"Agrisell Application"

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ABSTRACT:

In India, the majority of farmers have limited avenues for selling their produce, often relying on government-regulated markets known as mandis. Unfortunately, these markets are heavily influenced by intermediaries who claim a substantial share of the profits, leaving farmers with minimal earnings. A report by Goldman Sachs highlights the dominance of middlemen in the agricultural sector and their adverse impact on farmers' incomes. Despite the significant time, effort, and financial investments farmers put into cultivating their crops, intermediaries often take as much as 70% of the profits, severely affecting their livelihoods. To address this issue, we propose the development of a mobile application that serves as a direct marketplace connecting farmers with retailers and consumers. This platform eliminates the need for middlemen, ensuring farmers receive a fair price for their produce. Additionally, consumers benefit from access to fresh farm products at competitive prices, creating a win-win situation for both parties.
Keywords*-Farmers, India, Profit, Markets, Middleman, Crops, Produce etc.*

I. INTRODUCTION

Agriculture is a cornerstone of India's economy, employing a substantial portion of the population either directly or indirectly. According to the 2011 Census, millions of farmers and agricultural workers collectively contribute to this vital sector, emphasizing its importance for livelihoods and economic growth. Despite their pivotal role, farmers often struggle to access profitable markets due to the dominance of intermediaries who diminish their earnings. This long-standing issue, rooted in outdated systems, has left farmers with limited financial rewards for their efforts.

The emergence of mobile technology presents a promising solution to these challenges by enabling farmers to connect directly with buyers and reduce reliance on middlemen. Evidence from global studies highlights the potential of mobile phones to enhance market access and agricultural practices. Building on this concept, the AgriSell application offers an innovative platform for Indian farmers to advertise their produce, communicate with buyers, and facilitate fair trade. By leveraging technology, AgriSell aims to empower farmers, improve market transparency, and create a more equitable agricultural economy.

II. OBJECTIVES

1. Enhance Market Access: Provide farmers direct access to broader markets through a digital platform.
2. Build Trust: Implement features like unique barcodes and trust factors based on feedback.
3. Facilitate Fair Pricing: Enable transparent negotiations and cost calculations.
4. Promote Sustainability: Encourage farmers to adopt sustainable practices.

5. Increase Technology Adoption: Design a user-friendly interface for farmers with limited digital experience.

III. LITERATURE REVIEW:

1. Ahmad, K. & Zafar (2022): Explored how middlemen impact farmer profits, highlighting logistical support but significant profit loss.
2. Rodriguez et al. (2020): Demonstrated increased sales and reduced intermediary reliance through digital platforms, though smaller farmers faced technology adoption challenges.robot performance due to battery limitations.
3. Lee & Park: Focused on organic crops, analyzing market pricing and sustainability, with limited applicability to conventional farming.
4. Kumar et al. (2018):Focused on trust is a critical factor in the success of online marketplaces. Feedback systems, verified profiles, and reliable payment methods contribute significantly to user confidence.

IV. METHODOLOGY:

The proposed system is based on the development and deployment of a mobile application designed for accessibility and functionality:

System Architecture: The application includes a client-server model where farmers and buyers interact through an intuitive user interface, backed by secure and scalable server infrastructure.

1. **Sign-Up Portal**: Farmers and buyers register by providing relevant details. Farmers input crop type, quantity, and transportation options. Buyers specify preferences for produce.
2. **Login and Dashboard**: Users log in to access customized dashboards. Farmers can post crop advertisements, and buyers can view listings and make purchase requests.
3. **Search and Filters**: Buyers can search for produce using filters such as crop type, price range, and location. Transportation availability is factored into cost calculations.
4. **Transaction Mechanism**: The app supports secure payment gateways and generates digital receipts. Feedback and ratings build trust and influence visibility in the marketplace.
5. **Data Analytics**: Insights from user data and transaction patterns help optimize crop pricing and improve user experience. Predictive analytics may also assist farmers in decision-making.
6. **Technology Stack**: The app is built using Android for mobile accessibility,employs robust back-end technologies to ensure smooth operations.

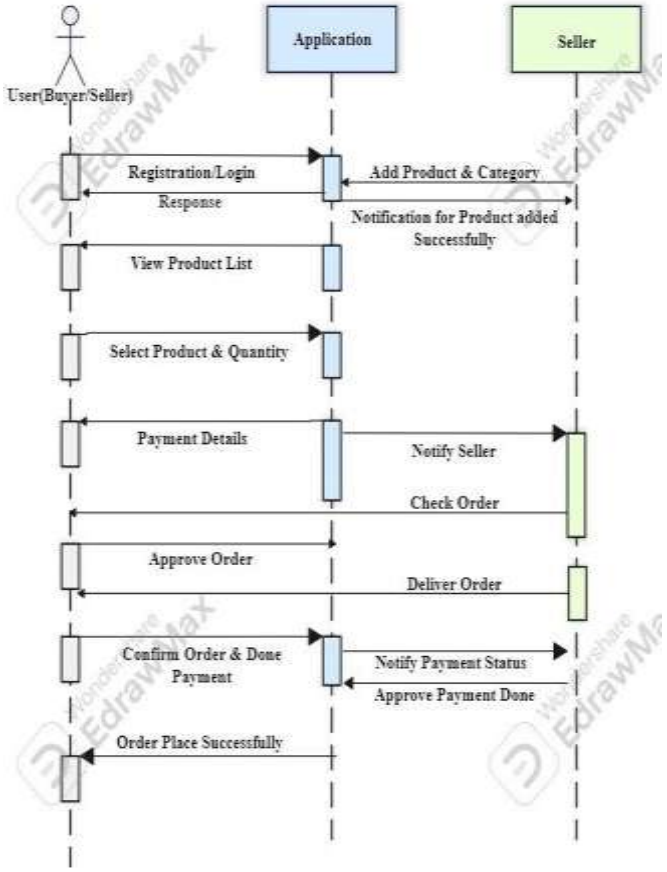

Fig-1.Workflow of AgriSell System

V. WORKING PRINCIPLE

The AgriSell system enables farmers and buyers to interact seamlessly via a mobile platform, eliminating intermediaries and promoting transparency in agricultural trade. The workflow is divided into several key steps as follows:

1. **Login/Registration**:Users (farmers and buyers) begin by registering or logging into the application. This ensures secure access to the platform.
2. **For Farmers**:

a. **Add Products**: Farmers list their available crops by entering details such as type, quantity, and price.
b. **Verification**: Farmers verify and confirm their product listings to make them visible to buyers.

3. **For Buyers**:

a. **Browse and Select Products**: Buyers browse through the list of available products, apply filters if needed, and select the desired items.
b. **Select Quantity**: Buyers specify the required quantity of the selected product.
c. **Place Order**: Buyers finalize their purchase by placing an order.

4. **Order Management**:

a. Once an order is placed, it enters a "Pending" status until the farmer reviews it.
b. Farmers review, verify, and confirm the order, ensuring mutual agreement on price, quantity, and delivery details.

5. **Payment and Completion**:

a. After order confirmation, buyers make payments through secure payment gateways integrated into the platform.
b. The order is marked as "Placed," and the transaction is completed.

This workflow ensures a streamlined and transparent process, empowering farmers to manage their sales independently while providing buyers with a hassle-free experience. The system focuses on trust-building, efficient communication, and equitable trade practices.

VI. FLOWCHART

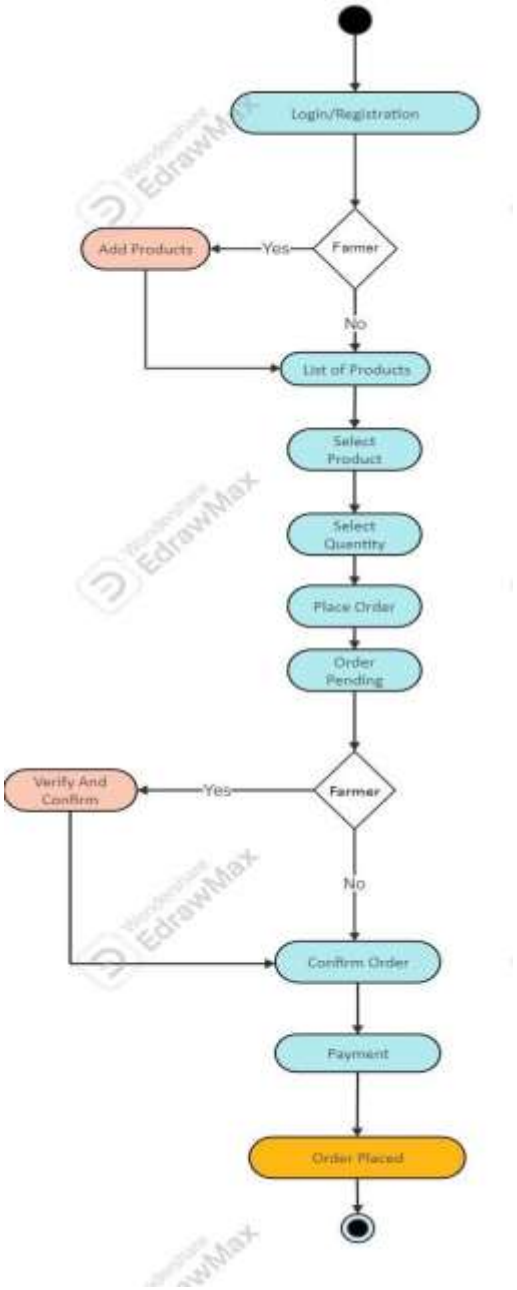

Fig 2.Flowchart

VII. CONCLUSION

The AgriSell platform addresses key issues faced by farmers in achieving fair compensation for their crops by establishing a direct connection with consumers, effectively removing intermediaries. With an emphasis on increasing farmers' profitability, the system fosters trust and transparency in buyer-seller relationships. By empowering farmers to take charge of their sales through enhanced communication features, AgriSell bridges the gaps in existing market structures. This non-profit initiative not only resolves limitations of

traditional methods but also builds consumer trust and encourages collaborative marketing among small-scale farmers. By promoting fairness and sustainability, AgriSell creates a balanced agricultural marketplace that benefits both producers and consumers a like.

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