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Profile characteristics of farmers utilising kisan sarathi services in Srikakulam district of Andhra Pradesh

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ABSTRACT

Kisan Sarathi is a multi-modal, ICT-enabled platform launched by the Government of India to provide real-time, location-specific agricultural advisories to farmers through mobile applications, Interactive Voice Response Systems (IVRS), and web portals. It supports both push-based communication, where advisories are proactively sent to farmers, and pull-based communication, where farmers can seek information based on specific needs. By offering information in regional languages and using multimedia formats, it ensures accessibility and comprehension among rural users. The platform is supported by key institutions such as the Acharya N.G. Ranga Agricultural University (ANGRAU), the Indian Council of Agricultural Research (ICAR), and Krishi Vigyan Kendras (KVKs), and plays a critical role in addressing pest outbreaks, climate variability, and crop management. Through timely and expert guidance, it enhances informed decision-making and promotes resilience in agriculture. The present study, conducted during 2024-25 in the Srikakulam district of Andhra Pradesh, aimed to assess the profile characteristics of farmers using the Kisan Sarathi platform. An ex-post facto research design was adopted as the variables under study could not be manipulated. Three mandals and six villages were purposively selected based on the intensity of Kisan Sarathi usage. A total of 120 farmers, including 20 primary users and 10 referral users from each village, were selected using the snowball sampling technique. Data was collected using a pre- tested interview schedule and analysed using statistical tools like frequency, percentage, and mean. The results showed that a majority of the farmers (65.83%) were middle-aged, marginal landholders (55.00%) and engaged in agriculture sectors (67.50%), with 16-30 years of farming experience (65.83%). Most respondents had medium levels of education, income, social participation, innovativeness, scientific orientation, mass media exposure, extension contact, and decision-making ability. These findings indicate that Kisan Sarathi is largely used by experienced, moderately educated farmers open to adopting technology, provided they receive adequate institutional support and training

Keywords: *Digital literacy, Farmer perception, Interactive voice response system, Kisan sarathi, Mo bile applications*

Kisan Sarathi is a transformative digital initiative launched by the Government of India to modernize and strengthen agricultural extension services by providing localized, real-time, and expert validated advisories to farmers. Recognizing that timely and accurate information is as crucial as physical agricultural inputs, the platform aims to bridge the persistent knowledge gap that often leaves smallholder farmers vulnerable to adverse conditions such as climate variability, pest infestations, disease outbreaks, and volatile market prices. Building on earlier innovations like the Annapurna Krishi Prasara Seva (AKPS), Kisan Sarathi leverages a combination of mobile applications, web portals, and Interactive Voice Response Systems (IVRS) to deliver crop-specific and regionally relevant guidance in local languages, thereby enhancing usability and accessibility for diverse farming communities. It operates through a multi-directional communication model that supports both push-based (pre- scheduled or expert-initiated) and pull-based (user-initiated or query-driven) interactions, enabling farmers not only to receive regular updates but also to actively seek personalized solutions to their agricultural challenges. The platform is supported by a robust network of subject matter specialists from Krishi Vigyan Kendras (KVKs),

Table 1. Profile characteristics of farmers utilizing Kisan Sarathi Services

S. No.	Independent variables	Category	Total Users (n=120)	
			f	%
1	Age	Young Age (Upto 30 years)	26	21.67
		Middle Age (31–55 years)	79	65.83
		Old Age (Above 55 years)	15	12.5
2	Education	Illiterate	14	11.67
		Primary School (1^{st} – 5^{th})	18	15
		Middle School (6^{th} –7^{th})	17	14.17
		High School (8^{th} –10^{th})	28	23.33
		Intermediate	24	20
		Graduation and above	19	15.83
3	occupation	Agriculture	81	67.5
		Allied (animal husbandry, fisheries, sericulture and horticulture)	30	25
		Allied+Agriculture	9	7.5
4	Farming Experience	Low (Upto 15 years)	17	14.17
		Medium (16-30 years)	79	65.83
		High (Above 30 years)	24	20
5	Land Holding	Marginal (Upto 1.00 ha)	66	55
		Small (1.01 ha to 2.00 ha)	21	17.5
		Semi medium (2.01 ha to 4.00 ha)	26	21.67
		Medium (4.01 ha to 10.00 ha)	6	5
		Large (Above 10.00 ha)	1	0.83
6	Annual Income	Low (Upto 2,00,000)	15	12.5
		Medium (2,00,001-4,00,000)	63	52.5
		High (Above 4,00,000)	42	35
7	Social Participation	Low	10	8.33
		Medium	95	79.17
		High	15	12.5
8	Innovativeness	Low	14	11.66
		Medium	88	73.34
		High	18	15
9	Scientific Orientation	Low	14	11.67
		Medium	85	70.83
		High	21	17.5
10	Mass Media Exposure	Low	27	22.5
		Medium	61	50.83
		High	32	26.67
11	Extension Contact	Low	28	23.33
		Medium	62	51.67
		High	30	25
12	Decision making	Low	29	24.17
		Medium	61	50.83
		High	30	25

agricultural universities, and research institutions, ensuring that the information disseminated is scientifically sound, contextually appropriate, and practically applicable. Despite the technical strengths of the platform, its real- world impact hinges on how farmers perceive and utilize it. Key factors such as digital literacy, ease of access, trust in the advisory system, and perceived usefulness significantly influence the level of adoption and sustained engagement with the platform. Against this backdrop, the present study investigates the profile characteristics of Kisan Sarathi users, including their age, educational background, primary occupation, years of farming experience, landholding size, annual income, level of social participation, degree of innovativeness, scientific orientation, mass media exposure, frequency of contact with extension services, and decision-making ability. These variables are critical to understanding the factors that affect farmers' engagement with ICT-based agricultural advisory services and help identify the enabling conditions needed to maximize the platform's reach and effectiveness.

MATERIAL AND METHODS

The present study employed an ex-post facto research design, which is considered appropriate when the variables of interest cannot be manipulated by the researcher, and the investigation focuses on analyzing relationships among existing conditions or behaviors. The research was conducted in the Srikakulam district of Andhra Pradesh, a region characterized by diverse agro-ecological conditions and a substantial population of small and marginal farmers. Out of the thirty mandals in the district, a total of three mandals were selected using a simple random sampling technique, ensuring that each mandal had an equal and unbiased chance of being included in the study. From each of the selected mandals, two villages were chosen purposively, based on criteria such as the level of awareness and usage of the Kisan Sarathi platform, accessibility and relevance to the study objectives. This resulted in a total of six villages being included in the sample. Within each selected village, 20 farmers were identified using the snowball sampling method, wherein initially known users of the Kisan Sarathi platform referred other users from their community, thereby helping trace the network of beneficiaries. This approach was especially useful in identifying active users in rural settings where formal records may be limited. In total, 120 respondents were selected for the study. To ensure consistency and reliability of responses, data were collected using a pre- tested

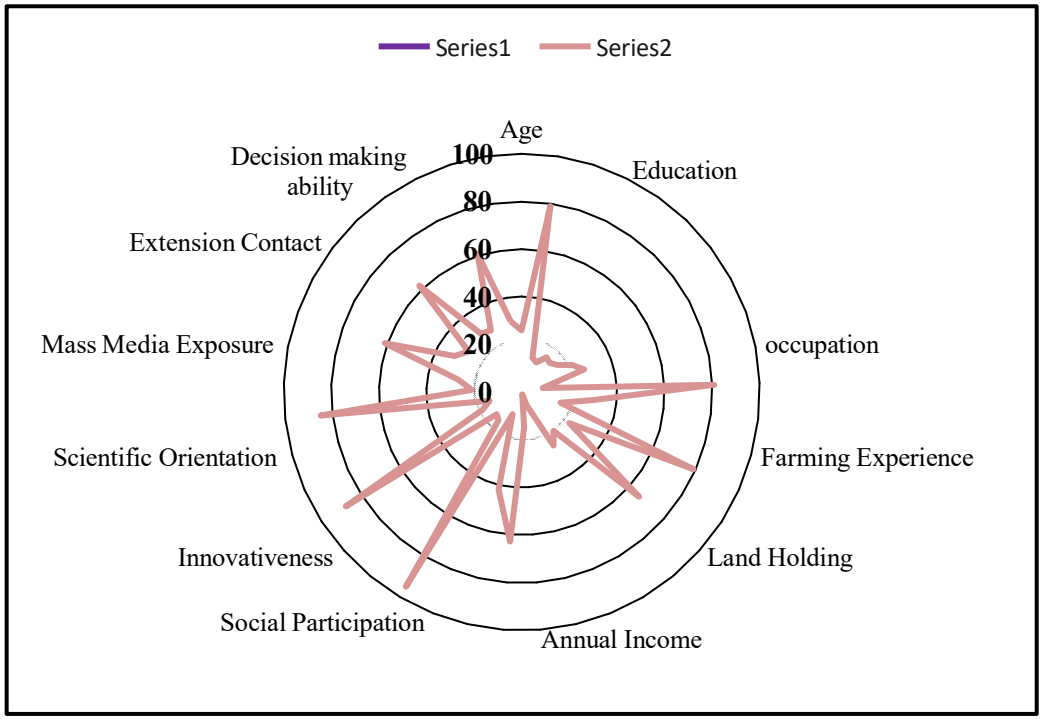

Figure 1. Illustration of farmers utilizing Kisan Sarathi Services

interview schedule, which had been carefully developed and validated prior to the fieldwork. The collected data were then systematically organized and subjected to analysis using various statistical tools, including mean, standard deviation, frequency, percentage. These tools facilitated the extraction of meaningful patterns, identification of prevailing trends, prioritization of key constraints or suggestions, and the establishment of relationships between profile characteristics and the level of utilization of Kisan Sarathi services.

RESULTS AND DISCUSSION

The detailed analysis of profile of farmers indicated that majority of the farmers were medium aged (65.83%), educated up to high school level (23.33%), agriculture (67.50%), 16-30 years of farming experience (65.83%), marginal land holding (55.00%), medium annual income (52.50%), medium social participation (79.17%), medium innovativeness (73.34%), medium scientific orientation (70.83%), medium mass media exposure (50.83%), medium extension contact (51.67%) and medium decision making ability (50.83%).

CONCLUSION

The study highlights that Kisan Sarathi is a well-designed and impactful digital platform effectively reaching middle-aged, marginal landholding farmers with moderate levels of education, income, and farming experience. These user characteristics indicate a suitable demographic for ICT-based agricultural advisories, as most respondents demonstrated medium levels of social participation, innovativeness, scientific orientation, and decision- making ability traits that reflect a readiness to adopt and benefit from technology-enabled services. Kisan Sarathi's multi-modal structure, integrating mobile applications, Interactive Voice Response Systems (IVRS), and web portals, ensures that farmers across different regions and with varying levels of digital access can receive expert guidance in regional languages. This enhances accessibility, usability, and relevance for rural communities. The platform is strengthened by institutional backing from Krishi Vigyan Kendras (KVKs), Acharya N.G. Ranga Agricultural University (ANGRAU), and the Indian Council of Agricultural Research (ICAR), which collectively ensure the scientific credibility and contextual appropriateness of the advisories provided. The findings of the study further underscore the need to improve digital literacy, enhance the reach of extension services, and tailor advisory content to align with the socio-economic and psychological profiles of farmers. While the platform is technically sound and contextually responsive, its long-term success depends on sustained farmer engagement, capacity building, and infrastructural support. Overall, Kisan Sarathi stands out as a scalable and replicable model for modern agricultural extension, capable of empowering farmers with timely, localized, and expert- backed information. It plays a significant role in strengthening decision-making, improving productivity, and building resilience in India's farming sector amid emerging agricultural challenges.

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