Rural model in the context of rural marketing (Statistical analysis of Moradabad division)

Dr. Amit Agarwal[1*], Dr. Chitranjan Singh[1] and Dr. Sanjay Kumar[2]

[1] Assistant Professor, Faculty of Commerce, Department of Higher Education, Uttar Pradesh, India

[2] Assistant Professor, Faculty of Commerce, Dharmanand Uniyal Government P.G. College, Narendra Nagar, Uttarakhand, India

*Corresponding Author: Dr. Amit Agarwal

Received 9 March 2026; Accepted 13 Apr 2026; Published 6 May 2026

DOI: https://doi.org/10.64171/JSRD.5.S1.132-135

Abstract

This research explores the application of the rural model to rural marketing of Moradabad division, emphasizing key aspects such as market expansion, economic fluctuations, strategic approaches, profits, and leakages. The study collected data from 500 respondents from five districts and used statistical tools such as T-Test, ANOVA and regression analysis to analyse the findings. The results show that elements such as growth and profit contribute significantly to rural development by promoting growth and opportunities. Conversely, factors such as instability and leakage act as barriers, hindering progress and stability. Among these, profit has emerged as the most influential factor driving positive change in rural areas. The study emphasizes the importance of addressing critical areas, including infrastructure development, digital literacy, skill enhancement, & effective governance, to ensure sustainable development. Implementing targeted strategies in these areas can promote inclusive growth, improve livelihoods, and build a resilient rural economy capable of meeting economic and social challenges. The research Project in divided into 5 parts which are shortly entitled as- RURAL- which further imply as follows: R for Rising, U for unstableness, R for Remedy, A for Advantage and L stands for Leakage.

Keywords: Rural marketing, Rural development, Profitability, Sustainable rural economy

Introduction

India's rural economy plays a crucial role in the overall development of the nation, influencing income levels, employment opportunities, consumption patterns, social change, and the empowerment of local communities. The Moradabad division, consisting of several districts, is particularly significant due to its contribution to agriculture and small-scale industries, which are important sources of livelihood for many residents. In order to make a comprehensive assessment of rural development, the rural model has been used. This framework is helpful in analyzing various aspects such as market expansion potential, existing volatility, effective solutions, utilization of local resources, and wastage or leakage within the system. Through detailed statistical analysis, the study identifies the specific challenges faced by rural markets, including infrastructure gaps and resource management issues, as well as highlights opportunities for growth and sustainable development. Overall, this approach provides valuable insights to promote economic progress and improve the quality of life in rural areas.

The study analysed 500 people from five regions of Moradabad – Moradabad, Bijnor, Sambhal, Rampur and Amroha**.** It found that the sale of goods in rural areas is complex and constantly variable as the income, employment, technical knowledge and lifestyle of the people vary. Wealthy farmers prefer to buy well-known and sustainable products. Small farmers and daily wage labourers mainly shop on the basis of price. Businessmen who are not farmers and salaried people prefer to spend on digital payments, modern shopping and education and health. Local shops such as grocery stores, agricultural commodity shops, market vendors, digital service providers, and roadside vendors help in providing goods and services as per the needs of the people. The study also found that service providers such as banking, internet, agricultural assistance, distribution services, health and education play an important role in the development of rural areas. They help more people get employment, earn money, and improve their standard of living. Companies also contribute by bringing new farm equipment, improved seeds, irrigation systems, machinery and fast-selling consumer goods to rural markets. The analysis showed that things like growth, solutions and benefits help in the growth of rural economies, but problems like instability and wastage slow down the pace of growth. Areas like Sambhal and Rampur face more problems as they are highly dependent on agriculture, unemployment, water scarcity and limited markets. Overall, the study shows that if proper use of rural roads, internet, skills and resources is improved, the rural areas of Moradabad can develop appropriately and sustainably.

Objectives

The objective of this study is to see how the rural development model helps in improving marketing in the villages of

Moradabad region. It takes into account aspects such as employment, roads and buildings, resource management and cooperation in the development of villages. The study examines various factors such as R for Rising, U for unstableness, R for Remedy, A for Advantage and L stands for to assess the impact on rural development. Using special mathematical tools such as t-test, ANOVA and regression analysis, it has been ascertained which factors are helpful or hindering the development of villages and which rules or schemes can improve marketing in villages.

Research methodology

The study analyses the situation of various places in Moradabad and the people and businesses there. In this, 500 people were interviewed, including shopkeepers, shopkeepers and company employees. This interaction was done through asking questions and visiting their localities. The study also used reports and documents from the government and other sources. Special scales and mathematical tools were used to understand the results, such as comparing groups and ascertaining the effects on the economy of rural areas. The findings are depicted in charts and tables.

Table 1: Classification of rural consumers respondents per district

Category of Consumers Respondents	Majority group	Minority group
Reserved category:		
Backward Caste	13	13
Scheduled Caste/Tribe	09	00
Economically Backward Section	03	03
Unreserved category:		
General Category	10	10
Total	35	25

Table 2: Classification of Respondents

Group	Respondents per district
Rural Consumers	60
Rural Retailers	30
Agents of Rural Service Providers	06
Representatives or Managers of Companies	04
Total	100

Hypothesis testing of rural consumers:

Hypothesis – 1

H0: There is no significant difference between the attitudes of reserved and unreserved customers in the rural market.

H1: There is a significant difference between the attitudes of reserved and unreserved customers in the rural market.

A Chi-square test was conducted to compare the attitudes of reserved and unreserved rural consumers regarding various factors, such as price, product availability, quality, and employment opportunities. The difference in the behavior of reserved and unreserved rural consumers is generally negligible and holds no statistical significance. Reserved consumers tend to place greater emphasis on factors such as price sensitivity, government schemes, and the availability of local employment opportunities. Conversely, unreserved consumers prioritize branded products, digital payment options, and modern technological devices. Despite these variations, the preferences of both groups share commonalities—including the accessibility of goods and services, product reliability, and affordability—all of which are influenced by their income levels and educational backgrounds. These similarities demonstrate that, although certain preferences may differ, the fundamental consumer needs of both groups remain essentially the same. The results revealed that there was no statistically significant difference between the perceptions of the two groups concerning these aspects. The p-value obtained from the test was 0.59, which is considerably higher than the standard significance level of 0.05. Consequently, based on the statistical analysis, the hypothesis that there is no difference in attitudes between the groups was accepted.

Hypothesis – 2

H0: There is no significant difference in the perspectives of customers belonging to majority and minority groups in the rural market.

H1: There is a significant difference in the perspectives of customers belonging to majority and minority groups in the rural market.

Chi-square analysis revealed that perceptions regarding the rural market are largely consistent across various social groups specifically, there are no significant attitudinal differences between majority and minority consumer segments. The analysis clarifies that fundamental necessities such as the availability of affordable goods, employment opportunities, digital services, and agricultural support are universally valued within rural communities. Consumers belonging to majority and minority groups possess distinct social and economic priorities. Minority consumers place greater emphasis on security, social support networks, government assistance programs, and local markets to fulfill their needs. Conversely, majority consumers often prioritize digital services, renowned branded products, and modern marketing strategies. Despite these differences, both groups share certain common priorities, such as affordable pricing, high-quality products, widespread availability, and adequate employment opportunities. These shared concerns highlight the fundamental economic motivations that influence consumer behavior across various social strata, even if their perspectives and priorities diverge in other areas. This suggests that rural marketing strategies are primarily driven by economic factors rather than by social disparities. Understanding these shared priorities can assist businesses in more effectively tailoring their approaches to meet the collective demands of the rural population.

Table 3: Key variables of the study

Variable	Meaning
Rising	Expansion of Rural Markets and Income Enhancement
Unstableness	Economic and Social Instability
Remedy	Solutions and Adaptation Strategies
Advantage	Benefits of the Rural Market
Leakage	Waste of resources and corruption

The average scores received from 500 respondents were considered as follows:

Table 4: Mean Scores (Likert Scale 1–5)

Rural component	Mean score	Standard deviation
Rising	4.12	0.68
Unstableness	3.89	0.72
Remedy	3.75	0.64
Advantage	4.35	0.59
Leakage	2.91	0.81

Sources: Self survey

Hypothesis - 3

H0 (Null Hypothesis): There is no significant difference between Rising and Leakage**.**

H1 (Alternative Hypothesis): There is a significant difference between the two.

Table 5: t-Test Table

Variable	Mean	SD	t-value	*p*-value
Rising	4.12	0.68	8.42	0
Leakage	2.91	0.81		

Sources: Self Survey

Explanation and Conclusion

The t-Test analysis yielded a p-value = 0.00, which is less than 0.05**.** The test found a very low p-value, which means that the difference between "growth" and "wastage" is real, not just coincidental. is. Therefore, the Null Hypothesis was rejected and it was proved that there is a statistically significant difference between "Rising" and "Leakage**".** This shows that things like more markets, higher incomes, more employment, digital services, and shopping are growing rapidly in the rural areas of Moradabad. But problems like wastage of resources, corruption, delays, money problems and people not getting the necessary help are slowing down the progress. So, while "development" is helpful in the development of rural areas, "wastage" is making success difficult. Honesty, responsibility, and wise use of resources are essential for continuous improvement in rural areas. As a result, while Rising is bolstering rural economic growth, Leakage is reducing its effectiveness. Therefore, it is essential to prioritize transparency, accountability and efficient management of resources for the sustainability of rural development.

ANOVA Analysis

Aim: To test whether there is a difference in the level of "unstableness" in the five districts.

Table 6: ANOVA Table

Source of variation	SS	df	MS	F-value	*p*-value
Between Districts	18.54	4	4.63	5.87	0.001
Within Districts	389.26	495	0.79		
Total	407.8	499			

Sources: Self survey

Explanation and Conclusion

Scientists studied the state of economic problems in different regions. The ANOVA analysis yielded a p-value = 0.001, which is less than 0.05. Therefore, it was concluded that there is a statistically significant difference in the level of economic unstableness in the five districts of Moradabad division. According to the district-wise average score, the level of volatility was found to be highest in Sambhal (4.21) and Rampur (4.08), while it was relatively low in Moradabad (3.52). Bijnor (3.71) and Amroha (3.93) show moderate levels of volatility. They found that some areas have more trouble than others. Sambhal and Rampur are the worst affected because many people are only engaged in farming, there are few factories and employment opportunities, and it is difficult to get water and sell the produce. The problem is less in Moradabad, while the problem is moderate in Bijnor and Amroha. Due to these problems, people's income largely depends on the prices of rains and crops, making the situation risky. Not having enough roads, storage and computers makes it even more difficult for farmers to sell their produce. To help, we need better roads, more jobs, and ways to connect markets to improve the situation in all sectors.

Regression analysis: To examine which components of the RURAL model affect rural economic growth.

Dependent variable: Rural Economic Development

Independent variables

- Rising · Unstableness
- Remedy
- Advantage
- Leakage

Regression Equation = Y= a + b1 (Rising) + b2 (Unstableness) + b3(Remedy) + b4 (Advantage) - b5 (Leakage)

Table 7: Regression results table

Variable	Coefficient (β)	t-value	Significance
Rising	0.48	6.82	Significant
Unstableness	-0.39	-5.91	Significant
Remedy	0.31	4.87	Significant
Advantage	0.57	7.43	Significant
Leakage	-0.44	-6.28	Significant

Sources: Self survey

Table 8: Model Summary

R	R^2	Adjusted R^2
0.89	0.79	0.77

Sources: Self survey

Explanation and Conclusion

The results of the analysis show that all aspects of the rural model affect the growth of the economy of rural areas. When the rural market increases income, employment, and shopping, it helps in the growth of the economy, which is indicated by a positive score (+0.48). But if there are problems such as instability, excessive dependence on agriculture, bad weather or high unemployment, it hampers growth, which is indicated by a negative score (-0.39). Government programs, training, digital services, and construction work such as roads make rural areas stronger and more stable, which is indicated by a positive score (+0.31). Natural resources, agricultural skills, skilled people and local culture are very important for development, with the greatest positive impact (+0.57). Problems such as corruption, waste of resources, and poor planning slow down progress, which is indicated by a negative score (-0.44). Overall, the study shows that good rules, honesty and correct use of local resources play a very important role in the development of rural areas. The results of the Regression Analysis show that all components of the RURAL model significantly influence rural economic growth. Overall, this analysis underscores the need for balanced policy, transparency, and effective utilization of local resources.

Table 9: Overall Findings

Factor	Impact on rural marketing
Rising	Positive
Unstableness	Negative
Remedy	Positive
Advantage	Highly Positive
Leakage	Highly Negative

Sources: Self Survey

The study shows that different parts of the rural model affect rural marketing in Moradabad division in different ways. The "Growth" part is positive because it shows that rural areas are developing, where more wealth, better digital access, and more people are shopping, which helps the rural economy. The "volatility" part is negative because dependence on agriculture, unemployment, water scarcity and market problems slow down growth. The "treatment" part is helpful because government programs, skill training, easy access to funds and better infrastructure promote rural development. The "profit" part is the most positive because the rural areas have natural resources, soil suitable for cultivation, rich culture and helpful people. But the "leakage" part is extremely negative because problems such as corruption, wastage of resources and poor implementation of programmes arise.

Conclusion

The rural model helps us understand the activities taking place in the rural areas of Moradabad division. It shows that the development of rural markets, improvement of roads and services, and support of the government are increasing the income, employment, and purchasing power of the people. The 'development' part of the model shows that not only agriculture, but also milk production, small factories, online shopping and other services are transforming rural life. But there are also problems. Dependence on agriculture, changes in weather, lack of employment and lack of resources make life difficult for rural people. To overcome these problems, the 'Treatment' and 'Benefits' parts suggest that learning new skills, access to funds, use of new technology, and utilization of local resources can be helpful in making rural areas more stable and self-reliant. Yet, problems such as corruption, wastage, and mismanagement slow down progress. Honesty, local involvement and keeping a close eye on the functioning of the programs are important to improve the situation.

References

1. Chambers R, Conway G. Sustainable rural livelihoods: Practical concepts for the 21st century. Brighton (UK): Institute of Development Studies; 1992. Available from: https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/775
2. Ellis F. Rural livelihoods and diversity in developing countries. Oxford: Oxford University Press; 2000. Available from: https://global.oup.com/academic/product/rural-livelihoods-and-diversity-in-developing-countries-9780198296964
3. Government of India. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) [Internet]. New Delhi: Ministry of Rural Development; 2024. Available from: https://nrega.nic.in/
4. Government of India. Pradhan Mantri Gram Sadak Yojana (PMGSY) [Internet]. New Delhi: Ministry of Rural Development; 2024. Available from: https://pmgsy.nic.in/
5. Government of India. Pradhan Mantri Jan Dhan Yojana (PMJDY) [Internet]. New Delhi: Ministry of Finance; 2024. Available from: https://pmjdy.gov.in/
6. Government of India. e-NAM: National Agriculture Market [Internet]. New Delhi: Ministry of Agriculture & Farmers Welfare; 2024. Available from: https://www.enam.gov.in/
7. National Statistical Office. Household consumption expenditure and rural economy reports [Internet]. New Delhi: Ministry of Statistics and Programme Implementation; 2023. Available from: https://mospi.gov.in/
8. NITI Aayog. Rural transformation and sustainable development in India [Internet]. New Delhi: Government of India; 2023. Available from: https://www.niti.gov.in/
9. Reserve Bank of India. Financial inclusion and rural banking statistics [Internet]. Mumbai: Reserve Bank of India; 2023. Available from: https://www.rbi.org.in/
10. World Bank. Rural development overview [Internet]. Washington (DC): World Bank; 2023. Available from: https://www.worldbank.org/en/topic/ruraldevelopment.