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Exploration of constraints in availability, accessibility and utilization of online platforms for agricultural technology transfer during COVID-19 pandemic

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Abstract

Utilizing electronic media is crucial to keep farmers updated on the latest agricultural information and technologies, especially in the context of the COVID-19 pandemic. Online media emerges as a pivotal tool for extension personnel and farmers alike in facilitating effective agricultural technology transfer. Despite the significance of online platforms, both farmers and extension personnel encounter numerous challenges in ensuring successful online technology transfer. The study was conducted in Kerala during 2021-22, focuses on farmers who underwent online training and the extension personnel who conducted the training during Covid-19 pandemic. Data were collected through personal interviews using a meticulously designed and pre-tested interview schedule. A total of 150 respondents comprising of 100 farmers and 50 extension personnel, constitute the total sample size. Constraints experienced by the farmers and extension officials during online agricultural technology transfer were identified and were then ranked with mean score for each. The important constraints faced by the farmer respondents were poor internet connectivity, expensive internet packs and high cost of digital devices. The major constraints faced by extension official during organizing and implementing online training programs were poor internet connectivity, poor infrastructure facilities and limited availability of devices.

Keywords: Constraints, farmers, extension personnel, online agricultural technology transfer

Introduction

Digital extension services promise to contribute to e.g. increased crop production, reduced pest and disease pressure, better insight into soil health conditions and, ultimately, improved livelihoods through better and more inclusively accessible information (Agyekumhene *et al.*, 2020) ^[1]. They are also seen as potentially disruptive as their potential to increase connectivity and transparency among those who have relevant applied knowledge may radically change the way in which agricultural extension is organized (McC Campbell *et al.*, 2021) ^[4]. Times of crisis is a great teacher as along with the inherent challenges it can throw open many new opportunities (NABARD, 2020) ^[6]. Due to extensive COVID-19 mitigating actions nationally, economic activities related not only to Indian farming systems but to farmers all over South Asia have faced several severe hits due to the unusual circumstances that have arguably outweighed the direct impacts of COVID-19 (Mahendra Dev, 2020; Pothan *et al.*, 2020) ^[3, 7]. The shift towards online platforms for agricultural technology transfer has undeniably become essential, particularly in the context of the COVID-19 pandemic. While electronic media offers a promising avenue for disseminating crucial agricultural information and technologies, the effectiveness of online technology transfer is significantly hampered by various constraints. Both farmers and extension personnel, who play

a pivotal role in this process, encounter challenges that impede the seamless transition of agricultural knowledge through digital channels. Understanding and addressing these constraints are imperative for enhancing the efficacy of online agricultural technology transfer and ensuring that farmers can effectively adopt and implement the latest advancements in their farming practices. This study delves into the specific constraints faced by stakeholders in Kerala, shedding light on the intricacies of online technology transfer in the agricultural domain.

Materials and Methods

The study was conducted in Kerala state during 2021-22 among the farmers who received online training and extension personnel who conducted training. Two categories of respondents have been identified for the study, namely farmers and extension personnel. For the selection of respondents, the farmers who had undergone online trainings organized by public extension agencies such as Kerala Agricultural University and State Department of Agriculture constituting a total of 100 farmers were selected randomly. 50 extension officials i.e. 25 each from KAU and Department of Agriculture, who had conducted online trainings for farmers were selected randomly. Thus, a total of 150 respondents comprising of 100 farmers and 50 extension personnel, constitute the total sample size. The

ex-post facto research design was employed for the study. Constraints in availability, accessibility and utilization of online platforms for agricultural technology transfer for farmers and constraints in organizing and implementing online training programs by extension personnel were measured using the schedule developed by the researcher for the study. The responses obtained were recorded on a five-point continuum scale viz., extremely important, important, moderately important, slightly important and not at all important were assigned score of 5, 4, 3, 2 and 1 respectively. The total scores of constraints were summed up and then divided by the total number of respondents to

obtain mean score. The constraints were then ranked in descending order on the basis of these mean scores.

Results and Discussion

Constraints faced during online agricultural technology transfer

Constraints experienced by the farmers and extension officials during online agricultural technology transfer were identified and were then ranked with mean score for each. The constraints experienced by farmers and extension officials are presented in table 1 and table 2 respectively.

Table 1: Constraints faced by farmers during online agricultural technology transfer

Sl. No	Constraint	Total score	Mean score	Rank in class	Rank in total
a.	Constraints in availability of online technology transferring methods				
1	Poor internet connectivity	413	4.13	1	1
2	Poor quality of content provided	265	2.65	4	16
3	Information were not received in time	258	2.58	5	17
4	Lack of satisfactory solution for individual problems	370	3.70	2	5
5	Limited availability of devices	352	3.52	3	6
b.	Constraints in accessibility of online technology transferring methods				
1	High cost of digital devices	405	4.05	2	3
2	Expensive internet packs	409	4.09	1	2
3	Unstable power connection	384	3.84	3	4
4	Poor conditions of equipment	332	3.32	4	10
5	Health problems	296	2.96	5	15
c.	Constraints in utilization of online technology transferring methods				
1	Lack of experience in handling digital devices	335	3.35	2	8
2	Poor knowledge in handling online platforms	333	3.33	3	9
3	Lack of two way interaction	316	3.16	5	12
4	Lack of understanding certain topics which requires practical knowledge	309	3.09	6	13
5	Noise and other physical disturbances	336	3.36	1	7
6	More usage of technical language	323	3.23	4	11
7	Difficulty in making use of given theoretical information	299	2.99	7	14

Table 1 indicates that the most important constraints faced by the farmer respondents were poor internet connectivity, expensive internet packs and high cost of digital devices. The other constraints perceived by respondents in the order of their importance are unstable power connection, lack of satisfactory solution for individual problems, limited availability of devices, noise and other physical disturbances, lack of experience in handling digital devices, poor knowledge in handling online platforms, poor conditions of equipment, more usage of technical language, lack of two way interaction, lack of understanding certain topics which requires practical knowledge, difficulty in making use of given theoretical information, health problems, poor quality of content provided and information were not received in time.

Out of the five constraints in availability of online technology transferring methods, the first rank was given for poor internet connectivity. The other constraints in

availability in order of their importance are lack of satisfactory solution for individual problems, limited availability of devices, poor quality of content provided and information were not received in time.

Out of the constraints in accessibility of online agricultural technology transfer methods, the first rank was given for expensive internet packs. The other constraints in the order of their importance are high cost of digital devices, unstable power connection, and poor conditions of equipment and health problems.

From the constraints in utilization of online agricultural technology transfer methods, noise and other physical disturbances stood first and others were lack of experience in handling digital devices, poor knowledge in handling online platforms, more usage of technical language, lack of two-way interaction, lack of understanding certain topics which requires practical knowledge and difficulty in making use of given theoretical information.

Table 2: Constraints faced by extension officials during online agricultural technology transfer

Sl. No	Constraint	Total score	Mean score	Rank
1	Poor infrastructure facilities	192	3.84	2
2	Inadequate staff strength	176	3.52	5
3	Poor internet connectivity	221	4.42	1
4	Lack of training to improve technical knowledge	170	3.4	6
5	Lack of support from authorities	131	2.62	11
6	Poor co-ordination and co-operation among different agencies under same department	145	2.9	9
7	Lack of active participation of farmers	165	3.3	7.5
8	Poor communication skills	139	2.78	10
9	Poor technical skills	165	3.3	7.5
10	Limited availability of devices	181	3.62	3
11	Maintenance problems	179	3.58	4
12	Health problems	113	2.26	12

Table 2 indicates that the major constraints faced by extension official during organizing and implementing online training programs were poor internet connectivity, poor infrastructure facilities and limited availability of devices. The other constraints in the order of their importance are maintenance problems, inadequate staff strength, lack of training to improve technical knowledge, lack of active participation of farmers and poor technical skills, poor co-ordination and co-operation among different agencies under same department, poor communication skills, lack of support from authorities and health problems. The findings of the study are in conformity with the results of Anand *et al.* (2020)^[2], Mishra *et al.* (2020)^[5] and Yaseen *et al.* (2020)^[8].

Conclusion

The most important constraints faced by the farmer respondents were poor internet connectivity, expensive internet packs and high cost of digital devices. The other constraints perceived by respondents in the order of their importance are unstable power connection, lack of satisfactory solution for individual problems, limited availability of devices, noise and other physical disturbances, lack of experience in handling digital devices, poor knowledge in handling online platforms, poor conditions of equipment, more usage of technical language, lack of two way interaction, lack of understanding certain topics which requires practical knowledge, difficulty in making use of given theoretical information, health problems, poor quality of content provided and information were not received in time. The major constraints faced by extension official during organizing and implementing online training programs were poor internet connectivity, poor infrastructure facilities and limited availability of devices. The other constraints in the order of their importance are maintenance problems, inadequate staff strength, lack of training to improve technical knowledge, lack of active participation of farmers and poor technical skills, poor co-ordination and co-operation among different agencies under same department, poor communication skills, lack of support from authorities and health problems.

References

1. Agyekumhene C, de Vries JR, van Paassen A, Schut M, MacNaghten P. Making smallholder value chain partnerships inclusive: Exploring digital farm monitoring through farmer-friendly smartphone

platforms. Sustainability. 2020;12(11):4580.

2. Anand S, Prakash S, Yedida S, Singh AK. Constraints faced by farmers in access and use of information and communication technologies (ICTs) in Bihar. J Pharmacol Phytochem. 2020;9(2S):80-85.
3. Mahendra Dev S. Addressing COVID-19 impacts on agriculture, food security, and livelihoods in India. [Online] Available from: <https://www.ifpri.org/blog/addressing-covid-19-impacts-agriculture-food-security-and-livelihoods-india>. [cited 2024 Jan 5].
4. McCampbell M, Adewopo J, Klerkx L, Leeuwis C. Are farmers ready to use phone-based digital tools for agronomic advice? Ex-ante user readiness assessment using the case of Rwandan banana farmers. J Agric Educ Ext. 2021;5(1):1-23.
5. Mishra A, Yadav OP, Yadav V, Pratap S. Constraints faced by farmers and suggestions for effective utilization of ICT services in agriculture in central UP. The Pharma Innovation J. 2020;9(2):121-124.
6. NABARD. Impact assessment of COVID-19 on Indian agriculture and rural economy. [Online] Available from: <https://www.nabard.org/auth/writereaddata/tender/1211203145-ImpactAssessment-of-COVID.pdf>. [cited 2022 Jan 3].
7. Pothan PE, Taguchi M, Santini G. Local food systems and COVID-19. In: A glimpse on India's responses. [Online] Available from: www.fao.org/in-action/food-for-cities-programme/news/detail/en/c/1272232/. [cited 2023 Jan 11].
8. Yaseen M, Luqman M, Umer M, Kaleem Abid M. Constraints faced by young farmers in adopting ICT tools in agriculture: A case study of district Sargodha. Int J Biosci. 2020;17(1):13-23.