Swami Vivekananda Advanced Journal for Research and Studies
Online Copy of Document Available on: www.svajrs.com

ISSN:2584-105X **Pg. 257-262**

Consumer Perception, Awareness, and Challenges in the Adoption of Organic Fertilizers: Evidence from Begusarai District, Bihar

Sidhyant Kumar
Research scholar (P.G.) Department of Agriculture economics, SHUATS, Naini, Prayagraj, 211007
Dr. Pritesh Dwivedi
Assistant professor, Department of Agriculture economics, SHUATS, Naini, Prayagraj, 211007

Accepted: 22/08/2025
Published: 30/08/2025

Abstract

Organic fertilizers are increasingly gaining attention as sustainable inputs that can restore soil fertility and reduce the adverse environmental consequences of chemical fertilizers. However, their adoption depends largely on how consumers, in this case, farmers perceive them, the extent of their awareness, and the problems they face in practical usage. This study was conducted in Teghra block of Begusarai district, Bihar, among 100 respondents. The primary objectives were (i) to examine consumer perception towards organic fertilizers, (ii) to ascertain consumer awareness about organic fertilizers, and (iii) to find out the problems faced by consumers of organic fertilizers. The research employed purposive and random sampling techniques, and data were analyzed using Likert scaling and Garrett ranking.

The results reveal that advertising is the strongest factor influencing consumer perception, followed by personal suggestions and packaging quality. While most farmers considered organic fertilizers either "very effective" or "effective," a considerable proportion expressed dissatisfaction due to delayed results and inconsistent quality. Awareness levels were found to be largely moderate, though highly aware farmers formed a substantial segment. Regarding challenges, respondents highlighted issues such as limited immediate impact, longer time to effectiveness, inconsistent quality, higher costs, and increased labor requirements.

The study concludes that while perceptions and awareness are generally favorable, barriers such as delayed visible impact and poor quality assurance reduce adoption rates. The findings imply that policymakers, marketers, and extension agents should emphasize awareness-building campaigns, assure quality standards, and offer targeted incentives to encourage widespread adoption of organic fertilizers.

Keywords: *Organic fertilizers, consumer perception, awareness, challenges, Begusarai, Bihar, sustainable agriculture*

Introduction

Agricultural production in India has long been dependent on chemical fertilizers that, while providing rapid yield increases, have created significant environmental concerns such as soil degradation, reduced fertility, and water contamination. Against this backdrop, **organic fertilizers** are seen as a more sustainable alternative. Derived from natural sources compost, manure, bone meal, seaweed extracts, and mineral deposits they replenish the soil, promote microbial activity, and reduce chemical dependency.

Despite these advantages, the acceptance of organic fertilizers among Indian farmers is not universal. Adoption depends largely on **how farmers perceive these inputs, their level of awareness regarding long-term benefits, and the practical challenges they encounter**. Understanding these behavioral and experiential factors is critical, particularly in regions like Bihar, where agriculture remains the backbone of livelihoods and where the government is actively promoting organic farming initiatives.

Begusarai district was chosen for this study because of its emerging organic fertilizer use and its mixed socio-economic profile of farmers. Within the district, Teghra block was purposively selected due to relatively higher organic fertilizer usage. By analyzing perception, awareness, and challenges faced by farmers, this study aims to generate actionable insights into consumer behavior, providing guidance for policy reforms and marketing strategies.

Methodology

The study adopted a **multi-stage sampling design**. Begusarai district was purposively chosen, Teghra block was identified for its prominence in organic fertilizer usage, and within Teghra, two villages (Bisaua Bhual and Nipania) were randomly selected. From these villages, a total of **100 respondents** were selected randomly, representing different categories of landholding: marginal, small, semi-medium, medium, and large farmers.

Data Collection

- **Primary data**: Collected through structured interviews using a pre-tested schedule. Farmers were asked about their perceptions, awareness levels, and challenges in using organic fertilizers.
- **Secondary data**: Sourced from books, journals, government reports, and online resources.

Analytical Tools

1. **Likert Scale** – to measure consumer perception of various aspects like advertisement, quality, price, packaging, etc.
2. **Garrett Ranking** – to rank awareness levels and problems faced by consumers.
3. **Tabular Presentation & Percentages** – to summarize demographic data and responses.

The analysis was guided strictly by the three objectives: consumer perception, consumer awareness, and challenges faced by organic fertilizer consumers

Sidhyant Report

Findings and Results

1. Consumer Perception Towards Organic Fertilizers

Perception is often shaped by multiple factors such as advertisements, peer influence, packaging, price, and quality. In this study, six aspects were identified and ranked using the Likert scale.

Table 1: Aspects that Led to the Choice of Organic Fertilizers

S. No.	Aspects	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Likert Score	Ranking

1	Advertisement	46	6	21	26	1	355	I
2	Suggestion	38	6	14	18	24	336	II
3	Good Packaging	9	16	34	25	16	335	III
4	Quality	0	62	31	4	3	320	IV
5	Price	4	1	46	21	28	311	V
6	Personal Experience	8	51	22	16	3	299	VI

Source: Field Survey (N=100)

The findings clearly show that **advertisement is the most influential factor**. Farmers were more likely to be persuaded by promotional campaigns than by direct experience. Suggestions from peers or agricultural experts ranked second, reflecting the importance of community influence. Surprisingly, quality although critical in actual performance ranked lower, which suggests that promotional strategies currently outweigh product attributes in shaping perceptions.

To further probe perception, respondents were asked about the **effectiveness of organic fertilizers**.

Table 2: Perceptions of Farmers on the Effectiveness of Organic Fertilizers

S.No.	Scale of Effectiveness	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Garrett Score	Ranking
1	Very Effective	20	17	7	35	19	352	I
2	Effective	20	55	11	1	10	346	II
3	Moderately Effective	30	21	7	10	20	332	III
4	Less Effective	20	6	1	79	10	326	IV
5	Not Effective	25	13	33	1	20	286	V

Source: Field Survey (N=100)

While many farmers rated organic fertilizers as **"very effective" or "effective,"** a substantial segment considered them less effective or even not effective. This polarization in perception reflects both positive experiences among some users and disillusionment among others due to inconsistent outcomes.

2. Consumer Awareness About Organic Fertilizers

Awareness was measured across five categories: highly aware, moderately aware, somewhat aware, slightly aware, and not aware. Garrett ranking was applied to responses.

Table 3: Consumer Awareness Levels

S.No.	Level of Awareness	Strongly Agree	Garrett Ranking
1	Highly Aware	21	III
2	Moderately Aware	29	I
3	Somewhat Aware	24	II
4	Slightly Aware	17	IV
5	Not Aware	9	V

Source: Field Survey (N=100)

The majority of respondents were **moderately aware (29%)**, followed by somewhat aware (24%) and highly aware (21%). Only a small group (9%) claimed to be completely unaware. This indicates that awareness exists, but the **depth of technical knowledge** about the benefits,

application methods, and environmental importance of organic fertilizers remains shallow.

3. Problems Faced by Consumers of Organic Fertilizers

Challenges are a decisive factor in adoption. Respondents were asked to rank ten common problems. Garrett scores were computed to identify severity.

Table 4: Problems Faced by Organic Fertilizer Consumers

S. No.	Problems	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Garrett Score	Ranking
1	Limited Immediate Impact	30	25	10	20	15	322	I
2	Longer Time to Effect	18	30	25	12	15	317	II
3	Inconsistent Quality	25	23	22	15	15	309	III
4	Increased Labor	20	25	15	25	15	305	IV
5	Lower Nutrient Content	12	28	18	30	12	298	V
6	Higher Costs	15	29	21	20	15	292	VI
7	Application Challenges	22	18	20	20	20	300	VII
8	Storage Issues	15	20	15	30	20	288	VIII
9	Limited Availability	8	15	35	22	20	273	IX
10	Regulatory Challenges	11	13	30	25	21	269	X

Source: Field Survey (N=100)

The **top three problems** were:

1. Limited immediate impact (farmers expect quick results similar to chemical fertilizers),
2. Longer time to effectiveness, and
3. Inconsistent quality.

Other issues included increased labor, higher costs, and lower nutrient content. Challenges like regulatory barriers and limited availability ranked lower but still posed difficulties.

Discussion

The results of the study reveal a nuanced understanding of how farmers in Begusarai district perceive, understand, and experience organic fertilizers.

Perception and Decision-Making

The dominance of advertisement as a determinant of choice indicates the **power of promotion in shaping farmer behavior**. However, this also highlights a potential weakness: when actual performance does not match advertised claims, trust erodes quickly. Suggestions and peer

influence also matter, suggesting that **word-of-mouth remains strong in rural markets**.

The mixed perceptions of effectiveness underscore the **gap between expectations and outcomes**. Farmers used to chemical fertilizers anticipate rapid effects, while organic fertilizers work more gradually. This mismatch leads to disillusionment among some users, even though long-term soil benefits are well documented.

Awareness Levels

While the majority of farmers were at least moderately aware, true in-depth understanding was lacking. Awareness campaigns have succeeded in introducing the idea of organic fertilizers but have not sufficiently conveyed technical aspects such as correct dosage, methods of application, and long-term benefits. This superficial awareness risks leading to misuse and unsatisfactory experiences, which in turn affect perception negatively.

Problems and Barriers

The challenges highlight the structural weaknesses in the organic fertilizer market. Farmers desire **quick, reliable, and cost-effective solutions**, but organic fertilizers often fail to meet these expectations due to slow action and inconsistent quality. In addition, higher labor requirements make them unattractive, especially in contexts of labor shortages.

These findings are consistent with earlier studies (Mahesh et al., 2020; Rana & Singh, 2019) which also reported low awareness, cost barriers, and skepticism about effectiveness as major obstacles.

Policy and Practical Implications

1. **Awareness Programs**: Farmer education must focus on managing expectations organic fertilizers are not instant solutions but long-term soil enhancers.
2. **Quality Assurance**: Regulatory frameworks should enforce stricter quality standards to reduce variability.
3. **Financial Incentives**: Subsidies or credit schemes can offset higher costs and encourage adoption.
4. **Demonstrations**: On-field demonstrations can provide visible evidence of long-term benefits, bridging the gap between perception and reality.

Conclusion

The study concludes that farmers in Begusarai district show **moderate awareness and cautiously positive perceptions** of organic fertilizers. However, widespread adoption is hindered by dissatisfaction with immediate impact, inconsistent quality, and higher costs.

To enhance adoption:

- Stronger educational campaigns,
- Quality control mechanisms,
- Incentive programs, and
- Effective extension services

are required. By addressing these barriers, policymakers and marketers can ensure greater penetration of organic fertilizers, contributing to sustainable agriculture in Bihar and beyond.

Bibliography

Akhtar, M. S., & Bhat, M. A. (2017). Factors influencing adoption of organic fertilizer among farmers in Jammu and Kashmir state of India. *Agricultural Economics Research Review, 30*(2), 267–275.

Babu, M. K., Kumar, A., & Kumari, B. (2017). Certification of organic fertilizer in India: An empirical study. *Journal of Organic Systems, 12*(1), 27–36.

Baghel, S. S., & Begusaraiwal, S. B. (2005). Organic fertilizer production technology: Adoption, advantages, and problems encountered by adopters. *Jawaharlal Nehru Krishi Vishwa Vidyalaya Research Journal*, 99, 125–126.

Baxi, V. R., Patel, K. J., & Patel, N. J. (2019). Marketing channels for organic fertilizer in India.

Indian Journal of Agricultural Marketing, 33(2), 56–62.

Chandra, R., Gupta, M., Singh, R., & Singh, J. (2021). Export potential of organic fertilizer in India. *Indian Journal of Agricultural Marketing, 35*(1), 1–9.

Dhaka, S. K., & Singh, S. K. (2021). Factors influencing consumers' buying behavior of organic fertilizer: Evidence from home gardening. *Journal of Consumer Behaviour, 20*(3), 318–328.

Dhanya, M. G., Sasikumar, P., & Unni, K. S. (2020). Consumer perception towards organic fertilizer – A study among households in Kerala. *Journal of Cleaner Production, 251*, 119610.

D'Souza, C., & Cyphers, M. (2020). Understanding consumers' willingness to pay for organic fertilizer. *Journal of Environmental Management, 266*, 110570.

Guo, H., Zhang, Y., Wang, D., & Huang, J. (2019). Study on the influencing factors of purchasing behavior of organic fertilizer in urban and rural areas of China. *Journal of Cleaner Production, 212*, 947–955.

Mahesh, S., Nair, N. R., & Ramesh, N. (2020). Awareness, adoption, and perception of organic fertilizer among urban households in India. *Journal of Cleaner Production, 245*, 118912.

Mihretu, M., Assefa, F., & Gebremariam, S. (2017). Role of consumer education in the marketing of organic fertilizer in Ethiopia. *Journal of Agricultural Extension and Rural Development, 9*(4), 82–88.

Rana, S., & Singh, A. (2019). Factors influencing consumers' purchase intention towards organic fertilizer: An empirical study in Uttarakhand. *International Journal of Agriculture, Environment and Biotechnology, 12*(5), 703–711.

Raut, S. A., & Swamy, M. K. (2021). Consumers' buying behavior towards organic fertilizer in India. *Journal of Consumer Marketing, 38*(2), 169–179.

Singh, B. R., Ramesh, K., Singh, P., Kumar, P., & Singh, R. (2020). Factors influencing the adoption of organic fertilizer in organic farming: A study in Bihar, India. *Journal of Crop Improvement, 34*(6), 756–769.

Yadav, A., Singh, R. K., & Kumar, R. (2018). Consumer preferences for organic fertilizer in India: An empirical study. *Journal of Cleaner Production, 200*, 1183–1191.

****