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Kisan Mobile Sandesh: ICT Based Tool for Sustainable Agriculture

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Kisan Mobile Sandesh (KMS), launched under the mKisan portal by the Ministry of Agriculture and Farmers' Welfare, delivers SMS-based advisories in regional languages covering crops, weather, pests, schemes, and farming practices. This ICT initiative provides location-specific and crop-specific guidance, offering essential advisory services to farmers in targeted areas. Initially introduced in 2007 in Chhindwara District, Madhya Pradesh, KMS was later adopted in October 2008 by various Krishi Vigyan Kendra (KVKs) in Chhattisgarh, including KVK Bhatpara. Currently, it has emerged as the largest ICT-driven agricultural initiative in Chhattisgarh, delivering timely farm advisories to farmers. The platform enables farmers to make informed decisions, improve production and productivity, and better align agricultural output with market demands, thereby achieving higher quality produce and improved price realization in a competitive agrarian economy (Parganiha et al., 2012). In the 21st century, modern information and communication technologies (ICTs), such as mobile phones and computers, have revolutionized the dissemination of agricultural information. Cost-effective and efficient ICT tools are crucial for adapting to the evolving agricultural landscape. Telecentres and mobile applications play a key role in transferring knowledge to rural farmers. Since the 1990s, telecentres have been tested as a model to provide ICT access to rural communities, including farmers, and research suggests that mobile connectivity has contributed to improving livelihoods and supporting poverty reduction (Singh et al., 2021). Information and Communication Technology (ICT) is a modern technology tool which facilitate the creation, management, storage, retrieval, and dissemination of any relevant data, knowledge, and information that may have already been processed and adapted (Panda *et al.*, 2019). WhatsApp Messenger a cross-platform messaging app which allows users to exchange messages, audio, video, photographs (Nain *et al.*, 2019).

Use of Kisan Mobile Sandesh

1. **Access to Timely Information**- Provides real-time advisories on crop production, pest and disease management, fertilizer application, irrigation, and weather conditions.
2. **Localized & Easy-to-Understand Messages-** Messages are delivered in local languages, making them farmer-friendly. Reduces dependence on middlemen or extension officers for technical advice.
3. **Cost-Effective Extension Service-** Reaches a large number of farmers at once at low cost. Saves farmers' time and money otherwise spent on visiting extension centres.
4. **Enhanced Technical Knowledge-** Improves farmers' awareness of modern farming practices, sustainable inputs, and government schemes. Encourages scientific decision-making in agriculture.
5. **Weather & Risk Management-** Provides weather forecasts and early warnings (rainfall, temperature, drought, floods).

6. **Market Linkages & Price Information-** Updates about market prices of crops and nearby mandis. Enables farmers to sell produce at better prices and avoid exploitation.
7. **Promotes Sustainable Agriculture-** Encourages eco-friendly practices like integrated pest management (IPM), organic farming, and judicious use of fertilizers and water. Supports climate-resilient agriculture.
8. **Bridging the Extension Gap-** Addresses the shortage of extension staff by delivering expert advisories directly to farmers' phones. Ensures even remote and small farmers get access to expert knowledge.

Benefits of Kisan Mobile Sandesh

1. **Timely Advisory** – Provides real-time information on crops, pests, diseases, and weather.
2. **Regional Language Support** – Messages are delivered in local languages for easy understanding.
3. **Location & Crop-Specific Guidance** – Offers tailored advice based on region and type of crop.
4. **Improves Productivity** – Helps farmers make informed decisions, enhancing yield and crop quality.
5. **Promotes Sustainable Practices** – Encourages eco-friendly farming, water conservation, and judicious use of fertilizers.
6. **Market Awareness** – Provides updates on government schemes, market prices, and demand trends.
7. **Bridges Extension Gap** – Connects farmers with expert knowledge, even in remote areas, in a cost-effective way.

Conclusion

Kisan Mobile Sandesh (KMS) has emerged as a pivotal ICT-based tool that strengthens the link between agricultural research, extension services, and farmers. By providing timely, location-specific, and easily understandable advisories directly to farmers' mobile phones, KMS enhances their technical knowledge, decision-making abilities, and awareness of modern agricultural practices. It addresses the traditional limitations of extension systems, such as limited manpower, delayed information flow, and restricted reach, thereby contributing to more sustainable agricultural practices. The use of KMS has demonstrated significant potential in improving farmers' understanding of crop management, pest and disease control, nutrient management, climate adaptation, and market information. Its accessibility and convenience make it especially valuable for small and marginal farmers, empowering them to adopt innovative and resource-efficient technologies. However, the effectiveness of KMS is moderated by factors such as digital literacy, socio-economic constraints, network connectivity, and the relevance of advisory content.

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