

ISSN Print: 2663-1067
 ISSN Online: 2663-1075
 NAAS Rating (2026): 4.74
 IJHFS 2026; SP-8(9): 22-27
www.hortijournal.com
 Received: 13-06-2026
 Accepted: 06-08-2026
 Published: 29-09-2026

M Kanwat

ICAR- CAZRI, Bhuj, Kachchh,
 Gujarat, India

Ramniwas

ICAR- CAZRI, Bhuj, Kachchh,
 Gujarat, India

Avinash Bochalaya

ICAR- CAZRI, Bhuj, Kachchh,
 Gujarat, India

Alaukik Maurya

ICAR- CAZRI, Bhuj, Kachchh,
 Gujarat, India

Attitudes, perceived constraints, and readiness of agricultural graduates toward adoption of natural farming in Kachchh district, Gujarat

M Kanwat¹, Ramniwas², Avinash Bochalaya³, Alaukik Maurya⁴

DOI: <https://www.doi.org/10.33545/26631067.2026.v8.i9Sa.865>

ABSTRACT

Natural Farming (NF) has gained national attention in India as a sustainable alternative to chemical-intensive agriculture. Despite government support, its large-scale adoption depends heavily on the knowledge and attitudes of agricultural graduates, who serve as future researchers, extension professionals, and policy implementers. This study assessed the attitudes, perceptions, and constraints related to NF among 140 agricultural graduates across four State Agricultural Universities (SAUs) in Uttar Pradesh using descriptive statistics, chi-square analysis, and Garrett's Ranking. Results indicated that 81.4% of respondents exhibited favourable to highly favourable attitudes toward NF, with strong recognition of its soil, environmental, and health benefits. Significant associations were found between attitude and variables such as age, number of trainings attended, access to information, library exposure, and achievement motivation. Garrett's Ranking revealed major constraints, including chemical seepage from neighbouring farms, lack of scientific validation, restrictive NF standards, and limited support systems. The findings underscore the importance of training, scientific validation, and supportive policies to enhance the role of agricultural graduates in promoting Natural Farming. Recommendations focus on market differentiation, certification, awareness creation, cluster-based NF promotion, and development of Natural Agricultural Tourism Zones.

Keywords: Natural Farming, Attitude, Agricultural Graduate, NMNF, Uttar Pradesh, India

Introduction

Agriculture in India is at a critical juncture, as the sector grapples with the dual challenge of ensuring food security while maintaining environmental sustainability. According to the Union Agriculture and Farmers Welfare Ministry, approximately 60,000 tons of chemical pesticides were used annually between 2017–18 and 2021–22 (Patel *et al.*, 2024) [1]. The continued use of chemical-intensive practices has contributed to concerns related to soil degradation, water pollution, and climate vulnerability, raising questions regarding the long-term sustainability of conventional agriculture (Palekar, 2006) [2]. In response, Natural Farming—also referred to as zero-input or low-input ecological farming—has emerged as a sustainable alternative. Rooted in ecological principles, Natural Farming emphasizes soil health, biodiversity conservation, on-farm resources, and ecologically balanced cropping systems, aiming to enhance productivity while minimising reliance on external chemical inputs (Laisram *et al.*, 2022; Duddigan *et al.*, 2022) [3, 4]. The popularity of NF has drawn the attention of various sections of society. It is estimated that more than 7.5 lakh hectares of land in India, across various states, are currently cultivated under natural farming (Anonymous, 2022) [5]. The Government of India has formally endorsed this approach through initiatives such as the National Mission on Natural Farming (NMNF), promoting adoption across diverse agro-ecological zones. Natural Farming offers multiple benefits, including improved soil health, enhanced water-use efficiency, reduced environmental pollution, safer food production, and sustainable livelihood opportunities for small and marginal farmers (Wagh *et al.*, 2019) [6]. These benefits are particularly relevant to Kachchh district of Gujarat, characterised by arid climatic conditions, low and erratic rainfall, high evapotranspiration, water scarcity, and considerable pressure on natural resources. Initially, Japanese farmer Masanobu Fukuoka proposed natural farming based on the philosophy of working with natural cycles and processes of the natural world (Fukuoka, 1987) [7]. In India, the movement promoting Zero Budget Natural Farming (ZBNF) has been strongly associated with Shri Subhash Palekar and has resulted in varying levels of adoption across several states, including Andhra Pradesh, Karnataka, Maharashtra, and Himachal Pradesh (Khadse *et al.*, 2017; Mishra, 2018; Niyogi, 2018) [8, 9, 10]. By lowering dependence on external inputs and encouraging community-based resource management, Natural Farming addresses both economic and ecological challenges associated with contemporary agriculture. For **agricultural graduates**, Natural Farming presents a unique combination of opportunities and challenges. As a knowledge-intensive and site-specific approach, it requires a sound understanding of

Corresponding Author:

M Kanwat

ICAR- CAZRI, Bhuj,
 Kachchh, Gujarat, India

soil ecology, integrated cropping systems, bio-input preparation, resource conservation, and climate-resilient farm management (Patel *et al.*, 2025) [11]. Graduates are strategically positioned to facilitate adoption through extension services, farmer training, research, entrepreneurship, and policy implementation. However, practical uncertainties such as yield variability during the transition period, market constraints, availability of quality inputs, scientific validation, certification, and limited institutional support may pose barriers to wider adoption. These challenges assume particular significance in Kachchh, where farmers operate under highly variable rainfall, water scarcity, saline and degraded soils in certain areas, and other resource constraints. Therefore, understanding the knowledge, attitudes, preparedness, and perceived constraints of agricultural graduates is important for developing locally relevant extension and capacity-building strategies for Natural Farming. Despite the increasing relevance of Natural Farming, limited research has examined the attitudes, preparedness, perceived constraints, and professional engagement of agricultural graduates in Kachchh, Gujarat. Agricultural graduates constitute an important human-resource base for translating scientific knowledge into practical farm-level interventions through extension, advisory services, entrepreneurship, research, and capacity building. Understanding their perceptions and readiness is therefore critical for strengthening the dissemination and adoption of Natural Farming in the region. The present study, therefore, aims to assess the attitudes, perceptions, readiness, and perceived constraints of agricultural graduates toward Natural Farming in Kachchh, Gujarat. By identifying their level of preparedness, opportunities, and perceived challenges, the study seeks to generate evidence for curriculum development, experiential learning, capacity-building programmes, extension interventions, and policy support aimed at strengthening the role of agricultural graduates as catalysts for sustainable and ecologically balanced agriculture in Kachchh and similar arid regions of Gujarat.

Materials & methods

A descriptive research design was employed to gather detailed information regarding agricultural graduates' attitudes toward natural farming in Uttar Pradesh. The study was conducted across the four State Agriculture Universities (SAUs) in the state, which were selected purposively based on their accessibility to the researcher and the predominance of students native to Uttar Pradesh. The study population consisted of agricultural graduates pursuing masters and doctoral degrees in agriculture and related disciplines at the selected SAUs. A total of 140 respondents were included in the study, with 35 respondents from each SAU, selected through simple random sampling. Data collection was carried out using structured interview schedules and personal interviews with the selected respondents. Collected data were analyzed using MS-Excel and SPSS (Statistical Package for Social Sciences) to calculate mean, standard deviation, frequency, and percentage. Additionally, the chi-square test was employed to examine the association between respondents' profiles and their attitudes toward natural farming. The profile of respondents was assessed using several independent variables: age, sex, education, academic performance, medium of schooling, family type, family size, family occupation, father's education, mother's education, habitation pattern, annual income, number of trainings attended, social participation, sources of information, library exposure, achievement motivation, and scientific orientation. Scores were assigned to all independent variables to facilitate their association with the dependent variable, attitude toward natural farming, to measure respondents' attitudes, a structured schedule was developed in consultation with subject-matter experts. The schedule comprised 21 statements, representing various aspects of natural farming. The internal consistency reliability of the instrument was tested using the split-half method. The 21 statements were divided into 10 even-numbered and 11 odd-numbered statements, and administered to a non-sample population (students of BUAT, Banda) simultaneously. Garrett's formula was used to calculate the reliability coefficient, which was found to be 0.73, indicating acceptable reliability.

Fig.1. Conceptual Framework of Natural Farming



Responses were recorded on a five-point Likert-type scale (Likert, 1932, Edward 1957 & Thurstone, 1928) [12]: Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA), and Strongly Disagree (SDA), with scores of 5, 4, 3, 2, and 1, respectively, for positive statements and reversed for negative statements. The total scores across all statements were summed for each respondent, and respondents were categorised into three attitude levels—more favorable, favorable, and less favorable—based on the mean and standard deviation. To assess the constraints and challenges faced by respondents in adopting natural farming, a list of 10 closed-ended statements was developed with expert input. Respondents were asked to rank these statements from 1 to 10 according to their perceived effectiveness. The rankings were analyzed using Garrett's ranking formula to determine the relative importance of each constraint.

Results

3.1 Attitude levels toward natural farming

The attitude scores of respondents were classified into three categories using the mean and standard deviation (Table 1). As illustrated in Fig. 3, a majority of the respondents (65.00%) exhibited a favourable attitude toward natural farming, while 16.40% showed a highly favourable attitude. Only 18.60% of respondents fell under the less favourable attitude category. The overall mean attitude score (75.32) lies within the favourable range, indicating a generally positive perception of natural farming among agricultural graduates, consistent with earlier findings (Kanwat *et al.*, 2012) [13]. The relatively low standard deviation (6.15) suggests limited dispersion in attitude scores, reflecting a homogeneous attitudinal pattern among respondents. This homogeneity may be attributed to their common academic background and exposure to concepts of sustainability, soil health, and eco-friendly farming systems. The predominance of favourable attitudes further indicates an increasing acceptance of natural farming as a potential alternative to chemical-intensive agriculture, particularly among scientifically trained youth.

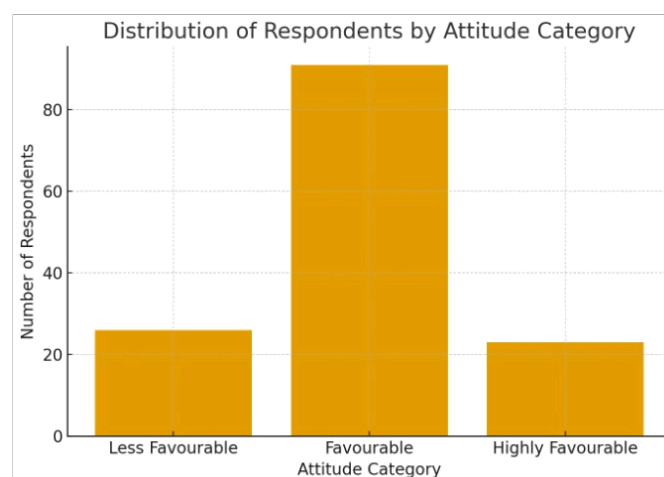


Figure 2. Graphical Representation of respondents' attitude

3.2. Statement-wise attitude of agricultural graduates towards natural farming

The statement-wise attitude analysis (Table 2) indicates that agricultural graduates generally hold a favourable attitude toward natural farming, particularly with respect to its environmental and soil-related benefits. A substantial majority strongly agreed that natural farming helps reduce environmental pollution (67.9%) and improves soil fertility and long-term nutrient balance (over 90% agreed/strongly agreed), reflecting strong ecological awareness and sustainability orientation. Perceived health benefits further reinforced positive attitudes, with nearly half of the respondents strongly agreeing that chemical-free farming improves family health, and a large proportion endorsing preventive management practices over curative approaches. These responses suggest a holistic understanding of natural farming that integrates environmental integrity, soil health, and human well-being. Despite this favourable orientation, respondents expressed notable apprehensions regarding productivity and operational feasibility. A considerable proportion agreed that natural farming may lead to lower yields and income during the initial phase of adoption, and

many believed that farming without chemical inputs may be impractical under certain conditions. Similar yield-related concerns during the transition phase have been reported in earlier studies (Kumar *et al.*, 2019; Naik *et al.*, 2020; Babalad *et al.*, 2021; Saharan *et al.*, 2023; Kumar, 2023) [14, 15, 16, 17, 18]. Perceptions related to labour intensity, weed management, and market affordability further indicate that productivity and economic risks remain central to respondents' reservations. Overall, the findings reveal a dual attitude structure, wherein agricultural graduates strongly acknowledge the ecological and health advantages of natural farming while simultaneously expressing concerns about yield stability, income security, and scalability. This attitudinal pattern explains the cautious adoption behaviour observed elsewhere in the study and underscores the need for scientific validation, institutional support, and transitional policy mechanisms. Government initiatives such as PKVY, RKVY, and OVCD address these concerns through training, financial support, certification, and market facilitation. In this context, agricultural graduates serve as critical intermediaries by translating scientific knowledge into field-level practice, supporting value-chain development, and enhancing farmer and consumer confidence in natural farming systems.

Table 1. Distribution of respondents according to their attitude towards natural farming ($N = 140$)

Sl. No.	Category	Score Range	Frequency	Percentage
1	Less favourable attitude	Up to 69	26	18.60
2	Favourable attitude	70 to 81	91	65.00
3	Highly favourable attitude	Above 81	23	16.40
Total			140	100
Mean = 75.32	S.D. = 6.15			

3.3. Chi-square analysis indicated that agricultural graduates attitude towards Natural Farming (Table 3), the Chi-square analysis revealed that agricultural graduates' attitudes toward natural farming were significantly associated with age, training exposure, sources of information, library exposure, and achievement motivation. Younger respondents (23–26 years) exhibited a significantly more favourable attitude, possibly reflecting greater exposure to contemporary sustainability-oriented curricula and emerging alternative farming concepts. Training exposure emerged as the most influential factor ($\chi^2 = 18.291$, $p < 0.01$), highlighting the critical role of experiential learning in shaping positive attitudes toward natural farming. Access to information sources and higher library exposure were also significantly associated with favourable attitudes, indicating that knowledge availability and academic support systems enhance conceptual clarity and reduce scepticism. Achievement motivation showed a positive and

significant association, suggesting that highly motivated graduates perceive natural farming as an opportunity for innovation, entrepreneurship, and professional growth. In contrast, variables such as sex, education level, academic performance, family background, income, and parental education showed no significant association, indicating that attitudes are shaped more by academic exposure and personal motivation than by socio-economic background, consistent with earlier findings (Kanwat *et al.*, 2011) [19]. The role of agricultural graduates in promoting natural farming through extension support, adoption of government initiatives, and value addition has also been emphasized earlier (Kanwat *et al.*, 2012b) [20]. Similar associations between training, information access, and attitude formation have been reported by Meena *et al.* (2012) [21], reinforcing the importance of strengthening institutional learning environments to promote sustainable agriculture.

Table 2. Distribution of respondents as frequency and percentage of their degree of attitude towards natural farming.

Sl. No.	Statements	SA		A		UD		DA		SDA	
		<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>F</i>	%	<i>F</i>	%
1	I believe that natural farming keep the environment free from pollution.	95	67.90	43	30.70	2	1.40	0	0	0	0
2*	The rule and regulation for the produce to be certified as natural is difficult.	6	4.30	32	22.90	34	24.30	59	42.10	9	6.40
3	Natural farming does maintain soil fertility better than traditional farming.	69	49.30	58	41.40	7	5.00	6	4.30	0	0
4*	I feel that the money required to adopt all kinds of practices related to natural farming is much higher.	5	3.60	21	15.00	13	9.30	86	61.40	15	10.70
5*	I will have a problem nursing the inputs required for natural farming.	6	4.30	21	15.00	45	32.10	43	30.70	25	17.90
6	I am the right kind of person to convince other farmers in the locality to adopt natural farming.	32	22.90	77	55.00	22	15.70	7	5.00	2	1.40
7	Natural farming should be done for commercial purposes.	25	17.90	67	47.90	27	19.30	17	12.10	4	2.90

(continued on next page)

8*	During the early phase of adoption, natural farming will give less income as it will give a lower yield.	8	5.70	24	17.10	34	24.30	60	42.90	14	10.00
9	The success and future of natural farming lies in the hand of end users.	0	0	38	27.10	73	52.10	21	15.00	8	5.70
10	I believe that natural farming will not be able to feed the whole population of the country.	37	26.40	60	42.90	21	15.00	17	12.10	5	3.60
11	Natural farming has balance the nutrient status of soil and farm eco-system for a long time.	65	46.40	63	45.00	7	5.00	3	2.10	2	1.40
12	Production of food grain will decline with the adoption of natural farming and again it will take the place of conventional chemical based farming.	18	12.90	44	31.40	50	35.70	20	14.30	8	5.70
13*	Natural farming is of little or no value in these modern days of life.	5	3.60	18	12.90	19	13.60	80	57.10	18	12.90
14*	There will be no farming without fertilizers and chemicals.	1	0.70	47	33.60	17	12.10	61	43.60	14	10.00
15	I feel that the non-natural means should be used to save crops from severe damage if other natural means are not available.	22	15.70	57	40.70	34	24.30	21	15.00	6	4.30
16	Natural farming has the problem of controlling weeds without herbicides.	25	17.90	61	43.60	17	12.10	28	20.00	9	6.40
17	Natural farming is labour-intensive.	38	27.10	66	47.10	22	15.70	11	7.90	3	2.10
18	If I do natural farming then my family members will have better health conditions.	69	49.30	55	39.30	16	11.40	0	0	0	0
19	Preventive management practices are better than curative management practices in natural farming.	60	42.90	55	39.30	25	17.90	0	0	0	0
20*	I would like to convert to natural farming, even if i do not get the due price of the product.	6	4.30	22	15.70	30	21.40	71	50.70	11	7.90
21	There are only a few people who can afford to buy natural products in the Indian context.	37	26.40	63	45.00	18	12.90	20	14.30	2	1.40

*NS = Not Significant, * $p < 0.05$, ** $p < 0.01$

Table 3. Association Between Socio-Demographic Variables and Attitude towards Natural Farming ($N = 140$)

Variable	χ^2 Value	Significance	Inference
Age	10.210*	$p < 0.05$	Younger respondents (23–26) show a more favorable attitude
Sex	0.376	NS	No significant gender difference
Education	5.472	NS	Slight trend for M.Sc. graduates to be more favorable
Academic Performance	9.185	NS	No strong association with OGPA
Medium of School Education	2.014	NS	No significant effect
Family Type	2.395	NS	Marginal difference between nuclear/joint families
Family Size	10.337	NS	Smaller families are slightly more favorable
Family Occupation	11.660	NS	Agricultural occupation shows moderate influence
Father's Education	3.609	NS	Not significant
Mother's Education	8.293	NS	Not significant
Habitation Pattern	5.643	NS	Rural respondents more favorable
Family Annual Income	8.926	NS	Middle-income respondents are moderately favorable
Number of Training Attained	18.291**	$p < 0.01$	Training significantly enhances a positive attitude
Social Participation	11.323	NS	Slightly higher attitude among organizational members
Sources of Information	9.519*	$p < 0.05$	Access to information significantly improves attitude
Library Exposure	10.773*	$p < 0.05$	High library exposure linked to more favorable attitude
Achievement Motivation	9.855*	$p < 0.05$	Higher motivation correlates with favorable attitude
Scientific Orientation	8.873	NS	Moderate positive trend

NS=Not Significant, * $p < 0.05$, ** $p < 0.01$

3.4. Constraints identified through Garrett's ranking

Garrett's Ranking analysis (Table 4) indicates a **moderate-to-high level of constraints** in Natural Farming (NF) adoption (Barrier Index = 45.11), which helps explain the gap between favourable attitudes and actual adoption. The most severe constraint was the *difficulty in maintaining fields under natural conditions due to chemical seepage from neighbouring farms* (Rank I; mean score 67.28), particularly in irrigated areas, limiting the sustainability of NF practices. The *lack of*

scientific validation (Rank II; mean score 63.24) directly influenced both attitude and adoption, as uncertainty regarding the performance of NF inputs and the absence of standardized, location-specific recommendations reduced farmers' confidence. The perception that *NF standards are too restrictive* (Rank III; mean score 58.52) and the *non-availability of ready-made solutions* (Rank IV; mean score 55.22) further constrained adoption despite generally favourable attitudes. Similar constraints have been reported earlier (Mishra *et al.*, 2020) [22]. Lower-ranked constraints, including *limited government support*

and *micronutrient deficiency risk*, played a secondary role, while socio-psychological statements ranked lowest, indicating that farmers' responses were driven more by scientific assurance and practical feasibility than by ideological considerations.

Overall, the findings indicate that scientific uncertainty, ecological externalities, and institutional limitations, rather than negative attitudes, are the principal barriers to wider NF adoption, consistent with Mishra *et al.* (2020) [22].

Table 4. Garrett's Ranking of Constraints in Natural Farming Adoption

Sl. No	Statement	Mean Score	Rank
1	Difficult to maintain the field as natural in irrigated areas due to the seepage of chemicals from neighbouring farm fields.	67.28	1
2	No scientific validation limiting scope	63.24	2
3	Standards are too restrictive to be practical.	58.52	3
4	Solutions not available in readymade form	55.22	4
5	Good Entrepreneurial opportunity for youth	50.95	5
6	Limited support from Central/State Govt.	41.66	6
7	Threat to the agro-chemical industry	34.73	7
8	Micronutrient deficiency risk	32.73	8
9	Natural farming can reduce the suicide death of farmers by lowering the cost of production.	23.49	9
10	Natural farming again brings back the farmers to past-time farming conditions.	22.87	10

Discussion

Agricultural graduates generally exhibited a favourable attitude toward natural farming, with a mean score of 75.32 (SD = 6.15); 65% were in the favourable category, 16.4% highly favourable, and 18.6% less favourable. Most respondents strongly agreed that natural farming reduces pollution (67.9%) and improves soil fertility and nutrient balance (over 90%), while nearly half (49.3%) recognized health benefits. However, 42.9% felt that initial adoption may reduce yields, and 33.6% believed farming is impractical without chemical inputs, reflecting cautious perceptions during the transition phase. Attitudes were significantly associated with age, training exposure, access to information, library use, and achievement motivation ($p < 0.05$), whereas socio-economic factors showed no significant effect, highlighting the role of experiential learning, knowledge availability, and personal motivation in shaping perceptions. Despite positive attitudes, adoption was constrained by ecological and operational challenges, including chemical seepage from neighbouring farms (mean constraint score 67.28), lack of scientific validation (63.24), and restrictive standards (58.52), which limited confidence in productivity and practicality. Natural farming is viewed positively for its contributions to soil health, biodiversity conservation, and reduced input dependency, particularly among small and marginal farmers with livestock integration. To enhance adoption, ICAR- and Ministry-aligned strategies should focus on location-specific scientific validation, certification and market differentiation under PKVY/RKVY, capacity building through KVKs and ATMA, and priority promotion in rainfed and livestock-based systems. Integrating scientific evidence, institutional support, and market linkages is essential to convert favourable attitudes into sustained adoption.

References

- Patel N, Meena SC, Chahbhariya NB. Natural farming: A study of farmers' Perceptions and Practices. *International Journal for Multidisciplinary Research*. 2024;6(6):240631681.
- Palekar S. Zero Budget Natural Farming: Five Layers Palekar's Mode.1 (Part I). *Zero Budget Natural Farming Research, Development and Extension Movement*, Amravati, Maharashtra, India. 2006:1-28.
- Laishram C, Vashishat RK, Sharma S, Rajkumari B, Mishra N, Barwal P, Vaidya MK, Sharma R, Chandel RS, Chandel A, Gupta RK, Sharma N. Impact of Natural Farming Cropping System on Rural Households—Evidence From Solan District of Himachal Pradesh, India. *Frontiers in Sustainable Food Systems*. 2022;6:878015.
- Duddigan S, Collins CD, Hussain Z, Osbahr H, Shaw LJ, Sinclair F, Sizmur T, Thallam V, Winowiecki LA. Impact of Zero Budget Natural Farming on Crop Yields in Andhra Pradesh, SE India. *Sustainability*. 2022;14:1689.
- Anonymous. *Economic Survey, Agriculture and Food Management*. 2022.
- Wagh RV, Auti SK. Zero budget natural farming is key towards sustainable agriculture development. *Online International Interdisciplinary Research Journal*. 2019;09(02):2249-9598.
- Fukuoka M. *The natural way of farming: the theory and practice of green philosophy*. Japan Publication. 1987.
- Khadse A, Michael P, Rosset, Morales H, Ferguson BG. Taking agro-ecology to scale: the Zero Budget Natural Farming peasant movement in *Karnataka*, India. *The Journal of Peasant Studies*. 2017;10.1080/03066150.2016.1276450.
- Mishra S. Zero Budget Natural Farming: Are this and Similar Practices the Answers. Working Paper No. 70, Nabakrushna Choudhury Centre for Development Studies, Bhubaneswar. 2018.
- Niyogi DG. Andhra Farmers Taste Success with Zero Budget Natural Farming. *Down to Earth*. 2018.
- Patel A, SagarSinh Ravalji. Knowledge & Attitude of farmers towards Cow Based Natural Farming: A study undertaken among 100 farmers of Umreth Taluka. *International Journal for Research Trends and Innovation*. 2025.
- Likert R. A technique for the measurement of attitudes. *Archives of Psychology*. 1932;140.
- Kanwat M, Meena MS, Kumar SP, Choudhary VK, Bhagawati R. Measurement of Attitude towards the Adoption of Back Yard Poultry Farming in Arunachal Pradesh. *Journal of Agricultural Science*. 2012;4(3):131-136.
- Kumar V. A Question of Sales: Natural Farming Faces Challenges in Himachal; Here Is How. *Down to earth*. 2023.
- Saharan BS, Tyagi S, Kumar R, Vijay, Om H, Mandal BS, Duhan JS. Application of Jeevamrit Improves Soil Properties in Zero Budget Natural Farming Fields. *Agriculture*. 2023;13:196.
- Babalad HB, Navali GV. Comparative Economics of Zero Budget Natural Farming with Conventional Farming Systems in Northern Dry Zone (Zone-3) of *Karnataka*. *Econ. Aff*. 2021;66:355–361.
- Naik AK, Brunda S, Chaithra GM. Comparative Economic Analysis of Zero Budget Natural Farming for Kharif Groundnut under Central Dry Zone of *Karnataka*, India. *J. Econ. Manag. Trade*. 2020;26:27–34.
- Kumar S, Kale P, Thombare P. Zero Budget Natural Farming (ZBNF): Securing smallholder farming from distress. *Sci. Agric. Allied Sect*. 2019;1:3.
- Kanwat M, Chargoitra M, Kumar SP, Mishra BP. Attitude of the Agricultural Graduate towards Agri-clinic and Agri-business Centers in Arunachal Pradesh. *Indian Res. J. Ext. Edu*. 2011;11(1):117-119.

20. Kanwat M, Meena BL, Kumar SP, Chargoitra M, Pareek A, Meena RK. Impact of Socio-Economic Factors on Adoption of Farmers towards Cultivation of Medicinal Plants in Udaipur Division of Rajasthan State in India. *Journal of Agricultural Science*. 2012;4(3):49-56.
21. Meena MS, Singh KM, Meena KM, Kanwat M. Attitude: A determinant of agricultural graduates' participation in videoconferencing technology. *Journal of Agricultural Science*. 2012;4(1):136.
22. Mishra BP, Kanwat M, Gupta BK, Meena NR, Mishra NK, Kumar SP. Correlates of Adoption of Improved Apiculture Practices in Arunachal Pradesh. *Indian Journal of Extension Education*. 2020;56(2):51-54.
23. Jain S. Natural farming: Is India ready to bring 14 million hectares land under organic agriculture? Firstpost. 2022.
24. Edwards A. The Social Desirability Variable in Personality Assessment and Research. New York: The Dryden Press; 1957.
25. Thurstone LL. Attitudes can be measured. *American Journal of Sociology*. 1928;33:529–554.
26. Chamela B. Attitude of agriculture graduates of S.K.N. College of Agriculture, Jobner towards agriculture entrepreneurship. M. Sc. (Agri.) Thesis, S.K.N., Jobner. 2016.
27. Kavitha NG. A study on attitude and aspiration of agriculture and allied students towards higher education in Hyderabad, *Karnataka* region. M. Sc. (Agri.) Thesis, University of Agriculture Science, Raichur. 2018.
28. Aysha AM. Entrepreneurial skills among the agriculture students in Kerala. M. Sc. (Agri.) Thesis, Kerala Agricultural University, Thrissur, Kerala. 2020.
29. Dilip S, Thomas A, Malik JS. Attitudes of Students on School Vegetable Garden and Gardening Activities in Kerala. *Indian Journal of Extension Education*. 2020;56(2):89-92.
30. Naik AS, Reddy MS, Raghunandan P, Reddy GVB, Bharathi A. Attitude of Para-veterinarians towards Training. *Indian Journal of Extension Education*. 2016;52(3&4):65-68.
31. Boora S, Kaur B, Tyagi R, Manisha, Rohit. Attitude of Farmers Toward Intercropping in Haryana. *Indian Journal of Extension Education*. 2022;58(4):91-95.
32. Kanwat M, Singh P. Technological Needs of Farm Women in Dairy Farming: A Case of Udaipur District, Rajasthan. *Indian Res. J. Ext. Edu*. 2014;14(3):28-30.

How to cite this article: Kanwat M, Ramniwas, Bochalaya A, Maurya A. Attitudes, perceived constraints, and readiness of agricultural graduates toward adoption of natural farming in Kachchh district, Gujarat. *International Journal of Horticulture and Food Science*. 2026;SP-8(9):22-27. doi: <https://www.doi.org/10.33545/26631067.2026.v8.i9Sa.865>