

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 4; April 2024; Page No. 86-89

Received: 01-01-2024
Accepted: 05-02-2024

Indexed Journal
Peer Reviewed Journal

Study on perception of natural farming practices in Hingoli district of Maharashtra

¹Dr. Shelke PP, ²Shri Kharat Sainath P and ³Dr. Murai Atul M

¹Senior Scientist and Head, Krishi Vigyan Kendra, Tondapur Tal. Kalamnuri, Hingoli, Maharashtra, India

²Subject Matter Specialist, Department of Soil Science, Krishi Vigyan Kendra, Tondapur Tal. Kalamnuri, Hingoli, Maharashtra, India

³Subject Matter Specialist, Department of Agricultural Extension, Krishi Vigyan Kendra, Tondapur Tal. Kalamnuri, Hingoli, Maharashtra, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i4b.502>

Corresponding Author: Dr. Shelke PP

Abstract

Agriculture is a fundamental pillar of human civilization, providing sustenance, livelihoods, and economic stability. Over the years, conventional farming practices have dominated the agricultural landscape, relying heavily on synthetic inputs such as chemical fertilizers, pesticides, and genetically modified organisms. So, that present study was conducted with objectives to study the profile of natural farming growers and perception of farmers on natural farming practices. The present study was conducted in Hingoli District of Marathwada Region of Maharashtra State during the year 2022-23. The district comprises of 5 blocks namely Hingoli, Kalamnuri, Sengaon, Aundha Nagnath and Basmat. From these blocks Kalamnuri, Hingoli and Basmat block were selected purposively where Krishi Vigyan Kendra, Tondapur has given training and demonstrations on natural farming. The 15 natural farming growers were selected purposively for present study. The data were collected using a well-structured and pretested interview schedule by covering all dimensions. The data was analyzed by using various statistical tools and methods. It can be revealed that 53.33% of respondents belong to the old age group, while 86.66% educated up to high school, 73.33% had 1-2 Ha land holding, 40.00% medium experience in farming, 93.33% medium annual income (127450-367835). Whereas 60.00% of respondent's medium source of information, 73.33% low training received, 60.00% of respondents had 0.40 ha of land under turmeric crop while, 46.66% of the respondents have medium perception on natural farming practices.

Keywords: Perception, natural farming

Introduction

Agriculture is a fundamental pillar of human civilization, providing sustenance, livelihoods, and economic stability. Over the years, conventional farming practices have dominated the agricultural landscape, relying heavily on synthetic inputs such as chemical fertilizers, pesticides, and genetically modified organisms. However, concerns about the environmental impact, long-term sustainability, and the health implications of these practices have led to a growing interest in alternative approaches like natural farming. Natural farming involves minimizing external inputs, promoting biodiversity, and fostering soil health through techniques such as cover cropping, composting, and crop rotation. As the global community grapples with the challenges of climate change, soil degradation, and diminishing natural resources, the adoption of natural farming practices becomes increasingly relevant. The perception of farmers towards natural farming practices is a critical factor influencing the widespread adoption and success of this sustainable approach. Understanding the perception, beliefs, and challenges faced by farmers in transitioning to natural farming is essential for promoting its acceptance and integration into mainstream agricultural systems. This study is crucial in advancing our

understanding of the complex interplay between farmers and agricultural practices, contributing to the ongoing dialogue on sustainable and environmentally friendly approaches to food production.

Natural farming practices are built on four core principles

- Beejamrutis a microbial coating/treatment of seeds using cow dung and urine-based preparations.
- Jeevamrutis and application of mixture of cow dung, cow urine, jiggery, pulse-flour, water, and soil for multiplication of soil microbes.
- Mulching, a layer/bed of organic material to the soil surface in to prevent/reduce water evaporation.
- Waaphasa, soil aeration through a favorable microclimate in the soil.

In the context the present study was attempted on study on perception of natural farming practices in hingoli district of Maharashtra with following objectives.

- To study the profile of natural farming growers
- To study the perception of farmers on natural farming practices.

Methodology

The present study was conducted in Hingoli District of Marathwada region of Maharashtra State during the year 2022-23. The district comprises of 5 blocks namely Hingoli, Kalamnuri, Sengaon, Aundha Nagnath and Basmat from these block Kalamnuri, Hingoli and Basmat block was selected purposively where Krishi Vigyan Kendra, Tondapur has given training and demonstration on natural farming. The Kandli, Idoli, Dhangarwadi, Dhanora, Mohamadpuri Wadi, Hyatnagar, Pimprala, Satipangra village was selected purposively. The 15 natural farming growers were selected purposively for present study. The data were collected using a well-structured and pretested interview schedule by covering all dimensions. The data was analyzed by using various statistical tools and methods.

Problems Faced by the Farmers in Conventional Agriculture

Chemical farming, also known as conventional agriculture,

is a method of farming that relies heavily on the use of synthetic fertilizers, pesticides, and herbicides to enhance crop yields and control pests. While it has been instrumental in increasing food production and feeding a growing global population, it has also raised significant concerns about its environmental and health impacts. Here are some of the major problems faced by farmer which are associated with chemical farming.

- Water Pollution.
- Air Pollution.
- Pesticide Resistance.
- Loss of Biodiversity.
- Health Risks.
- Reduced Nutrient Quality.
- Soil Erosion.
- Greenhouse Gas Emissions.

Results

Table 1: Profile of natural farming growers

Sl. No.	Variable	Category	Frequency (No.)	Percentage (%)
1.	Age	Young (Up to 34)	02	13.33
		Middle (35-48)	04	26.66
		Old (49 and above)	08	53.33
2.	Education	Can read only	-	-
		Can read and write	-	-
		Primary	-	-
		Middle	-	-
		High School	13	86.66
		Graduate	02	13.33
3.	Land Holding	>1 Ha	03	20.00
		2-4 Ha	-	-
		1-2 Ha	11	73.33
		≥ 4 Ha	1	6.66
5.	Experience in farming	Low (Up to 3)	05	33.33
		Medium (3 - 4)	06	40.00
		High (Above 5)	04	26.66
6.	Annual Income	Low (up to 127449.70)	-	-
		Medium (127450-367835)	14	93.33
		High (367836.10 & above)	01	6.66
7.	Source of Information	Low (up to 18)	02	13.33
		Medium (19 - 26)	09	60.00
		High (27 and above)	04	26.66
8.	Training Received	Low (up to 1)	11	73.33
		Medium (1-2)	04	26.66
		High (Above 2)	-	-

It can be concluded from Table 1. That 53.33% of respondents belong to old age group, while 86.66% educated up to high school, 73.33% 1-2 Ha land holding, 40.00% medium experience in farming, 93.33% medium

annual income (127450-367835). Whereas 60.00% of respondent's medium source of information and 73.33% of respondents had low training received in natural farming.

Table 2: Tools wise source of information

Sl. No.	Source of Information	Extent of Use		
		Always	Sometimes	Never
1.	Radio	04 (26.66)	09 (60.00)	02 (13.33)
2.	Television	08 (53.33)	07 (46.66)	-
3.	Newspaper	13 (86.66)	01 (6.66)	01 (6.66)
4.	Mobile	14 (93.33)	-	01 (6.66)
5.	Personal Computer	02 (13.33)	05 (33.33)	08 (53.33)
6.	Social Media	10 (66.66)	04 (26.66)	01 (6.66)
7.	Kisan Call Center	-	03 (20.00)	12 (80.00)
8.	Book/magazine	08 (53.33)	05 (33.33)	02 (13.33)
9.	Educational events	10 (66.66)	03 (20.00)	02 (13.33)
10.	Progressive farmer	13 (86.66)	02 (13.33)	-

It can be revealed from Table 2. 93.33% & 86.66% of respondents use mobile phones, newspapers and get information from progressive farmers about natural farming.

Table 3: Crops grown by farmers through natural farming

Sl. No.	Crop Name	Total Cropped Area (Ha)					
		0.2	0.4	0.8	01	02	3 Ha & Above
1.	Turmeric	1 (6.66)	9 (60.0)	2 (13.33)	-	-	1 (6.66)
2.	Soybean	3 (20.00)	6 (40.00)	2 (13.33)	1 (6.66)		1 (6.66)
3.	Gram	3 (20.00)	5 (33.33)				
4.	Arhar	2 (13.33)					
5.	Karonda					1 (6.66)	
6.	Green Gram			1 (6.66)			

It can be revealed from Table 3. That 60.00% of respondents grow turmeric crops on natural farming might be due to that Hingoli district has maximum area under this crop and natural farming is relative advantage over other crops.

Table 4: Perception of Farmers towards Natural Farming Practices

Sl. No.	Statement	Agree	Undecided	Disagree
1.	Natural Farming is relatively advantage over chemical farming.	09 (60.00)	03 (20.00)	03 (20.00)
2.	Gives more net returns	05 (33.33)	-	10 (66.66)
3.	Reduces cost of cultivation	07 (46.66)	02 (13.33)	06 (40.00)
4.	Natural Farming is feasible to adopt in present day farming situation	07 (46.66)	01 (6.66)	07(46.66)
5.	Natural Farming is difficult to practice	10 (66.66)	01 (6.66)	04 (26.66)
6.	Purchasing and maintaining traditional cows is difficult	07 (46.66)	-	08(53.33)
7.	Soil is enriched with Natural Farming	09 (60.00)	01 (6.66)	05 (33.33)
8.	Increase micro-organisms and earth worms in soil	11 (73.33)	-	04 (26.66)
9.	Practice increases natural enemies' population	04 (26.66)	03 (20.00)	08 (53.33)
10.	Weed management is difficult in N.F.	06 (40.00)	06 (40.00)	03 (20.00)
11.	Adoption of Natural Farming on large scale is possible	05 (33.33)	02 (13.33)	08 (53.33)
12.	Quality product is possible with NF	05 (33.33)	02 (13.33)	08 (53.33)
13.	Natural Farming gives sustainable yield	05 (33.33)	03 (20.00)	07 (46.66)
14.	Is practicing producing own family consumption	11 (73.33)	01 (6.66)	03 (20.00)

It can be observed from Table 4. that equal 73.33% increase micro-organisms and earth worms in soil, practicing producing own family consumption,66.66% natural farming is difficult to practice. Whereas 66.66% of respondents agree soil is enriched with natural farming is relatively advantage over chemical farming. It might be due to that there are many advantages to adopt natural farming but adoption of natural farming on large scale is not possible& purchasing and maintaining traditional cows is difficult this point needs to be addressed for adoption of natural farming on large scale.

Table 5: Overall perception of farmers regarding natural farming practices

Sl. No.	Category	Frequency	Percentage
1.	Low (Up to 17)	03	20.00
2.	Medium (18- 36)	07	46.66
3.	High (37 and above)	05	33.33

It can be concluded from Table 5. 46.66% of the respondents have medium perception regarding natural farming practices, while 33.33 and 20.00% have high to low level of perception regarding natural farming practices.

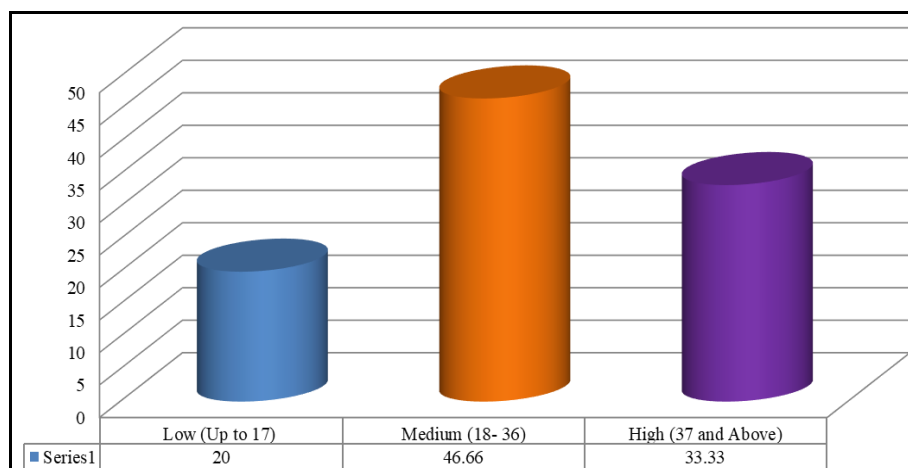


Fig 1: Overall perception of farmers regarding natural farming practice

Conclusion

- This study aims to explore and analyze the perception of farmers towards natural farming practices, examining factors that contribute to or hinder their adoption. By delving into the perspectives of farmers, policymakers, and agricultural stakeholders, this research seeks to provide valuable insights into the dynamics surrounding the shift from conventional to natural farming. The findings may inform policy decisions, extension services, and educational programs aimed at promoting sustainable agricultural practices and ensuring a resilient, environmentally friendly future for agriculture.
- The farmers faced many constraints while adopting natural farming practices till growing to marketing. To resolve these problems, government, extension agencies, and non-governmental organizations should provide support to natural farming growers for improving their livelihood.
- The certification system should be developed by the government for natural farming products and create different markets for consumers who are willing to pay premium price for chemical free produce.
- It can be observed from study the natural farming is not as yield enhancing farming practices but its increases farmers income through reducing cost of cultivation and provides long term sustainability. The policy makers should this points in mind while formulating and exaction of programme.
- It can be revealed that the perception of level of farmers regarding natural farming practices was medium this could be due to the exposure of the farmers to various source of information, training received from KVK and other developed departments.
- Government needs to promote sustainable agricultural practices to accommodate the needs and perception of farmer families regarding natural farming practices.
- Indian Council of Agricultural Research and State Agricultural University should provide entire package of practices for different crops of natural farming and need-based training support about preparation of various natural farming inputs.
- In future study should undertake on reduction reliance on various inputs fertilizer, insecticide, pesticide and crop rotation, development of agro forestry helps to maintain soil fertility.

References

1. Rao MMV, Lakshman TSSK, Kella P, Ravisankar N, Panwar AS. Study on perception and extent of adoption of natural farming practices in Vizianagaram district of Andhra Pradesh, India. *Pharma Innovation Journal*. 2021;10(8):989-993.
2. Kumar R, Kumar S, Yashavanth BS, Meena PC. Natural Farming Practices in India: Its Adoption and Impact on Crop Yield and Farmers' Income. *Indian Journal of Agricultural Economics*. 2019;74(3):420-432.
3. Kumar VR, Laishram C, Sharma S. Problems and Factors affecting adoption of natural farming in Sirmaur District of Himachal Pradesh. *Indian Journal of Ecology*. 2021;48(3):944-949.
4. Kumar R, Kumar S, Yashavanth BS, Venu N, Meena PC, Dhandapani A, *et al*. Natural farming practices for chemical-free agriculture: implications for crop yield and profitability. *Agriculture*. 2023 Mar 9;13(3):647.
5. Shrey R, Bante R, Pallearwar S, Acharya GK, Dhurwey C. Constraints perceived by farmers in crop-dairy mixed farming system on small farms in Parbhani district of Marathwada region (Maharashtra), India. *Plant Archives*. 2015;15(1):41-46.