

Use of ICT's by Extension Personnel in Dissemination of Agriculture Information in North Eastern Karnataka

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ABSTRACT

The study was conducted in North Eastern Karnataka and Raitha Samparka Kendra's (RSKs) of Kalaburgi, Yadgir and Raichur districts. 55.97 per cent of the extension personnel belonged to medium level of ICT usage followed by low level (25.37%) and high level (18.66%) of usage. The extent of usage of ICT tools and services by the extension personnel in dissemination of agriculture information was positive and significantly correlated with the ICT services available ($r=0.641$), organization climate ($r=0.475$) and job commitment ($r=0.591$). Logit regression analysis show that independent variables contribute to 82.80 per cent of the variation in usage of ICT tools and services by extension personnel in dissemination of agriculture information.

Keywords: ICT Usage, ICT tools and services, Extension personnel

INTRODUCTION

The information and communication support during last fifty years has mainly been conventional method. In practical sense communication is the essence of extension services. Extension services, both people and approaches, seek to provide rural people with knowledge and information. Traditionally, extension used to transfer the knowledge from researchers or external experts to farmers through training, demonstrations and field visits. Hence, limited extension service could not reach the majority of the farmers scattered over larger geographical area. This gap remains a challenge for extension system even today. The extension system has yet to exploit the full potential of the ICT tools and other communication techniques. Both the ICT and its associated infrastructures help in the creation and dissemination of knowledge (Shashidhara and Krishna, 2016). Modern ICTs that have resulted from a breakthrough in information technology, when applied to conditions in rural areas, will help to disseminate information to improve extension personnel knowledge, increase their participation and

share knowledge with others. It is said that cyber extension would be the major form of information technology, since extension officials and farmers still have the difficulty in accessing accurate information to make timely decisions. It is essential that the information availability is "demand-driven" rather than "supply-driven". The challenge is not only to improve the accessibility of communication technology to extension personnel, but also to improve its relevance. There is a great need to utilize ICTs for the advancement of agricultural sector by involving all the partners in the process. Use of information and communication technologies among extension agents in Kaduna state of Nigeria found that the majority of extension agents use mobile phone, while 84.30 per cent use radio and 77.10 per cent use television because of high level of awareness and easy accessibility. In another study, only few used modern and sophisticated ICT gadgets 41.40 per cent use storage device, 38.60 per cent use search engines, 36.60 per cent use GIS and only 31.40 per cent use e-library Sulaiman *et al.* (2015). On this backdrop, present

study was carried out to analyze extent of use of ICT's by extension personnel in dissemination of agriculture information in North Eastern Karnataka.

METHODOLOGY

The study was conducted in Kalaburgi, Yadgir and Raichur districts of North Eastern part of Karnataka. From these two districts Aland, Afzalpur, Gulbarga, Chincholi, Chittapur, Sedam, Jewargi, Yadgir, Shahapur, Shorapur, Raichur, Deodurga, Lingasugur, Sindhanur and Manvi taluks of Raitha Samaparka Kendras were selected for the study. 134 extension personals including Agriculture Officer (AO) and Assistant Agriculture Officer (AAO) were randomly selected from Raitha Samaparka Kendras for the study.

The data collection was made on the extent of usage ICT tools and services by the extension personnel for dissemination of agriculture information among farming community. The extent of usage of ICT tools and services were measured on 5 point Likert scale and further it was categorized by mean and standard deviation. The variables such as age, education, experience, number of training attended, job satisfaction, job commitment, job stress, organizational climate and ICT services available in department were collected from the respondents by questionnaire method.

RESULTS AND DISCUSSION

The socio-economic profile of the extension personnel presented in Table 1 indicate that 41.79 per cent of extension personnel were old age group of more than 50 years of age followed by young age (32.09%). In case of education status majority (57.46%) completed graduation followed by post graduation by 31.34 per cent. It was also seen that, more than three-fourth (76.12%) were male. With regard to work experience 38.81 per cent of them had high level of experience in their services followed by low (36.57%) and medium (24.63%) level of experience. With regard to training attended, nearly sixty per cent (59.70%) of the extension personnel attended 1-5 training, followed by 26.12 and 14.18 per cent more than 5 training and 0-1 training respectively.

It can be also observed that, a high majority (81.34%) of the extension personnel have medium level of job

Table 1: Distribution of Extension personal based on their socio-economic profile (n=134)

Variables	Freq- uency	Per- cent	
Age			
Young (< 30)	43	32.09	Mean=40.11
Middle (31-50)	35	26.12	SD=12.99
Old (> 50)	56	41.79	
Education			
PUC	15	11.19	Mean=2.30
Graduation (B.Sc (Agri)/ Traditional degree)	77	57.46	SD=0.71
M.Sc (Agri)/ M.Tech (Agri)	42	31.34	
Gender			
Male	102	76.12	
Female	32	23.88	
Work experience			
Low (< 9 years)	49	36.57	Mean=14.26
Medium (9-18 years)	33	24.63	SD=11.95
High (> 18 years)	52	38.81	
Number of training			
0-1 training	19	14.18	
1-5 training	80	59.70	
More than 5 training	35	26.12	
Job satisfaction			
Low (< 16.00)	12	08.96	Mean=34.28
Medium (16-19.50)	109	81.34	SD=4.66
High (> 19.50)	13	09.70	
Job commitment			
Low (< 32)	06	04.48	Mean=40.08
Medium (33-36)	114	85.07	SD=3.98
High (> 36)	14	10.45	
Job stress			
Low (< 38)	28	20.90	Mean=27.88
Medium (38-42)	77	57.46	SD=7.96
High (> 42)	29	21.64	
Organizational climate			
Low (< 25)	42	31.34	Mean=27.90
Medium (25-31)	79	58.96	SD=2.52
High (> 31)	13	9.70	
Infra structure facilities			
Low (< 1.17)	32	23.88	Mean=2.69
Medium (1.17 to 4.21)	79	58.96	SD=1.52
High (> 4.21)	23	17.16	
List of ICT services available			
Low (< 14.95)	31	23.13	Mean=15.28
Medium (14.95 to 19.95)	19	14.18	SD= 4.67
High (>19.95)	84	62.69	

satisfaction followed by high level (9.70%) and low level (8.96%). In case of job commitment high majority (85.07%) of the extension personnel had medium level, followed by high level (10.45%) and low level (4.48%) of job commitment. With regard to job stress, 57.46 per cent were found to be experiencing medium level of job stress followed by high level (21.64%) and low level (20.90%) of job stress. The results of perceived organizational commitment indicate that, 58.96 per cent of the respondents had medium followed by low (31.34%) and high level (9.70%) of organizational climate. With regard to ICT services available 62.69 per cent had high level, followed by low (23.13%) and medium (14.18%).

It is clear from the Table 2 that, 55.97 per cent of the extension personnel belonged to medium level of ICT usage followed by low level (25.37%) and high level (18.66%) of usage. The reason behind this might be the accessibility of the ICT tools and services available to the extension personnel for the purpose of dissemination of agricultural information.

The zero order correlation co-efficient was computed for the examination of the relationship between the

Table 2: Categorization of respondents according to extent of use of ICTs (n=134)

Category	Frequency	Per cent
Low (< 43)	34	25.37
Medium (43-52)	75	55.97
High (> 52)	25	18.66
Mean=67.64, SD=20.62		

Table 3: Relationship between independent variable and Extent of usage of ICT tools and services (n=134)

Independent variable	Correlation coefficient (r)
Age	0.041
Education	0.065
Experience	0.031
Number of trainings attended	-0.061
Job satisfaction	0.144
Job Commitment	0.591**
Job Stress	-0.060
Organizational climate	0.494**
List of ICT services available	0.641**

*5% level of significance; **1% level of significance

independent variables with extent of usage of ICT tools and services by extension personals in dissemination of agriculture information was shown in Table 3. The result shows that there was no significant relationship between the age of extension personnel, education, experience and job satisfaction. On the other hand number of training attended and job stress was negatively non-significant. The extent of usage of ICT tools and services by the extension personnel in dissemination of agriculture information was positive and significantly correlated for ICT services available ($r=0.641$), organization climate ($r=0.475$) and job commitment ($r=0.591$). This shows that higher the number of ICT tools and services facility available and good organization climate in the department and more job commitment towards dissemination of information there will be better usage of ICT tools and services by the extension personals in dissemination of agriculture information. These results were also noticed by Kumbar *et al.* (2014); Rao (200) and Sulaiman (2015).

To study factors influencing extent of usage of ICT tools and services in dissemination of agriculture information, Logit regression analysis was carried-out to determine the specific contribution of each independent variable in explaining the variance in usage of ICT tools and services. The independent variables explained (R^2 was 0.828) about 82.80 per cent of the variation in usage of ICT tools and services by extension personnel in dissemination of agriculture information. Accordingly, it shows that availability of ICT tools and services is the highest predictor compared to other variables included in the model. This indicated the importance of usage of ICT tools and services in dissemination of agricultural information by extension personnel. The finding implies that the higher the number of ICT tools and services available in the department, the higher would be the level of usage of ICT tools and services in dissemination of agricultural information and vice versa. In the same way job stress was also significant with coefficient of 0.881 with extent of usage of ICT tools and services available. Whereas organizational climate, job satisfaction and job commitment were significant with coefficients of 1.507, 0.955 and 0.939 respectively. The results of the study implies that if there was good organizational climate with job commitment and job satisfaction, the extension personnel will use the ICT tools and services more

Table 4: Regression analysis of independent variables towards extent of usage of ICT tools and services by extension personals (n=134)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-97.593	17.856		-5.466	.000
Age	0.176	0.245	0.111	0.717	.475
Education	1.539	1.291	0.053	1.192	.236
Experience	-0.225	0.261	-0.130	-0.861	.391
Number of trainings attended	0.448	0.667	0.025	0.672	.503
Job satisfaction	0.955	0.299	0.207	3.198	.002
Job Commitment	0.939	0.331	0.176	2.838	.005
Job Stress	0.881	0.157	0.340	5.617	.000
Organizational climate	1.507	0.477	0.179	3.160	.002
List of ICT services available	2.356	0.225	0.533	10.459	.000

R = 0.917; R² = 0.841; Adjusted R² = 0.828; Standard error of estimate = 8.546; F value = 65.150; Sig. = 0.000

effectively in dissemination of agriculture information. The study also indicated that age, education, experience and number of trainings will not hinder usage of ICT tools and services. In addition, the analysis of variance for the regression analysis yields an F – value of 65.150, which is significant at 1 per cent level of significance. The findings of the study were reported by Dire *et al.* (2017) and Yakubu *et al.* (2013).

CONCLUSION

ICTs are veritable tools for the formation of the needed linkages among researchers, agricultural extension agents and farmers. Various modes of communication are being used by extension service, among which newly evolved ICT based Internet, websites and on-line communications have a vital role. ICT has the potential to communicate farm information to a large number of farmers simultaneously and quickly. This will make a major contribution to the agricultural sector. The study found that strong positive relationships exist between some socio-economic characteristics and use of ICT tools and services available in the department by the extension personnel. The efforts should be made toward sustaining development of ICT tools and services. Therefore, it is imperative that the benefits should be sustained and continued by ensuring their continued usage of ICT components.

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REFERENCES

- Ajayi, A.O., Alabi, O.S. and Akinsola, T.O. (2013). Knowledge and perception of extension agents on information and communication technologies (ICTs) use in extension service delivery in Ondo State, Nigeria, *African Journal of Agricultural, Research*, **8**(48), 6226-6233
- Dire, B., Ndaghu, A.A., Giroh, D.Y., Onu, J.I. and Dauna, Y. (2017). Factors Influencing e-Readiness of Agricultural Extension Agents in Adamawa, Gombe and Taraba States Nigeria, *Greener J. Agricultural Sciences*, **7**(2), 47-53.
- Kumbar, B.D., Manohar, B.L. and Gouri, N.G. (2014). Utilization of e-resources by research scholars of science department Karnataka University, Dharwad, *Journal Advance Library Information Science*, **3**(4), 320-327.
- Rao, M. (2000). A study on the communication techniques used by the agricultural assistants of KSDA in Dharwad district. M.Sc. (Agri.) Thesis, University of Agricultural Sciences, Dharwad.
- Shashidhara, K.K. and Krishna, S.M. (2016). A study on extent of ICT facilities used by rural youths in Yadgir district of Karnataka, *International Journal of Agricultural Sciences*, **8**(56), 3064-3066.
- Sulaiman, U., Michael, W.M., Olayemi, Y.T. and Rabi, S. (2015). Awareness and use of information and communication technologies among extension agents in Kaduna State of Nigeria, *Journal of Agricultural Extension*, **19**(1), 66-76.
- Yakubu, D.H., Abubakar B.Z., Atala, T.K. and Muhammed, A. (2013). Use of Information and Communication Technologies among Extension Agents in Kano State, Nigeria, *Journal of Agricultural Extension*, **17**(1), 162-173.