

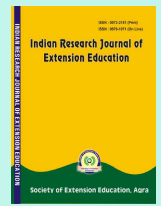


Indian Research Journal of Extension Education

ISSN: 0972-2181 (Print), 0976-1071 (e-Print)

NAAS Rating : 5.22

Journal homepage: seaa.org.in



RESEARCH ARTICLE

https://doi.org/10.54986/irjee/2022/apr_jun/101-105

E-resource Exposure of the Farm Women for Agricultural Information Network Output Development : A Study

Ganesh Das¹ and Sarthak Chowdhury²

1.Ph.D Scholar, 2.Prof., Department of Agricultural Extension, Visva-Bharati, Sriniketan, Birbhum, West Bengal, India

Corresponding author e-mail : ganesh.ext@gmail.com

Received on January 24, 2022, Accepted on March 22, 2022 and Published Online on April 01, 2022

ABSTRACT

E-resource is important agricultural information sources in twenty first century. The use of e-resource in agriculture is increasing day by day. Farm women are the major agricultural human resources of India. But it is observed from different study that they less visited extension institute due to some constraints. So, there is lot of opportunity is present to provide the agricultural information to the farm women through e-resource. But very limited study was done on extent of use of e-resources by the farm women for agricultural information network output development. Keeping this in view the present study was undertaken to find out the e-resource exposure of the farm women for agricultural information network output development in terms of knowledge. Ex post facto research design was followed and both non- probabilistic sampling and probabilistic sampling method were used for selection of the sample. It was found from the study that majority of the farm women were networking with the mobile apps and WhatsApp. This study further revealed that mobile apps and WhatsApp play an important role of agricultural information network output development of the farm women.

Key words: e-Resource; Farm women; Agricultural information network output; Knowledge; Mobile apps; WhatsApp.

E-resources are widely used as information source in India. Agricultural Information are now quickly disseminated through e-resource method. An Internet-based asset is whatever can be obtained from the World Wide Web. Some examples are website pages, email, Facebook, WhatsApp, YouTube, Mobile apps, information from databases, e-agriculture is an approach to promoting agriculture information through e-resources. It is a platform that provides sharing of agricultural information among the farmers, extension worker and scientist. e-Agriculture mainly includes the electronic farmers, agricultural electronics and rural electronics, (Chunhua and Bo, 2010). Farm women one of the major agricultural human resources in India as well as others developing and underdeveloped countries. It is essential to provide timely information to the farm women for agricultural development. e-resources

play an important role of the agricultural information dissemination to the farmers and farm women (Irifan *et al.* 2006). Farm women in India use different type of e-resources for agricultural information. It was found from different study that majority of the farmers and farm women use mobile phone as a e-resource information (Singh *et al.* 2010; Rudroju, 2013) and the farm women who have high e-resource exposure had more knowledge in agriculture (Dhaka and Chayal, 2010; Anzu, 2010). But few studies was found on the extent of use of the e-resources by the farm women for reaching out relevant farm information and influence of the e-resources on agricultural information network output of the farm women. Keeping this in view the present study was undertaking to find out the extent of use of e-resources by the farm women and it is impact on agricultural information network output in terms of

knowledge of the farm women.

METHODOLOGY

The study was conducted on the farm women of Cooch Behar District, West Bengal. The study was conducted from September 2017 to February 2020. The research design was followed in the study was ex-post facto research design. This study used a five-stage sampling procedure in which both non- probabilistic sampling and probabilistic sampling were used to select the sample respondents. In the first stage Cooch Behar district was selected purposively. In the second and third stage three numbers of subdivision and one block from each subdivision were selected randomly. In the fourth and fifth stage random sampling methods were used for selection of twelve numbers of village from three block and 25 numbers of respondents from each village. A total of 300 respondents (n) in the sample were selected for the study. The important statistical measures that were used to analyses the research data included correlation coefficient, pair wise ranking, mean, standard deviation, frequency, percentage, coefficient of variation. Correlation analysis was done through SPSS 17. Networking diagram of the farm women with the e-resources was done through UCINET 6 and NETDRAW.

RESULTS AND DISCUSSION

It is found from the study (Table 1) that majority of the farm women uses mobile app (41%) followed by WhatsApp (27.67%), Facebook (26%), YouTube (20.67%), call centre (9.67%) and Twitter (2.33%) e resources. It is exposed from the study that majority

Table 1. Use of e-resources by the farm women (N=300)

Type of e-resource	Use of e-resource			
	Yes		No	
	No.	%	No.	%
Mobile app	123	41.00	177	59.00
YouTube	62	20.67	238	79.33
WhatsApp	83	27.67	217	72.33
Facebook	78	26.00	222	74.00
Call centre	29	9.67	271	90.33
Others (Twitter)	07	2.33	293	97.67

Table 2. Extent of use of e resource by the farm women (N=300)

Type of e-resource	Extent of use of e-resources						MS	Rank
	Regular		Occasional		Never			
	No.	%	No.	%	No.	%		
Mobile app	65	21.67	58	19.33	177	59.00	1.107	I
YouTube	36	12.00	26	8.67	238	79.33	0.453	IV
WhatsApp	71	23.67	12	4.00	217	72.33	0.513	II
Facebook	75	25.00	3	1.00	222	74.00	0.510	III
Call centre	11	3.67	18	6.00	271	90.33	0.133	V
Others (Twitter)	6	2.00	1	0.33	293	97.67	0.043	VI

of the farm women had used mobile app followed by WhatsApp, Facebook and YouTube. It may due respondents were ownership of mobile phone and internet (*Singh et al., 2010*), easy accessibility of mobile apps and integration of WhatsApp, Facebook and YouTube with the mobile apps in Smartphone, quick information gathering through YouTube and social networking to the friends, relatives and extension person through WhatsApp and Facebook.

It is observed from the study (Table 2) that majority percentages of respondent's regular used Facebook (25%) followed by WhatsApp (23.67%), mobile app (21.67%), YouTube (12%), call centre (3.67%) and others (2%) as a e resource information. It is exposed from the study that majority of the farm women were regularly used Facebook followed by WhatsApp, mobile app. It may due to social networking with friends, relatives and others. It is observed from the study (Table 2) that majority percentages of respondent's occasional used mobile app (19.33%) followed by YouTube (8.67%) call centre (6%), WhatsApp (4%), Facebook (1%) and others (0.33%). It is exposed from the study that majority of the farm women were occasionally used mobile app followed by YouTube. It may due to used mobile apps when problem occur or need arise for information gathering, bill payment or any other purpose. It is also observed from the study (Table 2) that majority percentages of respondent's never used others e resources (97.67%) followed by call centre (90.33%), YouTube (79.33%), Facebook (74%), WhatsApp (72.33%), and mobile app (59%). It is revealed from the study majority of the farm women were never used others e resources followed by call centre, YouTube, Facebook, WhatsApp and mobile app (*Singh et al.,*

2010)). It may due to majority of the respondents not used e resource based smart or android phone and low awareness on farmers call centre number. It is exposed from the means score value of Table 2 that majority of the farm women were used mobile apps followed by WhatsApp, Facebook, YouTube and call centre.

Table 3. Level of e-resource exposure of the farm women (N=300)

Category	Score	No.	%	Statistics
Low	0 to 3.33	211	70.33	Range= 0-10
Medium	3.34 to 6.67	33	11.00	Mean= 2.76
High	6.68 to 10.00	56	18.67	SD= 3.13 CV= 113%

It is observed from the study (Table 3) that majority of the farm women had low level (70.33%) of e resource exposure followed by high (18.67%) and medium level (11.00%). The coefficient of variation value within the distribution 113% implies that there exists very low consistency level of the distribution for the variable use of e resource. It may due to low use of e resource based information, high cost of android or

smart phone, low skill for operating android or smart phone , family restriction or other factors.

It is evident from the Table 4 and figure 1 that majority of the farm women used e resource information for other (entertainment/mobile service purpose in call centre) purposes (21.22%) followed by health (13%), news (9.83%), agriculture (9%), education (5.56%) and sports (2%). It is exposed from the study that majority of the farm women use e resources for other purpose followed by health, news and agriculture. It may due to social networking with friends, relatives and others and to use e resources as an alternative of TV (*Devadas and Shamla, 2012*). It is also exposed that e health information playing an important role in rural area,

The figure 2 shows that the network diagram has one important node, other members of the network are connected with this node. The size of the node of the network represents their betweenness centrality within the network. It observed from the diagram 1 that there were 300 respondents (R1 to R300) networking with the mobile apps, WhatsApp, Facebook, YouTube, Tweeter

Table 4. Type of e-resource information used by the farm women (N=300)

Type of e- resource	Type of e-resource information listening/viewing/reading											
	Agriculture		News		Education		Health		Sports		Others (Mobile service/ Entertainment)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Mobile app	16	5.33	44	14.67	12	4.00	24	8.00	8	2.67	123	41.00
Youtube	37	12.33	0	0.00	24	8.00	62	20.67	2	0.67	62	20.67
WhatsApp	65	21.67	55	18.33	32	10.67	70	23.33	12	4.00	83	27.67
Facebook	32	10.67	78	26.00	25	8.33	78	26.00	14	4.67	78	26.00
Call centre	12	4.00	0	0.00	0	0.00	0	0.00	0	0.00	29	9.67
Others (Twitter)	0	0.00	0	0.00	07	2.33	0	0.00	0	0.00	07	2.33
Total	162	54	177	59	100	33.33	234	78	36	12.01	382	127.34
Av. %		9.00		9.83		5.56		13.00		2.00		21.22

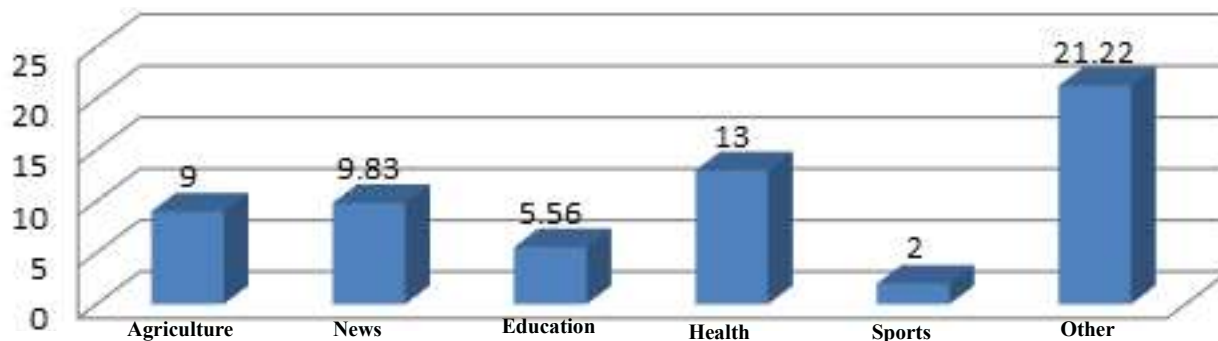


Figure 1. Type of e-resource information used by the farm women

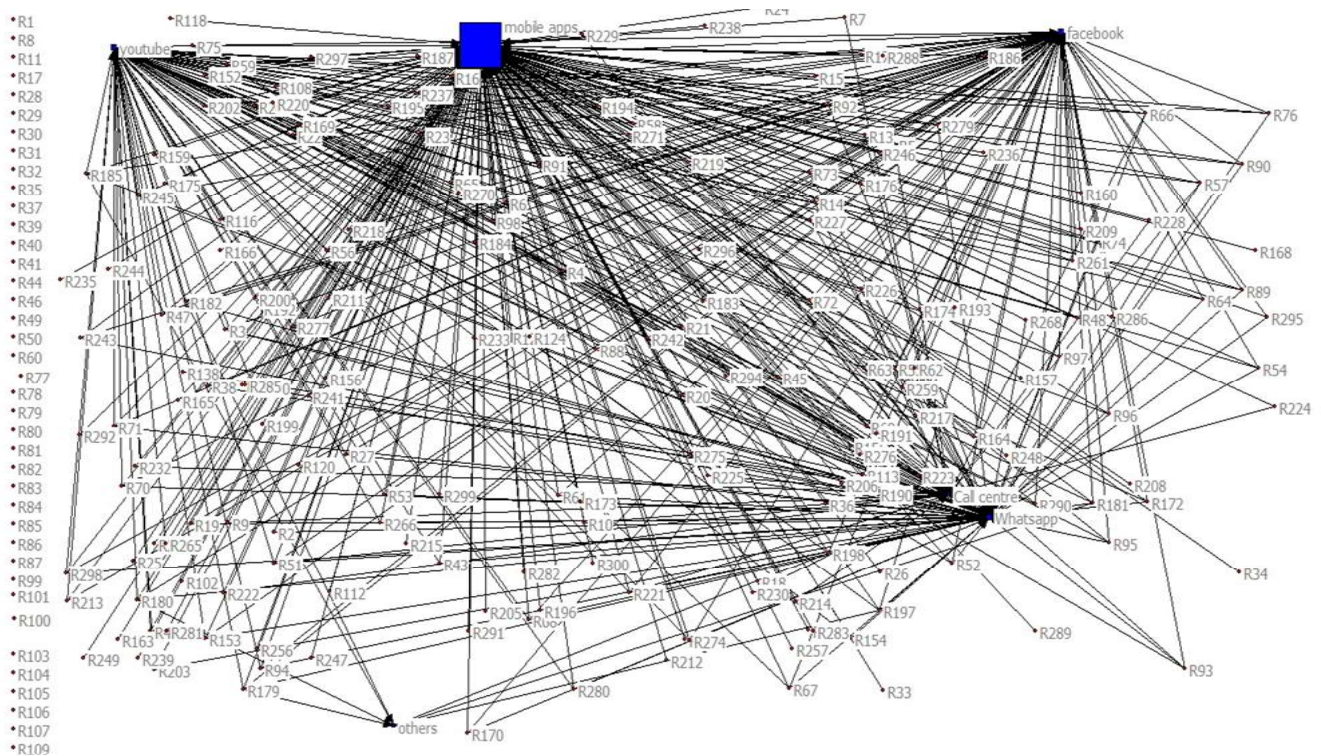


Figure 2: Networking of the farm women with the e resources

and Call centre. According to diagram e resource exposure of the respondents was higher in case of mobile apps. It is revealed from the network diagram 1 that majority of the respondents were networking with the mobile apps followed by WhatsApp, Facebook and YouTube for farm information. It may due to majority of the respondents were used Smartphone as an e-resource information (Singh et al. 2010; Rudroju, 2013), and the integration of WhatsApp, Facebook and YouTube with the mobile apps in the Smartphone.

It is found from the Table 5 that there were 6 nodes (e resources) were taken during data collection from Cooch Behar district. Among the 6 nodes number of ties was 13, Avg Degree was 2.167. It is revealed from the study that average number of linked per node is less in e resource networking system of the

farm women and there were only 13 numbers of inter connection between the actors. It is also found from the Table 5 that *indeg H-index* were 2 and *k-core* index 3. It is revealed from the study that only two nodes were most important and majority of the respondents were interlinked with the three groups. The value of degree centrality of the networks is only 0.10 which is indicated that the number of connection incident to the node of interest is very less. So degree centrality of the e resource networks is less in this study. The density of the networks is 0.433 which is indicated that the networks are sparse.

Influence of e resource exposure of the farm women on agricultural information network output in terms of knowledge : Table 6 presents the correlation coefficient analysis of agriculture information network output of farm women with the e-resource variables. It is revealed from the study that there exist a positive and significant association between the agricultural information network output of the farm women and use of mobile apps and WhatsApp. The rest of the e resources variables i.e. call centre, Facebook, YouTube and twitter had no significant association with the agriculture information network output of the farm women. So, it is revealed from the study that e

Table 5. Multiple network analysis of e resources

Number of nodes	6
Number of ties	13
Avg Degree	2.167
Indeg H-Index	2
K-core index	3
Deg Centralization	0.100
Density	0.433

Table 6. Correlation of e-resource exposure with the agricultural information

	E-resources	Knowledge
Call centre	Pearson Correlation	.113
	Sig. (2-tailed)	.051
	N	300
Mobile apps	Pearson Correlation	.158**
	Sig. (2-tailed)	.006
	N	300
WhatsApp	Pearson Correlation	.128*
	Sig. (2-tailed)	.027
	N	300
Facebook	Pearson Correlation	.106
	Sig. (2-tailed)	.066
	N	300
YouTube	Pearson Correlation	.054
	Sig. (2-tailed)	.348
	N	300
Others	Pearson Correlation	.105
	Sig. (2-tailed)	.070
	N	300
**Correlation is significant at the 0.01 level (2-tailed).		
*Correlation is significant at the 0.05 level (2-tailed).		

resources are not always positively influenced with the agricultural information network output. It is depending on the purpose of used of e-resources, type of networks formed with the e resources, awareness, knowledge and skill on operating different types of e resources for agricultural information purpose. This finding partially contradicted with the study reported by *Dhaka and Chayal, 2010* and *Anzu, 2010*.

CONCLUSION

It is concluded from the study from the study that majority of the farm women had access to mobile app followed by WhatsApp, Facebook and YouTube. It may due to easy accessibility of mobile apps, quick information gathering through YouTube and social networking to the friends, relatives and others through WhatsApp and Facebook. It is concluded from the study that majority of the farm women were used mobile apps followed by Facebook, WhatsApp and YouTube. It may due to social networking of the farm women with friends, relatives and others though using of different mobile apps, Facebook and WhatsApp. It is revealed from the study that majority of the farm women use e resources for other purpose followed by health, news and agriculture. It may due to social networking with friends, relatives and others and to use e resources as an alternative of TV. The study revealed that e health information playing an important role in rural area. It is concluded from the study majority of the farm women had low level of e-resource exposure followed by high and medium level. It may due to low use of e-resource based information, high cost of android or smart phone, low skill for operating android or smart phone, family restriction or other factors. It is revealed from the study that mobile apps and WhatsApp one of the important e resources positively and significantly influence on agricultural information network output development in terms of knowledge of the farm women.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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