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KNOWLEDGE OF ORGANIC FARMING AMONG TRIBAL FARMERS AND ITS RELATIONSHIP WITH THEIR SOCIO-ECONOMIC PROFILE

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ABSTRACT

Organic farming is increasingly recognized as a cornerstone of sustainable agriculture, yet its adoption among tribal farmers depends largely on their level of knowledge. This study, conducted in The Dangs district of South Gujarat, assessed tribal farmers' knowledge of organic farming and examined its relationship with socio-economic and demographic characteristics. Using an ex-post-facto research design, a sample of 120 farmers was selected through simple random sampling across three talukas viz. Ahwa, Subir and Waghai. Data were collected through a structured, pre-tested interview schedule and analysed using frequency, percentage, mean score, standard deviation and correlation coefficient. Results revealed that 20.83 per cent of farmers had high knowledge, 67.50 per cent medium and 11.67 per cent low knowledge level of organic farming. Age, education, annual income, landholding, mass media exposure, organic farming experience, social participation, scientific orientation and innovativeness showed statistically significant positive correlations with knowledge level, while family size and livestock possession were non-significant. The findings underscore the importance of strengthening extension services, training-based capacity building and community-centered learning platforms to enhance scientific orientation and innovation among tribal farmers. Such measures will accelerate the adoption of organic practices and contribute to sustainable rural development in tribal regions.

Keywords: *organic farming, tribal farmers, knowledge level, socio-economic factors, sustainable development.*

INTRODUCTION

Organic agriculture in India has its roots in the early twentieth century, when Sir Albert Howard's pioneering work laid the foundation for sustainable farming practices. However, the Green Revolution shifted the focus toward chemical fertilizers, pesticides and intensive irrigation, which, while increasing food production, also caused soil degradation, water depletion, pest resistance and harmful chemical residues. These issues have raised concerns about longterm sustainability, environmental health and food safety. Organic farming, in contrast, emphasizes ecological balance and soil fertility through natural methods such as crop rotation, green manuring and biological pest control (Desai *at el.* (2024)). In recent years, Gujarat has witnessed growing interest in organic farming, particularly among tribal farmers. The Dangs district of South Gujarat, characterized by its tribal population and unique agroecological conditions, presents both opportunities and challenges in adopting organic practices. Although tribal farmers in The Dangs have begun to adopt organic methods, their knowledge levels, awareness of certification processes and understanding of market opportunities remain limited. Assessing their knowledge and attitudes is crucial for identifying gaps, strengthening extension services and designing effective training programs. This study therefore focuses on evaluating the knowledge level of tribal farmers toward organic farming in The Dangs district, with the aim of supporting sustainable agricultural development and improving socioeconomic resilience in the region.

OBJECTIVES

(1) To analyse the knowledge level of tribal farmers regarding organic farming practices

(2) To analyse the relationship between the knowledge level of tribal farmers towards organic farming and their socio-economic profiles

METHODOLOGY

The present study adopted an *ex-post-facto* research design and was conducted in 2023-2025 in the purposively selected the Dangs district of South Gujarat, Gujarat focusing on the knowledge level of tribal farmers regarding organic farming. All three talukas *viz*. Ahwa, Subir and Waghai were included as the study locale owing to their substantial

tribal farming population engaged in organic practices. From each taluka, four villages were selected and ten respondents were chosen from each village, resulting in a total of twelve villages and 120 respondents. A comprehensive list of organic farming practitioners was compiled from multiple sources and respondents were selected using a simple random sampling method to ensure unbiased representation. Data were collected through a structured interview schedule accordingly objectives, which was pre-tested, revised and refined for clarity and reliability and administered via personal interviews at farmers' homes, fields or other convenient locations. The study incorporated eleven independent variables (including Age, Education, Family Size, Annual Income, Landholding, Social Participation, Livestock Possession, Mass Media Exposure, Scientific Orientation, Innovativeness and Organic Farming Experience) and one dependent variable (knowledge level regarding organic farming). The data were analysed using appropriate statistical techniques such as averages, percentages, mean scores, standard deviation and correlation coefficient to generate meaningful conclusions aligned with the study objectives.

RESULTS AND DISCUSSION

Knowledge level of tribal farmers regarding organic farming practices

Knowledge refers to the body of information understood and possessed by individuals, reflecting their cognitive behaviour and learning outcomes. It emerges as a product of the learning process and once acquired, it influences the thinking patterns of farmers, leading to changes in their attitudes and enabling them to make rational decisions. For tribal farmers, such knowledge is a prerequisite for adopting agricultural innovations, as it shapes their ability to evaluate practices and embrace new methods. With this perspective, the present effort focuses on assessing the level of knowledge tribal farmers hold about organic farming.

Table 1: Distribution of the tribal farmers according to their knowledge level regarding organic farming

(n=120)

Sr. No.	Categories of level of knowledge	Respondents	
		Frequency	Percentage
1	**Low** (< 09.98 score)	14	11.67
2	**Medium** (09.98 to 16.78 score)	81	67.50
3	**High** (> 16.78 score)	25	20.83
(Mean = 13.38)			**(SD = 03.40)**

The data in Table 1 indicate that the majority of tribal farmers (67.50%) possess a medium level of knowledge about organic farming, reflecting a general familiarity with basic concepts and practices. A smaller proportion (20.83%) exhibited a high level of knowledge, showing that some farmers have gained deeper understanding through experience or exposure to information sources. Only 11.67 percent fell into the lowknowledge category, suggesting that complete lack of awareness is relatively uncommon among the respondents Tripathi (2021), Kalasariya *et al.* (2022) and Dhabhai and Arya (2023).

The distribution of knowledge levels among tribal farmers may be attributed to their moderate exposure to training programs, limited access to technical guidance and continued dependence on traditional farming practices. While some farmers have gained higher knowledge through experience or interaction with extension services, many still lack consistent opportunities for structured learning. As a result, the majority remain at a medium level of understanding rather than progressing to advanced knowledge of organic farming. These finding are supported by Chandawat *et al.* (2019), Vanpariya *et al.* (2020), Kalasariya *et al.* (2022), Dhabhai and Arya (2023 and Patel *et al.* (2025).

Relationship between the knowledge level of tribal farmers towards organic farming and their socio-economic and demographic profiles

The relationship between the knowledge level of tribal farmers towards organic farming and their socio-economic profiles was examined using the correlation of coefficient (*r*) and its tests of significance were worked out for testing null hypothesis and the results of the correlation are presented in Table 2.

Table 2: Relationship between the knowledge level of tribal farmers towards organic farming and their socio-economic and demographic profiles

(n=120)

Sr. No.	Independent Variables	Correlation coefficient (r)
X_1	**Age**	0.2133*
X_2	**Education**	0.2242*
X_3	**Family Size**	0.0327NS
X_4	**Annual Income**	0.2106*
X_5	**Land Holding**	0.2292*
X_6	**Social Participation**	0.2409**
X_7	**Livestock Possession**	0.0824NS
X_8	**Mass Media Exposure**	0.2250*
X_9	**Scientific Orientation**	0.2788**
X_{10}	**Innovativeness**	0.2620**
X_11	**Organic Farming Experience**	0.2236*

* Significant at 0.05 level, ** significant at the 0.01 level, NS Non-significant

Variables like age (0.2133*), education (0.2242*), annual income (0.2106*), land holding (0.2292*) and mass media exposure (0.2250*) had a positive and significant correlation, while social participation (0.2409**), scientific orientation (0.2788**) and innovativeness (0.2620**) showed a positive and highly significant relationship with the overall knowledge level of farmers. On the other hand, family size (0.0327^{NS}) and livestock possession (0.0824^{NS}) had a positive and non-significant correlation with the overall knowledge level of tribal farmers. This finding is supported by Sharma *et al.* (2024), Kumar *et al.* (2024), Kalasariya (2020) and Kalasariya *et al.* (2022)

Hence, the null hypotheses (H_0) for age, education, annual income, landholding, social participation, mass media exposure, scientific orientation, innovativeness and organic farming experience were rejected, whereas the null hypotheses (H_0) for family size and livestock possession were accepted.

The knowledge level of tribal farmers towards organic farming is shaped by a combination of socio-economic, demographic and attitudinal factors. Age appears to play a role, as older farmers tend to possess slightly greater knowledge, likely due to the cumulative experience they gain over years of farming. Education also contributes positively, with more educated farmers being better informed about organic practices, as literacy and exposure to formal learning enhance their ability to understand and adopt new methods (Longkumer *et al.* (2023)). Household size, however, does not seem to influence knowledge levels, suggesting that the number of family members engaged in farming does not necessarily translate into greater awareness (Kumar *et al.* (2024)). In contrast, farmers with higher annual income and larger land holdings show better knowledge, possibly because they have more resources to access information, invest in organic inputs and experiment with diverse farming practices. Social participation emerges as a particularly important factor. Farmers who are active in community organizations or groups gain exposure to organic farming knowledge through peer learning and collective activities (Sambath *et al.* (2024) and Sharma *et al.* (2024)). Similarly, access to mass media such as radio, television, newspapers and mobile phones plays a crucial role in disseminating agricultural innovations, enabling farmers to stay informed about organic methods (Kumar *et al.* (2024b) and Sharma *et al.* (2024)). Attitudinal traits such as scientific orientation and innovativeness are particularly influential. Farmers with a scientific outlook are more receptive to new ideas and practices, while those who are innovative are more likely to experiment and adopt organic methods, thereby enhancing their knowledge base (Sharma *et al.* (2024). Practical experience in organic farming also directly contributes to knowledge, as hands-on involvement reinforces understanding and skills. On the other hand, livestock possession does not appear to have a meaningful impact on knowledge levels, even though livestock can provide organic manure. This indicates that simply owning livestock does not necessarily translate into greater awareness of organic farming practices.

CONCLUSION

The study concludes that most tribal farmers possess a medium level of knowledge about organic farming, with a smaller proportion demonstrating high knowledge and very few showing low awareness. Knowledge levels are positively influenced by factors such as age, education, income, landholding, media exposure, farming experience, social participation, scientific orientation and innovativeness, while family size and livestock possession show no significant effect. Overall, the findings highlight that access to information, openness to innovation and community engagement are more important than household characteristics in shaping farmers' knowledge. Strengthening extension services, promoting farmer groups and fostering scientific and innovative attitudes are essential to enhance knowledge and support wider adoption of organic farming among tribal communities.

IMPLICATIONS

The results of this investigation agree to both theoretical and applied implications for all stakeholders who are involved research and extension activities. The following implications can be drawn from the findings of the present study.

(1) Extension Strategies: Programs should focus on enhancing farmers' scientific orientation and innovativeness through training, demonstrations and farmer-to-farmer learning. Strengthening social participation (FIGs, cooperatives) can accelerate knowledge sharing. Mass media campaigns can effectively reach tribal farmers with organic farming information.

(2) Policy implication: Invest in education and literacy programs for tribal communities. Provide targeted support to small landholders and low-income farmers to bridge knowledge gaps. Encourage participatory approaches that leverage social networks and community institutions.

RECOMMENDATION

To promote organic farming among tribal farmers in The Dangs, the strategy emphasizes practical training

through localized demonstrations, peer learning networks, and improved knowledge sharing via media, mobile advisories, and community platforms. Strengthening farmer groups and cooperatives will enhance resource sharing and market access, while participatory extension ensures contextspecific training. Integrating literacy with agricultural education, alongside subsidies for inputs and certification, reduces barriers for lesseducated farmers. Finally, fostering scientific orientation through simple experiments and rewarding innovation builds confidence and creativity, driving sustainable adoption of organic practices.

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CONFLICT OF INTREST

'No Conflict of Interest' is stated among all authors.

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