents converted their land from conventional farming to organic farming because they have seen many health problems in due to the chemical farming. Conventional farming is not good for the soil and as well for the all living beings it harms the soil very badly so this is main reason they have converted their land into organic. The study shows about that all respondents converted their conventional farming into the organic farming. It was observed that they were not satisfied with the income generated from organic farming but were happy to know that this is good for their health and as well as for their family. The study relates with the finding by the Wynen (1992)<sup>7</sup>, in which he discussed the reasons to convert the contemporary system of agriculture into the organic farming. The main reasons as expressed by the respondents to convert farming from conventional to organic farming were like, health hazards, food security, provides nutrients to the soil etc.

The respondents also said that they all were continued to use the organic manure in their fields to increase the productivity. They also shared that some of them were preparing this manure at home and some were used to buy it from the nearby market. They told that this type of manure reduces acidity in soil. The respondents gave the reason that it increases crop production in the fields and gave the reason that it was beneficial for their soil in the farms.

70% respondents were found satisfied from the income generated from their production. They replied that this type of the farming was more beneficial as compared to the conventional farming. Their decision of changing the farming system from conventional to organic also impacted the neighbors and they also converted their fields into the organic farms. The numbers of farmers are increasing in this sector continuously. Availability of best organic seeds for the organic farming is also a challenge for the country. In the study area 75 % of the respondents were getting the seeds locally and were satisfied with the productivity. The major issue of residues burning was also found in the study area. Private companies and NGO had the role in the upliftment of organic farming in the study area. Non-government organizations as a third sector institutional framework are playing a crucial role in providing strong support to the development issues. The majority of the respondents were getting help from Non-Governmental Organization (NGOs) or from the Private Companies. The 96% of the respondents were aware about the soil testing. 86.66% of the respondents had tested their soil from their organic farms and got benefitted from it. The water crisis or shortage of water for the organic fields was also found in the study area.

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