



Communication Skills and Knowledge Transfer among Livestock Farmers through WhatsApp

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ABSTRACT

This study examined the role of WhatsApp as a communication tool among livestock farmers in Dharmapuri focusing on its effectiveness in enhancing information sharing and decision-making. A total of 1,546 farmers participated in 12 dedicated WhatsApp groups with 100 farmers selected for detailed analysis over six months, resulting in 40 queries primarily concerning large ruminant health, disease management, and reproduction. WhatsApp emerged as the preferred method for information gathering, facilitating timely responses from agricultural experts and fostering a sense of community among farmers. The Krishi Vigyan Kendra, Dharmapuri established these groups to provide expert advice and technological insights, particularly during adverse weather conditions when in-person visits were impractical. Most queries were related to crossbred cattle management with significant interest in low-cost feed options for goats. Farmers utilized various communication methods including text voice messages and images to effectively convey their issues. Overall, WhatsApp has proven invaluable for knowledge exchange and the development of sustainable livestock management practices, bridging information gaps and promoting agricultural innovation, thereby enhancing farmer engagement and enabling efficient data generation for agricultural scientists.

Keywords: Engagement, Farmer, Information Sharing, Livestock, Management, WhatsApp.

INTRODUCTION

WhatsApp one of the most popular social media tools is offered with numerous unique advantages that make it a potent agricultural extension tool. After the COVID-19 outbreak, livestock farmers began utilizing social media to gather information through various queries. KVK Dharmapuri conducted many online training programs for knowledge sharing and problem-solving, motivating the farming community in Dharmapuri to use WhatsApp for immediate responses to their questions. This allowed farmers to gain technological insights from home, even during heavy rain and hot summer days when they could not visit KVK Dharmapuri in person. Senior citizens found it particularly easy to obtain information through the KVK WhatsApp group.

Traditionally, agricultural information was disseminated through mainstream media such as newspapers, television, and radio. Nowadays, farmers are increasingly using smartphones to access social media platforms like Facebook, Twitter, YouTube, and blogs for sharing both personal and agricultural information. The benefits of social media for farmers

include coverage of large geographical areas in a short time, reduction of social isolation, increased networking opportunities, mobilization of farmers, keeping them updated, and facilitating the marketing of agricultural goods with ease. (Ramavhale *et al*, 2024). Social media boosted youth participation in agriculture boosted livestock production and as a result reduced unemployment rates (Tijani, 2023). Research has shown that mobile messaging platforms can enhance the effectiveness of agricultural extension services by providing timely information and fostering collaboration among stakeholders (Choudhary *et al*, 2021). WhatsApp allows for the rapid exchange of information, enabling farmers to address urgent issues such as animal health concerns and management practices more efficiently. This immediacy is crucial in rural areas where access to veterinary services and expert advice may be limited (Patil and Reddy, 2020). Moreover, the use of WhatsApp can lead to increased farmer engagement, as it provides a platform for interactive discussions, enabling farmers to share experiences and best practices (Thakur and Chander, 2017) This community-driven approach not only

empowers individuals but also builds a network of knowledge that can enhance overall agricultural productivity (Mehta *et al*, 2022). Therefore, the current study was conducted to examine the impact of WhatsApp on livestock advisory services examining its role in facilitating communication, disseminating knowledge, and improving farmer participation.

MATERIALS AND METHODS

The Krishi Vigyan Kendra (KVK) in Dharmapuri has established 12 dedicated WhatsApp groups for sharing information and transferring technology with 1,546 farmers joining these groups. These farmers were added as part of their participation in various KVK programs, including Frontline Demonstrations (FLD), On-Farm Trials (OFT), training sessions, and Integrated Farming System (IFS) programs. Additionally, farmers could join voluntarily through referrals from their peers. For this research study, 100 livestock farmers who frequently asked animal husbandry queries were randomly selected. The primary objective was to assess the impact of WhatsApp as a cost-free communication tool for addressing queries and providing updates on KVK programs. Field visits were conducted over two years during KVK's diagnostic assessments, FLD, and OFT activities. Each participating farmer owned at least one type of livestock. During these visits, interviews were held to explain how WhatsApp could be used in animal husbandry, emphasizing that even illiterate farmers could utilize the platform for effective communication through photos, videos, text messages, and voice notes.

Each WhatsApp group included KVK scientists and officials from relevant line departments, ensuring that the advice provided to livestock and poultry farmers was of high quality. When farmers raised queries, these were promptly addressed by the animal scientists in clear and easily understandable language, facilitating comprehension among other farmers in the group and enabling them to implement precautionary measures as needed. Literate farmers used WhatsApp to send text messages in local Tamil, while illiterate farmers asked questions through photos, videos, and voice messages in Tamil, often with help from literate family members or neighbors. Following this initial phase, farmers with relevant expertise also contributed by sharing their own

experiences. In a six-month period, sums of 40 queries were gathered from January to June 2024. After six months, post-intervention evaluation regarding the utilization of the information was collected through semi-structured interviews conducted via telephone and during KVK visits for various programs. Participants were encouraged to expand on their preferred sources of data for specific queries. This approach provided valuable insights into the effectiveness of WhatsApp as a communication tool in the context of livestock management.

RESULTS AND DISCUSSION

The results (Table 1) indicate that most farmers own crossbred cattle followed by goats, indigenous backyard poultry, improved backyard poultry, sheep, indigenous cattle, and buffalo. A very small proportion of farmers have buffalo, indigenous cattle, and sheep. The presence of cattle farmers highlighted their resourcefulness, which requires greater investments in capital feed and forage (Turner and Leonard, 2004). In contrast, sheep and goat owners are often resource limited farmers in India. This suggests that the significant portion of sheep and goat farmers in households may be due to limited access to social media in the Dharmapuri district during the research study.

Queries received in the WhatsApp group

The results (Table 2) express in larger ruminants, the most frequent queries addressed immediate threats to production and reproduction, such as issues related to Ethno Veterinary Medicine, mastitis, and infertility. These findings were consistent with results from the Kisan Call Centre (Tiwari *et al*, 2010). In the present study, majority of inquiries pertained to large ruminant wellbeing, disease management, and reproduction. Following this, inquiries about small ruminants focused on the care and management of newborn kids, disease management, and low-cost feed supplements, such as Azolla production technologies. Queries about backyard poultry included breed selection, feed management, and disease prevention, while very few inquiries were related to buffalo. Additional inquiries regarding cattle covered topics such as vaccination, deworming, communicable viral diseases, and fodder crops.

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Table 1. Households raising various livestock and backyard breeds.

Sr. No.	Species	Numbers of households animals
1.	Cattle local	18
2.	Cattle cross bred	65
3.	Buffaloe	8
4.	Goat	64
5.	Sheep	26
6.	Backyard poultry-Natty	56
7.	Backyard poultry- Improved	32

**Since responded had diverse livestock, the overall value may exceed to 100*

Table 2. Queries received in the KVK Dharmapuri WhatsApp groups.

Sr. No.	Parameter	Voice message	Message	Video	Images	Responded by animal scientist	Addressed by other farmers
Queries on cattle and buffaloes							
1	Suggest best fodder for higher milk production	Yes	No	No	No	Yes	No
2	How to increase milk fat percentage?	Yes	No	No	Yes	Yes	Yes
3	What is the use of mineral mixture for improving health?	No	No	No	Yes	Yes	No
4	How to mangat milk seepage from teat?	Yes	No	No	No	Yes	No
5	How to control thelitis in buffaloe?	No	Yes	No	Yes	Yes	Yes
6	How to manage infertility in buffaloes?	Yes	No	No	No	Yes	No
7	What should be done to cure bloat in heifer?	No	No	No	No	No	No
8	Suggest vaccination schedule for cow and buffaloe.	No	No	No	No	No	No
9	What should be done if cow not shed placenta?	No	No	No	No	No	No
10	How to care new born calf ?	No	No	No	No	No	No
11	How to control enteritis in calf ?	No	No	No	No	No	No
12	How to control mastitis through EVM practices?	No	No	No	No	No	No
13	Suggest deworming schedule of pregnant cow .	No	No	No	No	No	No
14	Where to get fodder seeds?	No	Yes	No	No	Yes	No
15	What is the line of treatment for hyper salivation?	No	Yes	No	No	Yes	No
16	What is an EVM for infertility management?	No	No	No	No	Yes	No
17	How to dry off the pregnant cow?	Yes	No	No	No	Yes	No
18	How to identify the LSD in cow ?	Yes	No	No	No	Yes	No
19	Weather LSD can spread to buffaloes?	Yes	No	No	No	Yes	Yes
20	How to control tick on cow ?	No	No	Yes	No	Yes	No
Queries on sheep and goat							
21	What is a best meat type of goat in Dharmapuri district?	No	No	No	Yes	Yes	No
22	How to manage kid mortality?	No	No	Yes	No	Yes	No
23	What should I do for increase kid birth weight?	No	No	Yes	No	Yes	No
24	What should I do for control goat enteritis?	No	No	Yes	No	Yes	No
25	What is difference between sheep and goat in terms of profit ?	Yes	No	No	No	Yes	No
26	What is an quantity of mineral for sheep and goat?	Yes	No	No	Yes	Yes	No
27	What is estrous synchronization of sheep and goat ?	Yes	No	No	Yes	Yes	No
28	What is the best tree fodder for higher weight gain?	No	Yes	No	No	Yes	No
29	What is an quantity of azolla supplement for sheep?	No	Yes	No	Yes	Yes	No
30	Suggest azolla production technology.	No	Yes	No	No	Yes	No
31	How to manage neck abscess in goat ?	No	Yes	No	No	Yes	No
32	How to control bloat in goat ?	Yes	No	No	No	Yes	No
Queries on backyard poultry							
33	What is best varieties of poultry for higher income ?	Yes	No	No	Yes	Yes	No
34	Suggest suitable dual purpose backyard poultry.	Yes	No	No	No	Yes	No
35	How to prevent chick mortality?	No	Yes	No	Yes	Yes	No
36	How to control RD in poultry?	No	Yes	No	No	Yes	No
37	How to prepare concentrate feed at home ?	No	Yes	Yes	Yes	Yes	No
38	How to increase numbers of egg in poultry?	No	No	No	Yes	Yes	No
39	How to prevent pecking behavior in poultry?	No	No	No	Yes	Yes	Yes
40	Suggest brooding management of poultry .	Yes	No	No	No	Yes	No

Table. 3 Preferred approach for gathering to address inquiry.

Sr. No.	Parameter	First	Second	Third
1.	Whatsapp	28	9	0
2.	Internet	1	0	0
3.	Veterinary Dispensary personal (VAS)	4	13	0
4.	Veterinary Training centre	4	14	0
5.	Pharmacy	1	0	1
6.	Progressive farmers	0	0	2
7.	Telephone conversion and message	1	0	0
8.	ATMA personal	0	0	1
9.	NGOs	0	0	1
10.	Dairy cooperative personal	1	0	2
11.	Total	40	36	6

Species wise Enquiries

Species-wise inquiries indicate that many queries regarding cattle focused on production, reproduction, and disease prevention. This suggests that most farmers in the Dharmapuri district rear crossbred cows for milk production and are eager to address any drastic reductions in milk yield. In contrast, there were very few queries related to buffalo, indicating a small buffalo population in the district. Regarding small ruminants, queries about the care of newborn lambs were minimal, suggesting that sheep-rearing farmers rely on open grazing and may lack knowledge about using WhatsApp for information gathering. Conversely, most farmers inquired about the care of newborn kids, feed management, disease management, and low-cost feed for goats. This interest likely stems from the profitable nature of goat rearing in the Dharmapuri district, and these farmers appear to be more familiar with using WhatsApp for information which concurred with the findings of Thakur *et al* (2017).

Queries from Voice message, text message, pictures, video

Queries received in the form of voice messages, text messages, videos, and pictures from farmers are shown in Table 2. Among these, many queries included pictures of the livestock, which provided better insight into the nature and severity of the problems. This was followed by voice messages, text messages, and videos. Consequently the quality of advice enhanced, the quality of advice improved,

leading to an increased level of satisfaction among farmers. In livestock and poultry, visuals assist in concentrating on the material and retaining on the information in long term memory (Thakur, 2017 and Heffernan and Nielsen, 2007). In the present study, picture messages were the most common followed by voice messages, text messages, and videos. This preference may be attributed to the convenience for farmers and their ability to convey problems effectively. Pictures are easy to share, while voice messages can clearly communicate issues.

Discussion with WhatsApp

All queries were responded to by the scientist in charge of animal sciences, while very few queries were addressed by other farmers (7 out of 40). This indicates that farmers were largely unfamiliar with the topics of the queries and had limited knowledge. They also learned from the queries instead of asking other farmers, who were well-versed in the 40 queries. According to Thakur *et al* (2017), WhatsApp has a strong ability to facilitate discussion and build networks among farmers. As a result, farmers' family members and neighbors can quickly learn about all the queries, showcasing WhatsApp's strength in providing timely and cost-free access to technology and information.

Preferred method of obtaining information for addressing the inquiry

The results in Table 3 show that the majority of queries (28 out of 40) indicated that WhatsApp was the

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first choice for gathering information, followed by Veterinary Dispensaries (13 out of 36) as the preferred second choice, and queries from progressive farmers as the third choice. Farmers also used WhatsApp after obtaining information from other sources, such as Veterinary Dispensaries, VUTRC professionals, and progressive farmers. There was only one query from a pharmacy and one telephonic conversation. This indicates that after one farmer's query, subsequent farmers quickly followed up for responses, demonstrating the effectiveness of WhatsApp. The high number of queries suggests that farmers trust animal scientists and value the immediate responses facilitated by WhatsApp. This reflects the success of WhatsApp in fostering farmer involvement and engagement, allowing them to gather valuable information in a short amount of time, which aligns with previous findings. (Thakur *et al*, 2017).

CONCLUSION

The study highlights that WhatsApp has become an essential tool for farmers in Dharmapuri, enhancing their ability to gather and share information on livestock management. In today's digital world, personal contact with every farmer for queries is impractical, leading some to remain hesitant about seeking help. WhatsApp enables even the most reluctant farmers to request assistance, while also facilitating efficient data generation for scientists. This platform fosters community connections and supports agricultural innovation. Overall, WhatsApp is invaluable for knowledge exchange, promoting sustainable farming practices in the region.

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