

# Krishak Bazaar: Revolutionizing the Agricultural and Gardening Sectors

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**Abstract:** *The agricultural and gardening sectors are vital to economic growth and food security but face numerous challenges such as inefficient resource utilization, limited access to quality products, and inadequate technological integration. This paper presents "Krishak Bazaar," an e-commerce platform designed to empower farmers and gardeners by simplifying access to agricultural products such as seeds, fertilizers, baby plants, and equipment. The primary objectives of the platform are to promote sustainability, enhance productivity, and improve livelihoods. Through a combination of user-friendly technology, convenience sampling surveys, and tailored features, this study explores the platform's potential to transform the agricultural landscape in West Bengal. The findings highlight key challenges, user needs, and the future scope of technological interventions in agriculture.*

**Keywords:** E-commerce, Agriculture, Gardening, Soil Health Monitoring, Precision Farming, Sustainable Practices, Digital Tools, Labor Registration, Yield Estimation, Virus Control, Agricultural Technology.

## I. INTRODUCTION

The agricultural sector in India serves as a backbone for the nation's economy, employing over 40% of the population. However, despite its importance, the sector continues to face persistent challenges, including limited access to quality inputs, labor shortages, and a lack of digital tools to aid decision-making. Similarly, gardening as a practice has gained popularity among urban and rural populations, necessitating an accessible platform for related products.

"Krishak Bazaar" aims to address these issues by providing an e-commerce platform specifically tailored to the needs of farmers and gardeners. The platform offers agricultural products and services while integrating innovative features such as soil health assessment tools, yield estimation, and labor registration systems. This paper discusses the project's objectives, methodology, results, and its broader implications for the agricultural and gardening sectors.

## II. LITERATURE REVIEW

E-commerce platforms have revolutionized retail sectors globally; however, their adoption in agriculture remains limited. Previous studies highlight a significant gap in technology adoption among small-scale farmers, primarily due to lack of awareness and infrastructure (Reddy et al., 2020). Platforms such as "AgroKart" and "Dehaat" have attempted to address this gap but face limitations in scalability and user engagement.

Research by Mishra et al. (2021) emphasizes the role of technology in improving productivity and sustainability in agriculture. Meanwhile, tools for soil health monitoring and precision farming have proven effective in mitigating risks associated with crop failure (Kumar & Singh, 2019). Despite these advancements, there is a need for localized, user-friendly platforms that cater to specific regions and demographics. "Krishak Bazaar" aims to fill this gap by focusing on the unique challenges faced by farmers in West Bengal.

## III. METHODOLOGY

This study employed a mixed-methods approach, combining primary data collection through convenience sampling surveys and secondary data from literature and market analysis.

### 3.1 SURVEY DESIGN

The survey targeted farmers and gardeners across districts such as South 24 Parganas, North 24 Parganas, PurbaBardhaman, East Medinipur and West Medinipur . Questions were categorized into four themes:

- Land and farming practices
- Technological needs and usage
- Virus control and pest management
- Labor and resource challenges

### 3.2 SAMPLING

Convenience sampling was employed to gather data from 150 respondents across different districts. Participants included small and medium-scale farmers as well as hobbyist gardeners.

### 3.3 DATA ANALYSIS

Quantitative responses were analyzed using statistical tools to identify trends, while qualitative data was coded thematically to understand user preferences and pain points.

## IV. RESULT AND DISCUSSIONS

### 4.1 KEY FINDINGS

Land and Farming Practices: 70% of respondents owned small to medium-sized plots (less than 5 acres). Only 30% regularly tested soil pH levels, highlighting the need for affordable and accessible soil testing tools.

Technological Needs: 80% expressed interest in online tools for soil health monitoring, weather updates, and yield estimation. However, 65% indicated a lack of familiarity with e-commerce platforms.

Virus Control: Over 50% of farmers faced virus-related crop issues but relied primarily on fellow farmers and local markets for information. An online service for virus identification and control received a 75% approval rate.

Labor Challenges: 60% of respondents struggled to find labor during peak seasons. A labor registration feature was viewed as a potential solution by 85% of participants.

### 4.2 DISCUSSION

The results underscore the untapped potential of digital tools in agriculture. By integrating features such as soil health monitoring, weather updates, and labor allocation, "Krishak Bazaar" addresses critical user needs. The platform's design must prioritize accessibility and user education to overcome barriers to adoption.

## V. CONCLUSION , FUTURE SCOPE AND LIMITATIONS

### 5.1 CONCLUSION

"Krishak Bazaar" offers a unique opportunity to revolutionize the agricultural and gardening sectors by addressing key challenges faced by farmers and gardeners. Through its user-friendly design and innovative features, the platform aims to enhance productivity, promote sustainability, and improve access to quality resources.

### 5.2 FUTURE SCOPE

Future developments could include:

- Mobile application integration for greater accessibility
- AI-powered crop health diagnostics
- Partnerships with government programs for subsidies and training

### 5.3 LIMITATIONS

The study's reliance on convenience sampling limits its generalizability. Further research is needed to validate findings across diverse demographics and regions.

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