

## Digital Platform for Farmers

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Farming today is no longer confined to age-old methods handed down through families. The rise of digital platforms is reshaping agriculture by delivering vital information, market access, and essential services straight to farmers through their mobile devices. Acting like virtual assistants, these platforms guide farmers in making informed choices, lowering risks, and boosting earnings. Mobile applications, websites, and online services now provide real-time updates on weather conditions, crop management practices, market trends, and government programs. By blending traditional agricultural wisdom with modern digital tools, farmers gain the ability to cultivate more efficiently and sustainably. Ultimately, the future of agriculture is rooted not only in the fields but also in the digital solutions farmers carry in their hands.

### Weather Information

Weather remains one of the most uncertain yet vital aspects of farming. A single extreme event such as drought, flooding, or a cyclone can undo months of effort in the fields. To help farmers prepare, digital platforms now provide:

- Localized daily and weekly forecasts specific to their region.
- Alerts on rainfall and temperature changes, guiding irrigation and fertilizer application. Early warnings about natural disasters like floods, droughts, or cyclones, allowing preventive action.



Services from the Indian Meteorological Department (IMD) along with private providers such as Sky met Weather deliver highly detailed, location-based forecasts straight to farmers' mobile devices. With this information, farmers can plan the timing of sowing, watering, and harvesting more effectively, thereby minimizing losses and improving productivity.

### Crop Advisory and Guidance

- Digital platforms are reshaping how farmers receive crop-related advice by acting as portable extension services. Instead of relying solely on local officers or traveling long distances for guidance, farmers can now access expert knowledge instantly through mobile apps and online portals. Seasonal crop calendars and recommended practices tailored to different crops.

### Crop Planning and Calendars

- These platforms provide seasonal crop schedules that outline the best times for sowing, irrigation, and harvesting.
- They also share packages of practices (PoPs) step-by-step instructions covering land preparation, seed selection, water management, and pest control.

- Farmers can adapt these calendars to suit their soil type, climate, and regional conditions.
- Nutrient and fertilizer management suggestions that promote efficient and balanced input use.
- Options for direct communication with specialists, enabling farmers to consult experts without leaving their villages.



By providing these services digitally, farmers save time, reduce costs, and gain access to reliable advice whenever they need it.

### **Pest and Disease Management**

- Farmers can upload photos of affected plants, and apps use AI-based recognition tools to identify pests or diseases.
- Many platforms issue alerts about pest outbreaks in nearby areas allowing farmers to take preventive measures.
- Recommendations focus on judicious pesticide use, helping reduce costs and environmental damage.

### **Market Prices and Better Income**

Price fluctuations remain one of the biggest hurdles for farmers. Many are compelled to sell their crops at unfavourable rates due to limited access to market information or exploitation by middlemen. Digital platforms help overcome this challenge by

- Providing daily price updates from APMCs and local markets.
- Highlighting demand patterns for various crops, enabling farmers to select more profitable options.
- Facilitating direct connections between buyers and sellers, reducing reliance on intermediaries.
- Supporting timely sales decisions, which prevent distress selling and ensure better returns.

A notable example is the National Agriculture Market (e-NAM), which links farmers with buyers across the country. By offering transparent pricing and wider market access, it empowers farmers to choose the right time and place to sell, ultimately maximizing their income.

### **Easy Access to Inputs and Services**

Digital platforms make it far easier for farmers to obtain the agricultural inputs and services they need.

- Seeds, fertilizers, pesticides, and even farm machinery can be ordered online.
- Soil testing can be scheduled digitally, with results delivered directly through mobile applications.
- Crop insurance and subsidy claims are accessible without the burden of paperwork.
- Applications such as Agri App and Kheti Buddy combine advisory services
- E-commerce, enabling farmers to purchase inputs while receiving expert guidance in one place. This approach saves time, reduces travel expenses, and minimizes reliance on middlemen.

### **Government Initiatives Supporting Digital Farming**

Recognizing the transformative role of digital agriculture, governments across the world are promoting technology-driven solutions. In India, several initiatives have been introduced:

- e-NAM (National Agriculture Market) to ensure transparent market linkages.
- Kisan Suvidha and PM-Kisan portals to provide scheme benefits and financial support.
- Digital soil health cards to guide nutrient management.

- Weather apps and SMS alerts to deliver timely climate information.
- These programs are designed to make services more transparent and accessible, particularly for small and marginal farmers who represent the majority of India's agricultural community.

### Benefits of Digital Platforms for Farmers

Digital platforms offer a wide range of advantages:

- Access to timely and accurate information reduces uncertainty.
- Early warnings and expert advisory lower production risks.
- Improved market access enhances profitability.
- Optimized input use increases overall productivity.
- Smallholders are empowered, helping bridge the gap between rural and urban communities.

By integrating technology into everyday farming, these platforms enable a shift from subsistence practices to smart, sustainable, and profitable agriculture systems.

### Challenges and Future Direction

Despite their benefits, digital platforms face certain obstacles. Limited internet connectivity in rural areas, low levels of digital literacy, and language barriers restrict their reach. Expanding rural internet services, developing user-friendly apps in local languages, and conducting farmer training programs can help overcome these challenges and ensure wider adoption.

### Conclusion

Digital platforms are emerging as powerful tools in modern agriculture. By blending traditional farming knowledge with digital innovations, farmers can move toward more sustainable, efficient, and profitable practices. The future of agriculture lies not only in the fields but also in the digital solutions farmers carry in their pockets.

### References

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