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Knowledge level and constraints of farmers in adoption of natural farming practices in Hingoli district of Maharashtra

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Abstract

Natural farming has emerged as a sustainable alternative to conventional agriculture due to increasing concerns related to environmental degradation, declining soil health, and rising input costs. The present study was undertaken to assess the knowledge level and constraints of farmers in adoption of natural farming practices in Hingoli district of Maharashtra. The study was conducted during 2024-25 in three purposively selected blocks namely Kalamnuri, Hingoli and Vasmat, where Krishi Vigyan Kendra, Hingoli has implemented training & demonstrations on natural farming. A total of 15 natural farming practitioners were selected purposively from nine villages. Data were collected through a pre-tested structured interview schedule and analyzed using frequency and percentage. The results revealed that a majority 40.00% of farmers possessed medium while 20.00% high knowledge regarding natural farming practices. However, several constraints such as lack of awareness, technical guidance, training support, availability of inputs, transport facilities, and market support were reported. The study emphasizes the need for strengthened extension services, training programs, and institutional support to enhance adoption of natural farming practices.

Keywords: Natural farming, knowledge level, constraints, adoption & Hingoli district

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 it 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 attitudes, 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.

The natural farming practices are built on 4 core principles

1. Beejamrit, a microbial coating/treatment of seeds using cow dung and urine based preparations.
2. Jeevamrit, an application of mixture of cow dung, cow urine, jaggery, pulse-flour, water and soil for multiplication of soil microbes.
3. Mulching, a layer/bed of organic material to the soil surface in to prevent/reduce water evaporation.
4. Wapasa, soil aeration through a favorable microclimate in the soil.

Despite its potential benefits, adoption of natural farming practices depends largely on farmers' knowledge, perception, and ability to overcome various technical, economic, and institutional constraints. Understanding the knowledge level of farmers and identifying the major constraints faced during adoption is essential for designing effective extension strategies. Hence, the present study was undertaken to analyze knowledge level and constraints of farmers in adoption of natural farming practices in Hingoli district of Maharashtra.

Methodology

The present investigation was conducted in Hingoli district

of the Marathwada region of Maharashtra during the year 2024-25. The district consists of five blocks namely Hingoli, Kalamnuri, Sengaon, Aundha Nagnath and Vasmat. Among these, Kalamnuri, Hingoli and Vasmat blocks were selected purposively as Krishi Vigyan Kendra, Hingoli had conducted training and demonstrations on natural farming practices in these blocks. Nine villages viz., Kandli, Idoli, Dhangarwadi, Dhanora, Mohamadpuri Wadi, Hyatnagar, Pimprala, Satipangra & Redgaon were selected purposively for present study. A total of 15 farmers

practicing natural farming were selected purposively from these villages. Data were collected through personal interview using a well-structured and pre-tested interview schedule covering various dimensions of knowledge and constraints related to natural farming practices. The collected data were analyzed using appropriate statistical tools such as frequency and percentage to draw meaningful conclusions.

Results

Table 1: Knowledge level of farmers regarding natural farming practices

Sl. No.	Statement	Yes	No
1.	Natural farming practice replaces the conventional/chemical fertilizer & pesticides-based farming.	14 (93.33)	01 (6.66)
2.	Natural farming practice help in ensuring food security	14 (93.33)	01 (6.66)
3.	10 kg of cow dung is used for 1-acre land for preparation of Jeevamrit	08 (53.33)	07 (46.66)
4.	Indigenous cow breed is needed for natural farming	13 (86.66)	02 (13.33)
5.	Natural farming practices can help increase farmers' income	06 (40.00)	09 (60.00)
6.	Natural farming is suitable in diverse agro-climatic conditions	09 (60.00)	06 (40.00)
7.	Natural farming practices be promoted at large scale in India	10 (66.66)	05 (33.33)
8.	Natural farming farm practices are climate resilient	09 (60.00)	06 (40.00)
9.	Natural farming practices reduce infestation of major disease in crop?	05 (33.33)	10 (66.66)
10.	Neemastra, Brahmaashtra and Agniashtra help to reduce sucking pest and diseases.	14 (93.33)	01 (6.66)
11.	Natural farming practices improve microbial property of soil	09 (60.00)	06 (40.00)

It was revealed from Table 1 that 93.33% of respondents had knowledge about natural farming practice replaces the conventional/chemical fertilizer & pesticides-based farming,

while 93.33% natural farming practice help in ensuring food security & Neemastra, Brahmaashtra, Agniashtra help to reduce sucking pest and diseases.

Table 2: Overall knowledge level of farmers regarding natural farming practices

Sl. No.	Category	Frequency	Percentage
1.	Low (upto 3)	03	20.00
2.	Medium (4-9)	06	40.00
3.	High (10 and above)	06	40.00

The distribution of respondents according to their overall knowledge level is presented in Table 2. It was observed that 40.00% of respondents had medium knowledge, 40.00% had high knowledge, and 20.00% had low knowledge regarding natural farming practices. The findings

suggest that although a majority of farmers possess moderate to high knowledge, there is still scope for improving awareness and understanding among a section of farmers.

Table 3: Constraints faced by farmers in adoption of natural farming practices

Sl. No.	Statement	Yes	No
1	Lack of awareness about preparation of (Jeevamrit/Beejamrit)	13 (86.66)	02 (13.33)
2	Lack of technical guidance	12 (80.00)	03 (20.00)
3	Lack of availability of natural farming sources	13 (86.66)	02 (13.33)
4	Lack of skillful labour	09 (60.00)	06 (40.00)
5	Higher wages rates	04 (26.66)	11 (73.33)
6	Fluctuation of Price	09 (60.00)	06 (40.00)
7	Lack of government support	07 (46.66)	08 (53.33)
8	Lack of training support	13 (86.66)	02 (13.33)
9	Lack of awareness about extension facilities	11 (73.33)	04 (26.66)
10	Inadequate Knowledge about package of practices	09 (60.00)	06 (40.00)
11	Infestation of sucking pest is more	10 (66.66)	05 (33.33)
12	Lack of transport facilities	14 (93.33)	01 (6.66)
13	Unfair price of produce in market	12 (80.00)	03 (20.00)
14	Weed management is difficult	04 (26.66)	11 (73.33)
15	Initial years show lower yields after adopting natural farming	07 (46.66)	08 (53.33)

The data depicted in Table 3 reveal that lack of transport facilities (93.33%) emerged as the most severe constraint faced by farmers, followed by lack of availability of natural farming inputs, lack of training support (86.66%), and lack of technical guidance (80.00%). Other major constraints

included unfair price of produce, fluctuation in market prices, infestation of sucking pests, inadequate knowledge of package of practices and lack of awareness about extension facilities.

Table 4: Suggestion for improving adoption of natural farming practices

Sl. No.	Statement	Yes	No
1	Creating awareness among farmers through training on natural farming	14 (93.33)	01 (6.66)
2	Making local cows made available	11 (73.33)	04 (26.66)
3	Making natural farming inputs available locally	09 (60.00)	06 (40.00)
4	Providing market support for natural farming produce	12 (80.00)	03 (20.00)
5	Give wide publicity on the benefits of natural farming	08 (53.33)	07 (46.66)

Suggestions offered by the respondents are presented in Table 4. Majority of the respondents 93.33% suggested creating awareness among farmers through training programs on natural farming. Providing market support for natural farming produce 80.00% and making indigenous cows available locally 73.33% were other important suggestions. Availability of natural farming inputs at local level and wide publicity about the benefits of natural farming were also suggested by the respondents.

Conclusion

This study aims to explore and analyze the knowledge level & constraints of farmers in adoption of natural farming practices in Hingoli district of Maharashtra examining factors that contribute to or hinder its 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. In order to resolve these problems government, extension agency, non-governmental organization provides support to farmers for adoption of natural farming practices and improving their livelihood. Regular training programs, strengthening extension services, input availability, and market linkage support will not only promote natural farming but also improve farmers' livelihoods & contribute to sustainable agricultural development.

References

1. Srinivasa Rao MMV, Patro Kella Lakshman TSSK, Ravisankar N, Panwar AS. Study on perception and extent of adoption of natural farming practices in Vizianagaram district of Andhra Pradesh, India. *The Pharma Innovation Journal*. 2021;10(8):989-993.
2. Kumar R, Kumar Sanjiv, Yashavanth BS, Meena PC. Natural farming practices in India: Its adoption and impact on crop yield and farmers' income. *Indian J Agric Econ*. 2019;74(3):420-432.
3. Vashishat RK, Laishram C, Sharma S. Problems & factors affecting adoption of natural farming in Sirmaur District of Himachal Pradesh. *Indian J Ecol*. 2021;48(3):944-949.
4. Kumar R, Kumar S, Yashavanth BS, Meena PC, Indoria AK, Kundu S, *et al*. Adoption of natural farming and its effect on crop yield and farmers' livelihood in India. ICAR-National Academy of Agricultural Research Management, Hyderabad, India. 2020 Aug 21;130.

5. Panchal SK, Patange SS. A Critical Study of Crop Pattern and Financial Resource Utilisation among Tribal Farmers in Maharashtra. *International Journal of Economic Practices and Theories*. 2026 Apr 23;2026:1576-86.