

Frequency of Utilization of ICT Tools by Krishi Vigyan Kendra Scientists of Rajasthan State, India

ABSTRACT: Information communication technology (ICT) is a multidimensional term for information technology (IT) that addresses the role of integrated communication and the integration of telecommunications (telephone lines and wireless signals) and computers as well as essential enterprise software, middleware, storage, communication which enable users to access, store, transmit and manipulate information. ICT's is emerging as an important tool for the progress of society. The new technology has significantly improved lifestyle and efficiency levels in all sectors of the economy. This enables the utility of information & communication technology to overcome physical distances and time gaps in communication. Rapid improvements in information technology have increased their cost and space requirements, speed and storage capacity in a short span of time with traditional communication materials such as posters, charts, leaflets, folders, bulletins, audio tapes, transparency, photographs, prepared slides, videotape etc. In simple terms, ICT is a set of techniques evolved to manage information and move it from one place to another. It has been observed that in this traditional system used to take a lot of time to convey the information given to the farmers and the information was not received correctly. The rapid development of information technology has given a new look to communication systems. Now connecting two computers across the country has become an easy task. Separate ICT projects have been initiated by government, NGO's and private companies. As a result, villages in many parts of the country have been connected through a wired network to eliminate the distance between rural and urban people. Krishi Vigyan Kendra are established by Indian Council Of Agricultural Research (ICAR) all over the country as an institutional innovation for application of agricultural science and technology on the farmer's field with the help of multidisciplinary team i.e. Senior Scientists and Subject Matter Specialists. Who give skill or knowledge oriented training to farmers in multidisciplinary areas like Horticulture, Animal Husbandry and Fisheries, Home Science Agriculture Extension, Agronomy, Plant Protection Entomology/Pathology and Agriculture Engineer. The result of the study depict that the frequency of utilization of ICT tools by scientists for the farmers the tool which is utilized maximum by the KVK scientist is Smart phone, Internet and WhatsApp with ($x = 5.00$) and Rank-I and the minimum utilized by scientists Agri Guru, Mahadhan App, Agro medix agriculture app, Farm Key were not very frequently used ICT tools with ($x = 0.21, 0.17, 0.7, 0.00$). Rank I, II, III, IV.

KEYWORDS: ICT, utilization, frequency, users

INTRODUCTION: Information communication technology is the cornerstone of agricultural development at this time. Information communication technology promotes the productivity, efficiency and stability of the agricultural sector. This new information system can add more population and more villagers in developing countries. In order to provide nutrition and salary to a large section, communication is a core issue in developing societies. Communication policies, techniques and strategies need to be revolutionized so that instead of making it privileged by rich people it can be made a fundamental right of poor people. Communication science comes as a profession, particularly in natural and agricultural communication. It seeks to transform knowledge and skills about advanced agricultural technology with the aim of changing the existing agricultural practices of farmers to increase production

in rural areas .KVK's under ICAR, SAU, and NGO is one of the premier institutes dedicated to the upliftment of rural agricultural research. As an institutional innovation, KVK has been set up by ICAR across the country for application of agro-science and technology, with the help of a multi-disciplinary team i.e. senior scientists and subject matter specialists in agriculture sector. Those who provide skills and knowledge training to farmers in areas like Horticulture, Animal Husbandry and Fisheries, Home Science, Agricultural Extension, Agricultural Science, Plant Protection Entomology / Pathology and Agricultural Engineer. The responsibility of KVK's scientists is to transfer recent technologies / information required for their work, including crop production, input supply, pest and disease control, crop harvesting etc so that farmers can get agricultural information quickly and effectively.

RESEARCH OBJECTIVES: To assess the utilization behavior of KVK scientists towards ICT tools

- a) Day to day duration of ICT tools utilization by scientists
- b) To access the ICT tools by scientists in day to day working
- c) Purpose of utilization of ICT tools by scientists
- d) Frequency of utilization of ICT tools by scientists**
- e) Opinion about usefulness of ICT tools by scientists at work and job place
- f) Usefulness of ICT tools by scientists to the farmers for future use

The main focus on this study on Frequency of utilization of ICT tools by scientists and the frequencies namely as: Every Day, 2-3 times a week, Once a Week, Fortnightly, Rarely ,Never

List of ICT Tools

S.No.	ICT Tools
1	Computer
2	Laptop
3	Smart Phone
4	Telephone
5	Internet

6	Agricultural Official Websites
a	www.kvk.icar.gov.in
b	www.atarijodhpur.in
c	www.icar.gov.in
d	www.manage.gov.in
e	www.fao.org
f	www.mpuat.ac.in
g	www.raubikaner.org
h	www.aujodhpur.ac.in
i	www.sknu.ac.in
j	www.rajuvas.org
k	www.agriculture.rajasthan.gov.in
7	Kisan Call Centre
8	Information Kiosks
a	E-Chaupal
b	E-Mitra
9	TV
10	Radio
11	Demonstration Models
12	Digital Video Camera
13	e-newspaper
14	e-booklets
15	Messenger App
a	Whats App
b	M Kisan App or Kisan Suvidha
c	IQ App
d	KVK Sandesh App
16	Video Conferencing
17	e-books
18	e-journals
19	e-agricultural magazines
20	Agriculture Information portals

21	Agriculture App
a	IFFCO Kisan App
b	Agri Media Video App
c	Kisan Yojana
d	Farmer Bee- RML Farmers
e	Farmer's Portal
f	E-Nam
g	KVK Mobile App
h	Agro Advisory and Weather Forecast
i	Crop Contingency Plan
j	RML Farmer –Krishi Mitra
k	Pusa Krishi
l	Kheti- Badi
m	Krishi Gyan
n	Crop Insurance
o	Agri Market
p	App to gather crop information
q	Smart Farm
r	Fasal Salah
s	Agriculture and Farming App
t	Agro connect
u	Farm Key
v	Agro Medix Agriculture App
w	Mahadhan App
x	My Agri Guru
y	Uzhawan
z	Any other (Please specify)
22	You-Tube

RESEARCH METHODOLOGY: The Ex-post facto research design was adopted for present study. The ex-post facto research design is defined as systematic and empirical enquiry in which, the scientists have direct control of influencing independent variable because their manifestations have already occurred or because they are inherently not manipulable. The study was conducted in Rajasthan state of India. Rajasthan, a vast state comprises of thirty three districts and all were selected for the study. There are 44 Krishi Vigyan Kendra in Rajasthan state also (33 districts) has variety of thus geographical characteristics and all KVK engaged in various extension activities and all were considered for this study. The population of study included all Senior Scientists and Head and Subject Matter Specialists of Krishi Vigyan Kendra of all State Agricultural Universities (SAU'S) Non Government Organization (NGO'S) and Indian Council of Agricultural Research (ICAR) of the state. All the staff members including of SMS, Associate professor and Senior scientists and head. The total sample comprised of 210 Krishi Vigyan Kendra Scientists. The main focus of the present study is to find out the current

state of usage behaviour of KVK scientists regarding selected information communication technology tools.

RESULTS AND DISCUSSION- According to the objective of the present study reveals that the frequency of utilization of ICT tools by scientists for the farmers the tool which is utilized maximum by the KVK scientist is Smart phone and Internet with ($x=5.00$) and Rank-I overall. The website which is utilized maximum by the KVK scientist is www.kvk.icar.gov.in and www.atarijodhpur.in with ($x=4.89$) and Rank-IV and V respectively. The Message App tool which is utilized maximum by the KVK scientist is WhatsApp with ($x= 5.00$) and Rank-I in all the tools. The Agricultural App which is utilized maximum by the KVK scientist is YouTube with ($x=4.40$) and Rank-III in all the tools.

Table 1 : Frequency of utilization of ICT tools by Krishi Vigyan Kendra scientists

(N=210)

Category	Frequency of ICT tools													(X)	Rank
	Every day		2-3 times week		Once a week		Fortnightly		Rarely		Never				
	F	%	F	%	F	%	F	%	F	%	F	%			
Common ICT Tools	F	%	F	%	F	%	F	%	F	%	F	%			
Computer	208	99.05	0	0.00	1	0.48	1	0.48	0	0.00	0	0.00	4.98	II	
Laptop	151	71.90	43	20.48	10	4.76	1	0.48	5	2.38	0	0.00	4.59	XI	
Smart Phone	210	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5.00	I	
Telephone	118	56.19	27	12.85	4	1.90	10	4.76	11	5.24	40	19.04	3.52	XVII	
Internet	210	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5.00	I	
Agricultural Official Websites															
www.kvk.icar.gov. In	188	89.52	20	9.52	2	0.95	0	0.00	0	0.00	0	0.00	4.89	IV	
www.atarijodhpur.in	188	89.52	15	7.14	7	3.33	0	0.00	0	0.00	0	0.00	4.86	V	
www.icar.gov.in	159	75.71	44	20.95	7	3.33	0	0.00	0	0.00	0	0.00	4.72	VI	
www.manage.gov.in	1	0.48	24	11.43	89	42.38	79	37.62	3	1.42	14	6.67	2.51	XXXIII	
www.fao.org	3	1.43	28	13.33	82	39.04	68	32.38	4	1.90	25	11.90	2.44	XXXV	
www.mpuat.ac.in	14	6.67	15	7.14	133	63.33	37	17.62	11	5.24	0	0.00	2.92	XXIV	
www.raubikaner.org	11	5.24	15	7.14	119	56.67	41	19.52	15	7.14	9	4.28	2.70	XXIX	
www.aujodhpur.ac.in	28	13.34	9	4.29	100	47.62	33	15.71	22	10.48	18	8.57	2.68	XXX	
www.sknaui.ac.in	29	13.81	7	3.33	108	51.43	40	19.05	7	3.33	19	9.05	2.78	XXV	
www.rajuvas.org	13	6.19	13	6.19	130	61.90	27	12.86	8	3.81	19	9.05	2.71	XXVIII	
www.agriculture.rajasthan.gov.in	103	49.05	61	29.05	25	11.90	18	8.57	0	0.00	3	1.43	4.14	XIV	
Kisan Call Centre	41	19.52	22	10.48	18	8.57	12	5.71	12	5.71	105	50.00	1.82	XLIV	
Information Kiosks	13	6.19	47	22.38	50	23.81	33	15.71	6	2.86	61	29.05	2.26	XL	
E-chaupal	1	0.48	9	4.29	149	70.95	26	12.38	0	0.00	25	11.90	2.57	XXXI	
E-mitra	5	2.38	35	16.67	112	53.33	31	14.76	3	1.43	24	11.43	2.70	XXIX	
TV	166	79.05	23	10.95	11	5.24	0	0.00	10	4.76	0	0.00	4.60	X	
Radio	116	55.24	18	8.57	9	4.29	22	10.48	7	3.33	38	18.10	3.48	XIX	
Demonstration Models	46	21.90	95	45.24	51	24.29	15	7.14	3	1.43	0	0.00	3.79	XV	
Digital Video Camera	4	1.90	116	55.24	36	17.14	38	18.10	11	5.24	5	2.38	3.23	XXII	
e-newspaper	160	76.19	12	5.71	16	7.62	4	1.90	9	4.29	9	4.29	4.35	XIII	
e-booklets	10	4.76	68	32.38	78	37.14	22	10.48	18	8.57	14	6.67	2.94	XXIII	
Messenger App															
WhatsApp	210	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5.00	I	
M Kisan App or Kisan Suvidha	20	9.52	64	30.48	43	20.48	0	0.00	25	11.90	58	27.62	2.43	XXXVI	

IQ App	5	2.38	0	0.00	2	0.95	0	0.00	3	1.43	200	95.23	0.01	LIII
KVK Sandesh App	32	15.23	26	12.38	2	0.95	11	5.24	25	11.90	114	54.28	1.50	XLV
Video Conferencing	1	0.48	1	0.48	59	28.10	124	59.05	20	9.52	5	2.38	2.16	XLI
e-books	1	0.48	32	15.24	117	55.71	40	19.05	7	3.33	13	6.19	2.72	XXVII
e-journals	7	3.33	29	13.81	105	50.00	55	26.19	7	3.33	7	3.33	2.78	XXV
e-agricultural magazines	10	4.76	91	43.33	61	29.05	40	19.05	7	3.33	1	0.48	3.26	XXI
Agriculture Information portals	154	73.33	37	17.62	13	6.19	5	2.38	1	0.48	0	0.00	4.61	IX
Agriculture App														
IFFCO Kisan App	151	71.90	23	10.95	31	14.76	2	0.95	1	0.48	2	0.95	4.50	XII
Agri Media Video App	8	3.81	22	10.48	86	40.95	15	7.14	9	4.29	70	33.33	2.02	XLIII
Kisan Yojana	14	6.67	35	16.67	103	49.05	2	0.95	6	2.86	50	23.81	2.52	XXXII
Farmer Bee- RML Farmers	0	0.00	14	6.67	19	9.05	21	10.00	2	0.95	154	73.33	0.75	XLVII
Farmer's Portal	186	88.57	8	3.81	6	2.86	2	0.95	0	0.00	8	3.81	4.69	VII
E-Nam	53	25.24	25	11.90	68	32.38	2	0.95	1	0.48	61	29.05	2.73	XXVI
KVK Mobile App	177	84.29	15	7.14	12	5.71	0	0.00	0	0.00	6	2.86	4.67	VIII
Agro Advisory and Weather Forecast	194	92.38	1	0.48	2	0.95	0	0.00	0	0.00	13	6.19	4.67	VIII
Crop Contingency Plan	10	4.76	6	2.86	108	51.43	52	24.76	1	0.48	33	15.71	2.40	XXXVII
RML Farmer –Krishi Mitra	4	1.90	12	5.71	8	3.81	39	18.57	2	0.95	145	69.04	0.81	XLVI
Pusa Krishi	68	32.38	21	10.00	112	53.33	2	0.95	1	0.48	6	2.86	3.64	XVI
Kheti- Badi	42	20.00	21	10.00	130	61.90	2	0.95	2	0.95	13	6.19	3.29	XX
Krishi Gyan	55	26.19	22	10.48	122	58.10	3	1.43	1	0.48	7	3.33	3.50	XVIII
Crop Insurance	17	8.10	12	5.71	98	46.67	51	24.29	1	0.48	31	14.76	2.52	XXXII
Agri Market	17	8.10	11	5.24	89	42.38	59	28.10	1	0.48	33	15.71	2.45	XXXIV
App to gather crop information	8	3.80	10	4.76	76	36.19	71	33.81	1	0.48	44	20.95	2.14	XLII
Smart Farm	16	7.62	11	5.24	82	39.05	64	30.48	0	0.00	37	17.62	2.37	XXXVII I
Fasal Salah	18	8.57	5	2.38	111	52.85	20	9.52	0	0.00	56	26.67	2.30	XXXIX
Agriculture and Farming App	0	0.00	1	0.48	19	9.05	19	9.05	0	0.00	171	81.43	0.47	XLVIII
Agro connect	0	0.00	0	0.00	7	3.33	14	6.67	0	0.00	189	90.00	0.23	XLIX
Farm Key	0	0.00	0	0.00	0	0.00	7	3.33	0	0.00	203	96.67	0.07	LII
Agro Medix Agriculture App	0	0.00	0	0.00	0	0.00	7	3.33	0	0.00	203	96.67	0.07	LII
Mahadhan App	0	0.00	0	0.00	7	3.33	7	3.33	0	0.00	196	93.33	0.17	LI
My Agri Guru	0	0.00	6	2.86	7	3.33	0	0.00	0	0.00	197	93.81	0.21	L
Uzhawan	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	210	100.00	0.00	LIV
You-Tube	195	92.86	9	4.29	5	2.38	1	0.48	0	0.00	0	0.00	4.90	III

CONCLUSION: Thus it can be concluded that almost every day KVK scientists are using Smart Phone, Computer, You-Tube, agriculture official website www.kvk.icar.gov.in, www.atarijodhpur.in to update their technical knowledge. ICT tools like My Agri Guru, Mahadhan App, Agro Medics Agriculture App, and Farm Key App often did not used. The maximum use of ICT tools by the scientist was WhatsApp and Smart Phones so that agriculture related information could be obtained from time to time.

COMPETING INTERESTS: Authors have declared that no competing interests exist and there are no ethical issues as well.

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