

Empowering Indian Farmers: The Digital Leap with Kisan Sarathi.

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Introduction: The Digital Revolution in Indian Agriculture

India's agricultural sector is undergoing a transformative change driven by the rapid expansion of smartphones and digital connectivity in rural areas. By 2024, over 68% of rural households had access to mobile phones, with approximately 42% owning smartphones (India Internet Report, 2023; Singh & Kumar, 2022). States like Maharashtra, Punjab, Karnataka, Andhra Pradesh, and Telangana show particularly high adoption of agriculture-centric mobile apps, with up to 60% of farmers actively using these platforms (India Internet Report, 2023).

At the national scale, about 50% of Indian farmers own smartphones, and rural internet penetration has reached 45% as of 2024 (India Internet Report, 2023). Cyber extension initiatives such as m-Kisan and Kisan Call Centre collectively serve over 40 million farmers annually, providing essential advisories on weather, pest management, market prices, and government schemes (Ministry of Agriculture & Farmers Welfare, 2023). Kisan Sarathi, launched as part of this digital initiative, has rapidly grown beyond Telangana, boasting over 2 million registered users nationwide by 2025, and is emerging as India's premier platform for farmer advisory services (Digital India Corporation, 2024).

Historical Perspective: Role of the Kisan Call Centre

The Kisan Call Centre (KCC), launched in 2004 by the Ministry of Agriculture and Farmers Welfare, was India's pioneering toll-free telephonic advisory system for farmers (MoA&FW, 2004). Operating through a helpline (1800-180-1551), KCC offers advice in over 22 local dialects and has long been a vital resource.

In Telangana, particularly in the Mahaboobnagar district, studies highlight the positive impact of KCC: 73% of farmers found it accessible, 83% reported cost savings from implementing expert advice, and 76% credited it with pest and disease management benefits (Kavitha & Anandaraja, 2018). Nationally, KCC handles over 5 million calls annually, indicating its broad reach.

Despite these achievements, KCC's voice-only communication limits broader usability. Peak-time queues and lack of multimedia interaction options — such as sending photos or videos for diagnosis — restrict responsiveness and lower engagement, especially among increasingly smartphone-literate farmers (ICAR, 2022; National Academy of Agricultural Research Management, 2022).

Kisan Sarathi: The Next Generation Cyber Extension Service

- Developed by the Digital India Corporation, under the Ministry of Electronics and Information Technology, in partnership with the Indian Council of Agricultural Research (ICAR) and the National Agricultural Research System (NARS), Kisan Sarathi represents the future of digital agricultural extension (Digital India Corporation, 2024).
- Kisan Sarathi is a cloud-enabled platform available both as a mobile app and web portal, offering:

- A multilingual, user-friendly interface accommodating farmers across linguistic backgrounds.
- Multimodal query options: farmers can submit questions via text, voice recordings, or upload crop images for expert diagnosis.
- An AI-powered expert matchmaking system that routes queries to relevant agronomists and scientists.
- Personalised dashboards to track queries and responses.
- Push notifications with region-specific advisories, market updates, and weather alerts.
- Live video sessions for interactive expert-farmer engagement during key cropping periods.

Beyond Telangana, Kisan Sarathi has empowered farmers in states like Uttar Pradesh, Maharashtra, and Karnataka. For example, rice farmers in Maharashtra's Ahmednagar district reported a 15% increase in yield after timely advisories on weather and pest outbreaks (Parashar, 2023; Digital India Corporation, 2024). The platform supports over 15 major Indian languages, catering to farmers across diverse agro-climatic zones.

In Telangana specifically, 90% of smartphone users rated the app's advisory responses as timely, and 80% found it user-friendly (Parashar, 2023).

Role of different stakeholders in Kisan Sarathi initiative:

Stakeholder	Primary Role	Core Function
Farmers	End-User / Beneficiary	Seeks personalized advice on farming, submits queries, and receives multimedia solutions.
KVK Experts / Scientists	Knowledge Provider	Provides authenticated, location-specific advisories on crops, pests, and allied areas.
Ministry of Electronics & IT (MeitY)	Technology Partner	Develops and maintains the digital platform (the app, web portal, and technical system).
Ministry of Agriculture & FW	Policy & Oversight	Defines the strategic goals for farmer welfare and integrates the platform with government schemes.
ICAR / Krishi Vigyan Kendras (KVKs)	Expertise Network	Mobilizes the pool of subject matter specialists and ensures the quality of agricultural content.

User experiences of Kisan Sarathi:

Case Study 1: A smallholder farmer in Karimnagar district used Kisan Sarathi to diagnose an unusual fungal disease via photo upload. Timely expert advice helped save the season's cotton crop, resulting in a 12% yield enhancement.

Case Study 2: In Warangal, a group of horticulture growers utilised live sessions on Kisan Sarathi to learn precision pesticide application techniques, resulting in a 30% reduction in chemical use and a 15% decrease in costs.

These stories underscore how cyber extension, when paired with smartphones, empowers farmers by bridging knowledge and access gaps.

Beware of unauthorised or misinformation over social media:

While digital connectivity offers immense opportunities, it has also facilitated the spread of misinformation through social media. Examples include:

- Viral unscientific pest control remedies are causing crop damage and health risks.
- Misleading market price tips are causing economic losses.
- Hazardous misuse of chemical fertilisers is undermining soil health.
- Promotions of ineffective or counterfeit seeds and inputs.

An all-India survey found approximately 30% of rural farmers suffered financial or crop losses linked to false social media advice (Singh & Kumar, 2022). Thus, authentic advisory platforms such as Kisan Sarathi and mKisan serve as vital bulwarks, delivering verified and context-specific information based on scientific research and local conditions (Ministry of Agriculture & Farmers Welfare, 2023).

Comparative Analysis: Kisan Sarathi vs. Kisan Call Centre

Feature	Kisan Call Centre	Kisan Sarathi
Communication Modes	Voice calls only	Voice, text, images, video
Languages Supported	22 dialects	Multiple regional languages, flexible UI
Query Tracking	No	Yes, via personalised dashboard
Multimedia Support	None	Image upload, video sessions
Advisory Speed	Limited by call queues	Near real-time responses
Integration	Standalone	Unified platform linked to PM-Kisan, ICAR, and KVK
User Satisfaction	Moderate	High (90% timely response)

Prospects and Challenges

The future of digital agriculture lies in harnessing emerging technologies like Artificial Intelligence, Internet of Things (IoT), and predictive analytics. Kisan Sarathi aims to evolve by including:

- AI-driven personalised advisory services.
- Integration of satellite and drone data for crop monitoring.
- Linking farmers to input suppliers and market platforms.
- Enhancing data privacy and trust through transparent governance.
- Push messages for timely decision making.

Challenges include ensuring digital literacy across diverse farmer demographics, extending internet access, and maintaining high-quality expert advisory availability. Fake or an authorised information spread by various digital influencers.

FAQs while using Kisan sarathi

- 1. How can I ask a question?** Use the mobile app, call the toll-free number (18001232175 or 14426), or visit your local KVK.
- 2. Who gives the advice?** Experts from ICAR and KVKs—real scientists with local knowledge.
- 3. What info can I get?** Crop information, pest control, weather updates, mandi prices, and scheme details.
- 4. What languages are supported?** Many Indian languages—ask and receive advice in your own tongue.
- 5. How is this better than a phone call?** You can send photos/videos, get personalized responses, and track your query until it's resolved.
- 6. Is it available on IOS too?** So, far No. it is available in only Google play store.

Conclusion: Unleashing Digital Agriculture for Inclusive Growth

India's agricultural sustainability and food security depend on empowering farmers with authentic information and modern tools. Kisan Sarathi, built with government expertise and collaborative innovation, surpasses traditional helpline services by offering multimodal, multimedia, and personalised extension support. Especially in states like Telangana, it transforms remote advisory into real-time, actionable knowledge. To realise the full potential of digital agriculture, stakeholders must collaborate: farmers must register and engage with platforms like Sarathi, extension officers must promote digital literacy, and policymakers must sustain investments in infrastructure. Only then can India's farmers harness the twin powers of technology and knowledge for a prosperous future.

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