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ENHANCING AGRICULTURAL KNOWLEDGE THROUGH KISAN PATHSHALAS: A STUDY OF FARMERS IN JAUNPUR DISTRICT, UTTAR PRADESH, INDIA

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ABSTRACT

Kisan Pathshala, a pioneering initiative by the Uttar Pradesh government, seeks to empower farmers with advanced agricultural knowledge and skills to boost productivity and income. This study evaluates its impact on farmers in Jaunpur district by analyzing their socioeconomic profiles, knowledge acquisition and the correlation between personal attributes and learning outcomes. Conducted with 250 randomly selected farmers, the research employed an ex-post-facto design and collected data via structured interviews. Results indicate that most respondents were middle-aged (46%), educated up to secondary level (38%) and from joint families (62%). Landholdings were primarily small (46%), with medium income levels dominating (50%). Knowledge levels were distributed as low (26%), medium (50%) and high (24%). Correlation analysis revealed significant positive relationships between knowledge and education (r = 0.65), income (r = 0.53) and age (r = 0.47), while family size showed a negative correlation (r = -0.15). These findings highlight the pivotal role of education and economic stability in maximizing the benefits of Kisan Pathshalas.
***Keywords*:** Kisan Pathshala, agricultural knowledge, socioeconomic status, correlation analysis, Jaunpur farmers.

Introduction

The Kisan Pathshala program, launched by the Uttar Pradesh government, is a transformative effort to enhance farmers' capabilities through structured training at the village level. Aimed at doubling farmers' income, it delivers knowledge on modern farming techniques, government schemes and sustainable practices. Master trainers, including Technical Assistants for Crop (TAC), Agricultural Technology Managers (ATM) and Block Technology Managers (BTM), undergo specialized training to ensure effective dissemination of information. The initiative covers topics such as precision agriculture, soil health management, water conservation and market linkages, fostering resilience and profitability in farming.

In Jaunpur district, an agrarian region with diverse agricultural practices, Kisan Pathshalas have the potential to address local challenges like low productivity and resource scarcity. This study, titled "Enhancing Agricultural Knowledge through Kisan Pathshalas: A Study of Farmers in Jaunpur District, Uttar Pradesh," assesses the program's effectiveness by examining:

1. The socioeconomic characteristics of participating farmers.
2. The knowledge levels acquired through Kisan Pathshalas.
3. The relationship between farmers' personal attributes (age, education, family type, landholding, family size and income) and their knowledge gains.

Materials and Methods

An ex-post-facto research design was adopted to evaluate the impact of Kisan Pathshalas in Jaunpur district. A sample of 250 farmers was selected randomly from various villages to ensure

representativeness. Jaunpur was chosen purposively due to its agricultural significance and the researchers' familiarity with the area, facilitating data collection. Data were gathered using a structured interview schedule focusing on socioeconomic profiles and knowledge levels.

Statistical tools, including frequency, percentage, mean and standard deviation, were used to analyze socioeconomic characteristics. Correlation analysis was employed to explore the relationships between independent variables (age, education, family type, landholding, family size and income) and the dependent variable (knowledge level). This methodology provided a robust framework for assessing the program's outcomes.

Results and Discussion

1. Socioeconomic Status of Respondent Farmers

Table 1: Socio-Economic status of Respondent farmers

Particulars	Frequency (n)	Percentage (%)
1. Age		
Young (<26.61 years)	80	32.00
Middle (26.61–36.13 years)	115	46.00
Old (>36.13 years)	55	22.00
2. Education		
Illiterate	25	10.00
Up to Primary School	50	20.00
Up to Secondary School	95	38.00
Up to Higher Secondary	60	24.00
Graduation and above	20	08.00
3. Family Type		
Joint	155	62.00
Nuclear	95	38.00
4. Land Holding		
Marginal	100	40.00
Small	115	46.00
Medium	35	14.00
5. Family Size		
Small (<5 members)	60	24.00
Medium (5–10 members)	140	56.00
Large (>10 members)	50	20.00
6. Family Income		
Low (<Rs.21,900)	75	30.00
Medium (Rs.21,900–Rs.34,700)	125	50.00
High (>Rs.34,700)	50	20.00

The socioeconomic profile of the 250 respondent farmers provides a foundational understanding of the study population and their capacity to engage with Kisan Pathshalas.

- **Age**: Middle-aged farmers (26.61–36.13 years) constituted the largest group (46%, n=115), followed by young farmers (<26.61 years, 32%, n=80) and older farmers (>36.13 years, 22%, n=55). This distribution suggests that middle-aged farmers, who often balance experience with physical capability, are the most active participants in training programs. Younger farmers may be more open to innovation, while older farmers bring practical wisdom, aligning with findings by Singh *et al.* (2022) that middle-aged farmers dominate extension program participation in Uttar Pradesh.
- **Education**: A significant portion (38%, n=95) were educated up to secondary school, followed by higher secondary (24%, n=60), primary school (20%, n=50), graduation and above (8%, n=20) and illiterate (10%, n=25). The prevalence of secondary education reflects a basic literacy level conducive to understanding training content, though the 10% illiteracy rate indicates a barrier for some farmers. This aligns with Kumar and Sharma (2023), who noted that literacy enhances comprehension of agricultural innovations.
- **Family Type**: Joint families predominated (62%, n=155) over nuclear families (38%, n=95). Joint families may provide labor support for adopting new practices, but higher dependency could limit individual decision-making, as suggested by Ayandiji and Olofinsao (2014).
- **Land Holding**: Small landholders (1-2 hectares) were the majority (46%, n=115), followed by marginal (<1 hectare, 40%, n=100) and medium (2-4 hectares, 14%, n=35). This reflects Jaunpur's agrarian structure, where small and marginal farmers dominate, often facing resource constraints but showing adaptability to training (Barman et al., 2020).
- **Family Size**: Medium-sized families (5–10 members) were most common (56%, n=140), followed by small (<5 members, 24%, n=60) and large (>10 members, 20%, n=50). Medium-sized families strike a balance between labor availability and resource demands, unlike larger families where per-capita resources may be stretched thin.
- **Family Income**: Medium-income farmers (Rs.21,900–Rs.34,700 annually) comprised 50% (n=125), followed by low-income (<Rs.21,900, 30%, n=75) and high-income (>Rs.34,700, 20%, n=50). This distribution indicates moderate financial stability among respondents, which likely influences their ability to invest in practices learned from Kisan Pathshalas.

The socioeconomic profile reveals a diverse yet typical farming community in Jaunpur, with middle-

aged, moderately educated, smallholder farmers from joint families forming the backbone of KisanPathshala participants. These characteristics set the stage for understanding their knowledge acquisition.

2. Knowledge Level

The knowledge levels of farmers post-Kisan Pathshala training were categorized as low, medium and high based on their understanding and application of concepts taught, such as modern farming techniques and government schemes.

Table 2 : Knowledge level of Respondents

Knowledge Level	Frequency (n)	Percentage (%)
Low	65	26.00
Medium	125	50.00
High	60	24.00

The results show that half of the respondents (50%, n=125) achieved a medium knowledge level, indicating a moderate success of Kisan Pathshalas in disseminating information. The high-knowledge group (24%, n=60) demonstrates the program's potential to significantly enhance understanding among motivated farmers, likely those with better resources or education. However, the 26% (n=65) with low knowledge levels suggest gaps in outreach or comprehension, possibly due to illiteracy, limited resources, or inadequate training delivery. These findings are consistent with Barman et al. (2020), who reported similar variations in knowledge levels following KVK training programs in Assam, attributing lower levels to socioeconomic barriers.

The predominance of medium knowledge levels reflects a broad but not fully optimized impact, suggesting that while Kisan Pathshalas reach many farmers, additional efforts are needed to elevate the low-knowledge group and support the medium group toward higher proficiency. Factors influencing these outcomes are explored in the correlation analysis below.

3. Correlation between Independent Variables and Knowledge Level

Correlation analysis was conducted to assess the relationships between farmers' personal characteristics (independent variables) and their knowledge levels (dependent variable). The Pearson correlation coefficients (r) provide insights into the strength and direction of these associations.

Table 3 : Correlation between socioeconomic status and knowledge level

Independent Variables	Correlation Coefficient (r)	Significance
Age	0.47	Positive, Moderate
Education	0.65	Positive, Strong
Family Type	0.20	Positive, Weak
Land Holding	0.41	Positive, Moderate
Family Size	-0.15	Negative, Weak
Family Income	0.53	Positive, Strong

- **Education (r = 0.65)**: The strongest positive correlation highlights education as the most influential factor in knowledge acquisition. Farmers with higher education levels (e.g., secondary or above) are better equipped to comprehend complex concepts like precision farming or government scheme eligibility taught in Kisan Pathshalas. This finding aligns with Kumar and Sharma (2023), who emphasized that literacy enhances the adoption of agricultural innovations. Educated farmers likely process and apply training content more effectively, suggesting that Kisan Pathshalas should prioritize simplified materials or visual aids for less-educated participants to bridge this gap.
- **Family Income (r = 0.53)**: A strong positive correlation indicates that higher income enhances knowledge uptake, likely by providing access to resources (e.g., smartphones for scheme updates, better seeds) that complement training. Farmers with medium to high incomes (50% and 20% of the sample) can invest in practices learned, reinforcing the training's impact. This supports Singh et al. (2022), who found economic stability as a key enabler of extension program success. Conversely, low-income farmers (30%) may struggle to translate knowledge into action due to financial constraints.
- **Age (r = 0.47)**: A moderate positive correlation suggests that older farmers, particularly those in the middle-age group (46%), benefit more from KisanPathshalas. Their farming experience likely enables them to contextualize and apply new knowledge effectively, as noted by Ayandiji and Olofinsao (2014). Younger farmers (32%), while potentially more innovative, may lack the practical experience to fully leverage the training, whereas older farmers (22%) may face physical or adaptability limitations.
- **Land Holding (r = 0.41)**: A moderate positive correlation implies that farmers with larger

landholdings (small and medium, 46% and 14%) are more motivated and capable of implementing new practices. Larger land provides a testing ground for techniques like soil health management, aligning with Barman et al. (2020), who linked land size to adoption rates. Marginal farmers (40%), however, may face scale-related constraints, limiting their ability to experiment despite acquiring knowledge.

- **Family Type (r = 0.20)**: A weak positive correlation indicates that family structure (joint vs. nuclear) has minimal influence on knowledge levels. Joint families (62%) may offer labor support, but their larger dependency could offset benefits, while nuclear families (38%) might prioritize individual learning. This weak link suggests that KisanPathshalas' effectiveness is largely independent of family type, consistent with findings by Kumar and Sharma (2023).
- **Family Size (r = -0.15)**: A slight negative correlation reveals that larger families (20%) may dilute focus and resources, reducing knowledge acquisition. Medium (56%) and small (24%) families, with fewer dependents, likely allocate more attention to training. This aligns with Ayandiji and Olofinsao (2014), who noted that larger households face resource competition, hindering adoption of new practices.

The correlation analysis underscores education and family income as the primary drivers of knowledge acquisition in Kisan Pathshalas, with coefficients of 0.65 and 0.53, respectively, indicating strong relationships. These factors enable farmers to understand and implement training content, highlighting the need for inclusive strategies to support less-educated and low-income farmers. Age and land holding, with moderate correlations (0.47 and 0.41), suggest that experience and resource availability further enhance learning outcomes, particularly among middle-aged smallholders. The weak influence of family type (r = 0.20) and the negative effect of family size (r = -0.15) indicate that household dynamics play a secondary role compared to individual and economic factors.

These results are consistent with prior studies. Kumar and Sharma (2023) found that education and income significantly influence farmers' ability to adopt innovations, while Barman et al. (2020) reported similar socioeconomic impacts on training effectiveness in Assam. The negative correlation with family size echoes Ayandiji and Olofinsao (2014), emphasizing resource allocation challenges in larger households. Collectively, these findings affirm that KisanPathshalas are most effective for educated, financially stable and experienced farmers, but additional support is needed for marginalized groups to ensure equitable benefits.

Implications

The strong role of education suggests that KisanPathshalas should incorporate practical, hands-on sessions and vernacular materials to reach illiterate or less-educated farmers (10% and 20% of the sample). The income-knowledge link calls for integrating financial literacy and scheme awareness into training, aiding low-income farmers (30%) in leveraging government support. The age and land holding correlations indicate that targeting middle-aged smallholders with scalable practices could maximize impact, while addressing the needs of marginal farmers through micro-level interventions. The minimal influence of family type and size suggests a focus on individual empowerment rather than household structure.

Conclusion

The study demonstrates that Kisan Pathshalas significantly enhance agricultural knowledge among Jaunpur farmers, with education and income emerging as critical determinants of success. The predominance of medium knowledge levels (50%) reflects the program's broad reach, though the 26% low-knowledge segment indicates a need for tailored interventions. Positive correlations with education, income and age underscore the importance of literacy and financial security in leveraging training benefits, while the negative impact of larger family sizes highlights resource allocation challenges. Kisan Pathshalas thus serve as a vital tool for agricultural advancement, but their impact can be maximized by addressing educational disparities and economic constraints.

Recommendations

- Strengthen educational outreach with simplified materials and digital platforms.
- Enhance financial support through subsidies and credit access for smallholders.
- Expand extension services with hands-on demonstrations and peer-learning networks.

References

Ahmad, N., Mehmood, T., Ashfaq, M. and Fatima, N. (2012). Farmers' perceptions of KVK training programs. *Indian Research Journal of Extension Education*, *Special Issue* **(I)**, 142–146.

Ayandiji, A. and Olofinsao, O.T. (2014). Socioeconomic factors influencing farm mechanization adoption. *IOSR Journal of Environmental Science, Toxicology and Food Technology*, **9**(3), 39–45.

Barman, S., Hazarika, J. P., Kalita, D. and Deka, B. (2020). Impact of KVK training on farmers in Assam. *International Journal of Current Microbiology and Applied Sciences*, **9**(8), 996–1001.

Kumar, R. and Sharma, P. (2023). Education and agricultural knowledge uptake. *Journal of Agricultural Science*, **15**(3), 45–52.

Singh, A., Verma, D., Mishra, S.K. and Yadav, R. (2022). Socioeconomic profiles of farmers in Uttar Pradesh. *Crop Science Review*, **10**(4), 78–85.