



E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2019; 8(6): 2192-2199
Received: 28-09-2019
Accepted: 30-10-2019

Vinoda Shankara Naik
Ph.D. Scholar, Dept. of
Agricultural Extension, GKVK,
UAS, Bangalore, Karnataka,
India

NS Shivalinge Gowda
Director of Extension, Hebbal,
UAS, Bangalore, Karnataka,
India

A probe into accessibility of information and communication technologies among the SAU faculty in Karnataka

Vinoda Shankara Naik and NS Shivalinge Gowda

Abstract

The study was conducted during 2018-2019 at four State Agricultural Universities (SAUs), namely, University of Agricultural Sciences (UAS), Bangalore, University of Agricultural Sciences (UAS), Dharwad, University of Agricultural Sciences (UAS) Raichur, University of Agricultural and Horticultural Sciences (UAHS) Shimoga. Population of the study consists of teachers, researchers and extension personnel working in UAS-Bangalore, UAS- Dharwad, UAS-Raichur and UAS –Shimoga. Proportionate random sampling method was employed for selecting the sample. Thus the total sample size was 180. Ex-post-facto research design was followed. Data was collected through personal interview method and using questionnaires. Findings of the study revealed that the moderately accessible to ICTs was observed with 41.11 per cent faculty followed by highly accessible and less accessible with 28.89 and 27.78 per cent faculty, respectively. Extent of accessibility to ICTs by the faculty with regard to tools and peripherals revealed that nearly two third (62.22%) of faculty from UAHS S, more than half (53.33%) of faculty from UASR while less than half (46.67%) of faculty from UASD and little more than one third (40.00%) of faculty from UASB belonged to moderately accessible category. With regard to programmes, more than half (55.56%) of faculty from UAS B and most (60.00%) of the faculty from UASD whereas less than half (44.44%) of faculty from UASR and little less than half (46.67%) of faculty from UAHS S belonged to moderately accessible to ICTs category. Among UASB faculty as high as 46.67 per cent, among UASD faculty (44.44%), among UASR faculty (37.78%), among UAHS S faculty (35.56%) were belonged to moderately accessible category. Accessibility to ICTs among faculty with regard to tools and peripherals revealed that 50.56 per cent of the overall faculty belonged to moderately accessible category followed by highly accessible (36.67%) and less accessible (12.78%) category. There is great potential to improve the accessibility of ICTs among teachers at SAUs in Karnataka.

Keywords: State agricultural universities, accessibility, tools and peripherals, programmes

Introduction

The world is indeed a small place. This wording stands right in the present regularly developing and changing world. It would not be all in all correct to express that the present world is about the universe of Information and Communication. Regular, innovations and creations are being made in the territory of information processing and travelling. There is no zone which has not been influenced by this. Due to this, the word 'separation' sounds unexpected in present day setting. The entire world is changing into a little spot where any data can be traded by individuals in a couple of moments and that too in an appropriate and successful manner with no loss of information, while it is being handled. On the one hand, various methods of telecommunication and information exchange have featured the need for multipurpose improvement and development of information technology and on the other, the simple access and utilization of it has supported the system of data trade. The sum total of all this has been possible through Information Technology.

In the fast emerging information explosion era, it is difficult to access particular information. With the advent of Information and Communication Technologies (ICTs) electronic information sources can be seen as the most recent development and are among the most powerful tools ever invented in human history. ICT requires computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to being marketed. The ICTs used in the universities are tools and peripherals, programmes, Web browsers, search engines, personal mails, Applications, File sharing, Websites related to agricultural education and data bases, social networking sites, conferencing, short message services and online transactions. So there is a need to explore the present status of the accessibility to ICTs of teachers of University of Agricultural Sciences in Karnataka.

Corresponding Author:
Vinoda Shankara Naik
Ph.D. Scholar, Dept. of
Agricultural Extension, GKVK,
UAS, Bangalore, Karnataka,
India

Methodology

The study was conducted during 2018-2019 at four State Agricultural Universities (SAUs), namely, University of Agricultural Sciences (UAS), Bangalore and this university consists of 4 campuses viz., College of Agriculture GKVK, College of Agriculture Hassan, College of Agriculture Mandya and College of sericulture Chintamani. Second at University of Agricultural Sciences (UAS), Dharwad with four campuses viz., College of Agriculture Dharwad, College of Agriculture Vijayapur, College of Forestry Sirsi and College of Agriculture Hanumanamatti. Third at University of Agricultural Sciences (UAS) Raichur with three campuses viz., College of Agriculture Raichur, College of Agriculture Bheemaranagudi, College of Agriculture Kalaburagi, College of Agricultural Engineering, Raichur. Fourth at University of Agricultural and Horticultural Sciences (UAHS) Shimoga with four campuses viz., College of Agriculture Shimoga, College of Forestry Ponnampet, College of Horticulture Mudigere, College of Horticulture Hiriur. Proportionate random sampling method was employed for selecting the sample. Thus the total sample size was 180. Ex-post-facto research design was followed. Data was collected through personal interview method and using questionnaires. The collected data was analyzed by using mean, standard deviation, frequency, percentage, correlation, regression, etc. After discussing with teachers 51 Information and Communication technologies were selected. This 51 ICTs were broadly grouped under 11 headings namely tools and peripherals, programmes, web browsers, search engines, personal mails, mobile applications, websites and data bases related to agriculture, social networking sites, conferencing, short message services and online transaction applications. Accessibility was operationally defined as the extent to which the faculty have access to various ICT tools and technologies in their work environment with or without subscription/ownership to the same. The accessibility to ICT was quantified by assigning score according to the accessibility to the ICT by the respondents on a two continuum namely 'yes' and 'no' with a weightages of 1 and 0, respectively. The procedure as followed by Joteen *et al.* (2009) [3] with little modification.

The extent of accessibility was quantified by assigning score according to the extent of accessibility by the respondents. After obtaining the response as Greater extent, Average and Less extent score of 3, 2, 1 has been given, respectively. The final scoring was arrived by summing up the scores of all the statements. The possible obtainable score of accessibility ranged between zero to 51, and based on the total score the respondents were classified in to three levels as given below using mean and standard deviation as measures of check.

Results and discussion

Accessibility to ICTs among the SAU faculty

The result presented in the Table-1 revealed that moderately accessible was observed with 41.11 per cent faculty followed by highly accessible and less accessible with 28.89 and 27.78 per cent faculty respectively. A critical look into the table depicted that 46.67 per cent of UASB faculty belonged to moderately accessible category followed by highly accessible (31.11%) and less accessible (22.22%) category. Further, 44.44 per cent of UASD faculty belonged to moderately accessible category followed by highly accessible (28.89%) and less accessible (26.67%) category. Nearly forty per cent (37.78%) of UASR faculty belonged to moderately accessible category followed by less accessible (33.33%) and highly accessible (28.89%) category. Whereas, more than one third (35.56%) of the UAHS S faculty belonged to moderately accessible category followed by less accessible (37.78%) and highly accessible (26.67%) category.

The probable reason for most of faculty belonged to medium and high level of accessibility to ICT might be the fact that the university has provided favorable infrastructure and other resource facilities to access ICTs. Most of faculties working in the university were provided with individual chambers in main campus and also for the faculty working in sub campuses. Accessibility of ICTs at university and personally owned smart phone and laptops have also contributed for majority of faculty using ICTs. Similar findings were reported by Janaka (2016) [2] and Dishant (2017) [1].

Table 1: Level of accessibility to ICTs by the faculty of SAUs

(n=180)

Sl. No.	Category	Faculty								Overall (n=180)	
		UASB (n=45)		UASD (n=45)		UASR (n=45)		UAHS S (n=45)			
		f	%	f	%	f	%	f	%	f	%
1	Less accessible(<24.84)	10	22.22	12	26.67	15	33.33	17	37.78	50	27.78
2	Moderately accessible (24.84 -30.94)	21	46.67	20	44.44	17	37.78	16	35.56	74	41.11
3	Highly accessible (>30.94)	14	31.11	13	28.89	13	28.89	12	26.67	52	28.89
Mean=27.89		SD=6.11									

f – Frequency

% - Percentage

The results on SAU wise distribution of accessibility to ICTs by the faculty with regard to tools and peripherals as presented in Table-2 revealed that nearly two third (62.22%) of faculty from UAHS S, more than half (53.33%) of faculty from UAS R while less than half (46.67%) of faculty from UASD and little more than one third (40.00%) of faculty from UAS B belonged to moderately accessible category. Similarly, more than half (51.11%) faculty from UASB, as high as (42.22%) faculty from UASD while less than one third (31.11%) faculty from UASR and very less (22.22%) faculty from UAHS S belonged to highly accessible category. Further, all the universities had less than one third of faculty under less accessible category. However, UAHS S and UASR

had the highest percentage (15.56%) of faculty under less accessible category followed by UASD (11.11%) and least in UASB (8.89%).

An insight into the table also reveals the SAU wise distribution of accessibility to ICTs by the faculty with regard to programmes. Further, more than half (55.56%) of faculty from UASB and most (60.00%) of the faculty from UASD whereas less than half (44.44%) of faculty from UASR and little less than half (46.67%) of faculty from UAHS S belonged to moderately accessible to ICTs category. Similarly, more than one third (37.78%) faculty from UASR, little more than one third (35.56%) faculty from UASB while little less than one third (31.11%) faculty from UASD and

less than one third (22.89%) faculty from UAHS S belonged to highly accessible category. Further, all the universities had less than one third of faculty under less accessible category. However, UAHS S had the highest percentage (24.44%) of faculty, followed by UASR (17.78%), an equal percentage (8.89%) of UASD and UASB faculty under less accessible category.

A close observation of the table also reveals the extent of accessibility with regard to web browsers, more than half (55.56%) of the faculty from UASD, nearly same (53.33%) of the faculty from UASB, a little more than half (51.11%) of the faculty from UASR and same percentage (51.11%) of the faculty from UAHS S belonged to moderately accessible category. However, highest percentage (37.78%) of UASB faculty followed by UASD (33.33%), UASR (28.89%) and UAHS S (22.22%) of faculty belonged to highly accessible category. Similarly, less than one third (26.67%) of the faculty from UAHS S, one fifth (20.00%) of UASR, less percentage (11.11%) of UASD and less than ten per cent (8.89%) of faculty from UASB belonged to less accessible category.

Further, table also reveals the SAU wise distribution of accessibility to ICTs by the faculty with regard to search engines, more than half (57.78%) of the faculty from UASD, same (57.78%) of the faculty from UASR, more than half (53.33%) of the faculty from UAHS S and little more than half (51.11%) of the faculty from UASB belonged to moderately accessible category. Similarly, more one third of the faculties from all SAUs were found to belong to highly accessible category. However, highest percentage was found in UASB (44.44%) followed by an equal percentage of faculty from UASD (37.78%), UAHS S (37.78%) and UASR (35.56%). Similarly, less than one tenth (8.89%) of the faculty from UAHS S, little less than one tenth (6.67%) the faculty from UASR, an equal percentage (4.44%) the faculty from both UASD and UASB belonged to less accessible category.

A close observation of the table also reveals the extent of accessibility with regard to personal mails, nearly more than half of the faculties from all SAUs were found to belong to moderately accessible category. However, an equal percentage (53.33%) was found in UASB and UASD followed by an equal percentage (51.11%) was found in UASR and UAHS S. Similarly, less than half of the faculties from all SAUs were found to belong to highly accessible category. However, highest percentage was found in UASB (44.44%), an equal percentage of UASD (42.22%), UASR (42.22%) and UAHS S (42.22%) belonged to highly accessible category. Further, nearly less than one fifth of the faculties from all SAUs were found to belong to less accessible category. However, highest percentage was found in UAHS S (6.67%) followed by UASR (6.67%) and UASD (4.44%) while the least was under UASB (2.22%) belonged to less accessible category.

Similarly, an insight into the table also reveals the extent of accessibility with regard to mobile applications, less than half (44.44%) of faculty from UASB, less than half (44.44%) of faculty from UASD, a little less than half (40.00%) of faculty from UASR and a little more than one third (37.78%) of faculty from UAHS S belonged to moderately accessible category. Further, nearly less than one third of faculty from UASB (28.89%), UASD (24.44%), and UASR (24.44%) and one fifth (20.00%) of faculty from UAHS S belonged to highly accessible category. Similarly, a little more than two fifth (42.22%) of faculty from UAHS S, more than one third (35.55%) of faculty from UASR, a little less than one third

(31.11%) of faculty from UASD and more than one fourth (26.67%) of faculty from UASB belonged to less accessible category.

Further, it is also apparent that the extent of accessibility with regard to websites and databases related to agriculture, a little more than half (51.11%) of faculty from UASB, a little more than half (51.11%) of faculty from UASD, a little less than half (48.89%) of faculty from UASR and less than half (44.44%) of faculty from UAHS S belonged to moderately accessible category. Similarly, nearly one third (31.11%) of faculty from UASB, UASD (26.67%), UASR (22.22%) and UAHS S (20.00%) of faculty belonged to highly accessible category. However, highest percentage of faculty of UAHS S (37.78%) followed by UASR (28.89%) and UASD (22.22%) while the least was under UASB (17.78%) belonged to less accessible category.

A close observation of the table also reveals the extent of accessibility with regard to social networking sites, as high as (48.89%) of the faculty from UASB, UASD (48.89%), UASR (46.67%) and UAHS S (44.44%) of faculty belonged to moderately accessible category. Similarly, more than one third (37.78%) of faculty from UAS B, an equal percentage of faculty (35.56%) from UASD, UASR and UAHS S belonged to highly accessible category. Further, nearly less than one third of the faculties from all SAUs were found to belong to less accessible category. However, highest percentage was found in UAHS S (20.00%) followed by UASR (17.78%), UASD (15.56%) and UASB (13.33%) belonged to less accessible category.

An insight into the table also reveals the extent of accessibility with regard to conferencing, interestingly less than three fourth (73.33%) of faculty from UAHS S, three fifth (60.00%) of faculty from UASR, more than half (55.56%) of faculty from UASD and a little more than half (51.11%) of faculty from UAS B belonged to less accessible category. However, a little less than one third (31.11%) of faculty from UASD, less than one third (28.89%) of faculty from UASB, same (28.89%) of faculty from UASR and a little more than one fifth (22.22%) of faculty from UAHS S belonged to moderately accessible category. Similarly, nearly less than one third of the faculties from all SAUs were found to belong to highly accessible category. However, highest percentage was found in UASB (20.00%) followed by UASD (13.33%) and UASR (11.11%), while the very least was under UAHS S (4.44%) belonged to highly accessible category.

Further, it is also apparent that the extent of accessibility with regard to Short Message Services, more than three fourth (77.78%) of faculty from UAHS S, more than three fifth (66.67%) of faculty from UAS R, three fifth (60.00%) of faculty from UASD and more than half (55.56%) of faculty from UASB belonged to less accessible category. Further, one third (33.33%) of faculty from UASB, less than one third (31.11%) of faculty from UASD, nearly one fourth (24.44%) of faculty from UASR and less than one fifth (15.56%) of faculty from UAHS S belonged to moderately accessible category. Similarly, nearly less than one fifth of the faculties from all SAUs were found to belong to highly accessible category. However, highest percentage was found in UASB (11.11%), UASD (8.89%), UASR (8.89%) and UAHS S (6.67%) belonged to highly accessible category.

A close observation of the table also reveals the extent of accessibility with regard to online transaction applications, more than half (55.56%) of faculty from UASB, nearly same (53.33%) faculty from UASD whereas more than half (51.11%) of faculty from UASR and same (51.11%) of

faculty from UAHS S belonged to moderately accessible to ICTs category. Further, one third (33.33%) of faculty from UASB, a little less than one third (31.11%) of faculty from UASD, less than one third (28.89%) of faculty from UASR and an equal percentage (28.89%) of faculty from UAHS S belonged to highly accessible category. Similarly, nearly less than one fifth of the faculties from all SAUs were found to belong to less accessible category. However, highest percentage was found in UAHS S (20.00%), UASR (20.00%), UASD (15.56%) and UASB (11.11%) belonged to less accessible category.

The possible reason for majority of the faculty accessing ICT through Tools and peripherals, programmes, web browsers, search engines, personals mails, social networking sites and online transaction applications might be these were the simplest tools without proper awareness and training also can be used. Whereas mobile applications, websites and databases related to agriculture, conferencing and short message services required higher knowledge and skills in accessing these ICTs. So these tools were comparatively less used by the faculty.

Table 2: SAUs wise distribution of accessibility to ICTs by the faculty

(n=180)

Sl. No.	Information and Communication Technology (ICT) and extent of Accessibility	Faculty							
		UASB (n=45)		UASD (n=45)		UASR (n=45)		UAHS S (n=45)	
		f	%	f	%	f	%	f	%
A	Tools and peripherals								
	Less accessible (< Mean - ½ SD)	4	8.89	5	11.11	7	15.56	7	15.56
	Moderately accessible (Mean ± ½ SD)	18	40.00	21	46.67	24	53.33	28	62.22
	High accessible (> Mean + ½ SD)	23	51.11	19	42.22	14	31.11	10	22.22
B	Programmes								
	Less accessible (< Mean - ½ SD)	4	8.89	4	8.89	8	17.78	11	24.44
	Moderately accessible (Mean ± ½ SD)	25	55.56	27	60.00	20	44.44	21	46.67
	High accessible (> Mean + ½ SD)	16	35.56	14	31.11	17	37.78	13	28.89
C	Web Browsers								
	Less accessible (< Mean - ½ SD)	4	8.89	5	11.11	9	20.00	12	26.67
	Moderately accessible (Mean ± ½ SD)	24	53.33	25	55.56	23	51.11	23	51.11
	High accessible (> Mean + ½ SD)	17	37.78	15	33.33	13	28.89	10	22.22
D	Search Engines								
	Less accessible (< Mean - ½ SD)	2	4.44	2	4.44	3	6.67	4	8.89
	Moderately accessible (Mean ± ½ SD)	23	51.11	26	57.78	26	57.78	24	53.33
	High accessible (> Mean + ½ SD)	20	44.44	17	37.78	16	35.56	17	37.78
E	Personal Mails								
	Less accessible (< Mean - ½ SD)	1	2.22	2	4.44	3	6.67	3	6.67
	Moderately accessible (Mean ± ½ SD)	24	53.33	24	53.33	23	51.11	23	51.11
	High accessible (> Mean + ½ SD)	20	44.44	19	42.22	19	42.22	19	42.22
F	Mobile Applications								
	Less accessible (< Mean - ½ SD)	12	26.67	14	31.11	16	35.56	19	42.22
	Moderately accessible (Mean ± ½ SD)	20	44.44	20	44.44	18	40.00	17	37.78
	High accessible (> Mean + ½ SD)	13	28.89	11	24.44	11	24.44	9	20.00
G	Websites and databases related to Agriculture								
	Less accessible (< Mean - ½ SD)	8	17.78	10	22.22	13	28.89	17	37.78
	Moderately accessible (Mean ± ½ SD)	23	51.11	23	51.11	22	48.89	20	44.44
	High accessible (> Mean + ½ SD)	14	31.11	12	26.67	10	22.22	8	17.78
H	Social networking sites								
	Less accessible (< Mean - ½ SD)	6	13.33	7	15.56	8	17.78	9	20.00
	Moderately accessible (Mean ± ½ SD)	22	48.89	22	48.89	21	46.67	20	44.44
	High accessible (> Mean + ½ SD)	17	37.78	16	35.56	16	35.56	16	35.56
I	Conferencing								
	Less accessible (< Mean - ½ SD)	23	51.11	25	55.56	27	60.00	33	73.33
	Moderately accessible (Mean ± ½ SD)	13	28.89	14	31.11	13	28.89	10	22.22
	High accessible (> Mean + ½ SD)	9	20.00	6	13.33	5	11.11	2	4.44
J	Short Message Services								
	Less accessible (< Mean - ½ SD)	25	55.56	27	60.00	30	66.67	35	77.78
	Moderately accessible (Mean ± ½ SD)	15	33.33	14	31.11	11	24.44	7	15.56
	High accessible (> Mean + ½ SD)	5	11.11	4	8.89	4	8.89	3	6.67
K	Online transaction applications								
	Less accessible (< Mean - ½ SD)	5	11.11	7	15.56	9	20.00	9	20.00
	Moderately accessible (Mean ± ½ SD)	25	55.56	24	53.33	23	51.11	23	51.11
	High accessible (> Mean + ½ SD)	15	33.33	14	31.11	13	28.89	13	28.89

f – Frequency

% - Percentage

The result presented in the Table-3 revealed that moderately accessible was observed with 46.67 per cent faculty followed by highly accessible and less accessible with 31.11 and 22.22 per cent of faculty respectively. A critical look into the table depicted that more than half of teachers (55.00%) and an equal percentage (40.00%) of researchers and extension staff

belonged to moderately accessible to ICTs category, whereas 40.00 per cent of extension staff, 33.33 per cent of researchers and 25.00 per cent of teachers belonged to highly accessible to ICT category, while an equal percentage (20.00%) of teachers and extension staff and 26.67 per cent of researchers belonged to less accessible to ICT category.

Table 3: Mandate wise level of accessibility to ICTs by the faculty of UASB

(n=45)

Sl. No.	Category	Faculty						Overall (n=45)	
		Teaching (n=20)		Research (n=15)		Extension (n=10)			
		f	%	f	%	f	%	f	%
1	Less accessible (<20.68)	4	20.00	4	26.67	2	20.00	10	22.22
2	Moderately accessible (20.68- 39.50)	11	55.00	6	40.00	4	40.00	21	46.67
3	Highly accessible (>39.50)	5	25.00	5	33.33	4	40.00	14	31.11
Mean=30.09					SD=18.82				

f – Frequency % - Percentage

A cursory look at Table-4 showed that moderately accessible was observed with 44.44 per cent faculty followed by highly accessible and less accessible with 28.89 and 26.67 per cent of faculty respectively. A critical look into the table depicted that half of the extension staff (50.00%), teachers (45.00%) and researchers (40.00%) belonged to moderately accessible

to ICTs category, whereas 33.33 per cent of researchers, 30.00 per cent of extension staff and 25.00 per cent of teachers belonged to highly accessible to ICT category, while 30.00 per cent of teachers, researchers (26.67%) and extension staff (20.00%) belonged to less accessible to ICT category.

Table 4: Mandate wise level of accessibility to ICTs by the faculty of UASD

(n=45)

Sl. No.	Category	Faculty						Overall (n=45)	
		Teaching (n=20)		Research (n=15)		Extension (n=10)			
		f	%	f	%	f	%	f	%
1	Less accessible(<20.99)	6	30.00	4	26.67	2	20.00	12	26.67
2	Moderately accessible (20.99- 37.59)	9	45.00	6	40.00	5	50.00	20	44.44
3	Highly accessible (>37.59)	5	25.00	5	33.33	3	30.00	13	28.89
Mean=29.28					SD=16.60				

f – Frequency % - Percentage

The result presented in the Table-5 revealed that moderately accessible was observed with 37.78 per cent faculty followed by less accessible and highly accessible with 33.33 and 28.89 per cent of faculty respectively. A critical look into the table depicted that as high as (40.00%) teachers, researchers (40.00%) and extension staff (30.00%) belonged to

moderately accessible to ICTs category, whereas 40.00 per cent of extension staff, 33.33 per cent of researchers and 30.00 per cent of teachers belonged to less accessible to ICT category, while 30.00 per cent of teachers, extension staff (30.00%) and researcher (26.67%) belonged to highly accessible to ICT category.

Table 5: Mandate wise level of accessibility to ICTs by the faculty of UASR

(n=45)

Sl. No.	Category	Faculty						Overall (n=45)	
		Teaching (n=20)		Research (n=15)		Extension (n=10)			
		f	%	f	%	f	%	f	%
1	Less accessible (<20.02)	6	30.00	5	33.33	4	40.00	15	33.33
2	Moderately accessible (20.02- 31.23)	8	40.00	6	40.00	3	30.00	17	37.78
3	Highly accessible (>31.23)	6	30.00	4	26.67	3	30.00	13	28.89
Mean=25.62					SD=11.21				

f – Frequency % - Percentage

It could be observed from the Table-6 that moderately accessible was observed with 35.56 per cent faculty followed by less accessible and highly accessible with 37.78 and 26.67 per cent of faculty respectively. A critical look into the table depicted that as high as (40.00%) researcher, extension staff (40.00%) and teachers (30.00%) belonged to moderately

accessible to ICTs category, whereas 40.00 per cent of teachers, 40.00 per cent of researchers and 30.00 per cent of extension staff belonged to less accessible to ICT category, while 30.00 per cent of teachers, extension staff (30.00%) and researcher (20.00%) belonged to highly accessible to ICT category.

Table 6: Mandate wise level of accessibility to ICTs by the faculty of UAHS Shimoga

(n=45)

Sl. No.	Category	Faculty						Overall (n=45)	
		Teaching (n=20)		Research (n=15)		Extension (n=10)			
		f	%	f	%	f	%	f	%
1	Less accessible(<20.78)	8	40.00	6	40.00	3	30.00	17	37.78
2	Moderately accessible (20.78-32.33)	6	30.00	6	40.00	4	40.00	16	35.56
3	Highly accessible (>32.33)	6	30.00	3	20.00	3	30.00	12	26.67
Mean=26.56		SD=11.55							

f – Frequency

% - Percentage

The possible reason for majority of faculty of SAUs accessing ICT to a greater extent and found in moderately accessible category might be due to spending more time at their work place, medium to high knowledge about ICT, favorable resource and infrastructure facilities and availability of ICTs at university and library at free of cost without spending extra money. The results are in line with the findings of Okwuchukwu (2015)^[6] and Janaka (2016)^[2].

The results on mandate wise distribution of accessibility to ICTs among the faculty of SAUs with regard to tools and peripherals as presented in Table-7 revealed that 50.56 per cent of the overall faculty belonged to moderately accessible category followed by highly accessible (36.67%) and less accessible (12.78%) category. A close observation of the data revealed that as high as (52.50%) of teachers and extension staff (50.00%), researchers (46.67%) belonged to moderately accessible category. Whereas, more than two fifth (40.00%) of researchers, more than one third (35.00%) of teachers and extension staff belonged to highly accessible category. While, 13.33 per cent of researchers, a less percentage (12.50%) of extension staff and teachers belonged to less accessible category.

An insight into the table also revealed the accessibility with regard to Programmes. Further, 51.67 per cent of the overall faculty belonged to moderately accessible category followed by highly accessible (33.33%) and less accessible (15.00%) category. A close observation of the data revealed that as high as (52.50%) of extension staff, researchers (51.67%) and teachers (51.25%) belonged to moderately accessible category. Whereas, two fifth (40.00%) of researchers, an equal percentage (35.00%) of teachers and extension staff belonged to highly accessible category. While, 17.50 per cent of extension staff, a less percentage (15.00%) of researchers and a less percentage (13.75%) of teachers belonged to less accessible category.

A cursory look into the table also revealed the accessibility with regard to Web browsers. Further, 52.78 per cent of the overall faculty belonged to moderately accessible category followed by highly accessible (30.56%) and less accessible (16.67%) category. A close observation of the data revealed that as high as (55.00%) of researchers and extension staff, teachers (50.00%) belonged to moderately accessible category. Whereas, more than one third (35.00%) of teachers, less than one third (28.33%) of researchers and less than one third (25.00%) of extension staff belonged to highly accessible category. While, 20.00 per cent of extension staff, researchers (16.67%) and teachers (13.75%) belonged to less accessible category.

The table also revealed the accessibility with regard to Search engines. Further, 55.00 per cent of the overall faculty belonged to moderately accessible category followed by highly accessible (38.89%) and less accessible (6.11%) category. A close observation of the data revealed that as high as (61.67%) of researchers, extension staff (52.50%) and

teachers (51.25%) belonged to moderately accessible category. Whereas, more than two fifth (43.75%) of teachers, two fifth (40.00%) of extension staff and less than one fourth (31.67%) of researchers belonged to highly accessible category. While, 7.50 per cent of extension staff, researchers (6.67%) and teachers (5.00%) belonged to less accessible category.

The data presented in the table also revealed the accessibility with regard to Personal mails. Further, 52.22 per cent of the overall faculty belonged to moderately accessible category followed by highly accessible (42.78%) and less accessible (5.00%) category. A close observation of the data revealed that as high as (53.33%) of researchers, extension staff (52.50%) and teachers (51.25%) belonged to moderately accessible category. Whereas, more than two fourth (45.00%) of teachers, more than two fifth (41.67%) of researchers and two fifth (40.00%) belonged to highly accessible category. While, 7.50 per cent of extension staff, researchers (5.00%) and teachers (3.75%) belonged to less accessible category.

An insight into the table also revealed the accessibility with regard to Mobile applications. Further, 41.67 per cent of the overall faculty belonged to moderately accessible category followed by less accessible (33.89%) and highly accessible (24.44%) category. A close observation of the data revealed that as high as (45.00%) of extension staff, teachers (42.50%) and researchers (38.33%) belonged to moderately accessible category. Whereas, more than one third (35.00%) of teachers, one third (33.33%) of researchers and less than one third (32.50%) of extension staff belonged to less accessible category. While, 28.33 per cent of researchers, an equal percentage (22.50%) of teachers and extension staff and belonged to highly accessible category.

A close view of table also revealed the accessibility with regard to Websites and databases related to agriculture. Further, 48.89 per cent of the overall faculty belonged to moderately accessible category followed by less accessible (26.67%) and highly accessible (24.44%) category. A close observation of the data revealed that as high as (51.25%) of teachers, extension staff (47.50%) and researchers (46.67%) belonged to moderately accessible category. Whereas, less than one third (30.00%) of extension staff, more than one fourth (26.25%) of teachers and one fourth (25.00%) belonged to less accessible category. While, 28.33 per cent of researchers, extension staff (22.50%), researchers (22.50%) belonged to highly accessible category.

An insight into the table also showed the accessibility with regard to Social networking sites. Further, 47.22 per cent of the overall faculty belonged to moderately accessible category followed by highly accessible (36.11%) and less accessible (16.67%) category. A close observation of the data revealed that as high as (50.00%) of extension staff, researchers (50.00%) and teachers (42.50%) belonged to moderately accessible category. Whereas, nearly two fifth (38.75%) of teachers, more than one third (36.67%) of researchers and less

than one third (30.00%) of extension staff belonged to highly accessible category. While, 18.75 per cent of teachers, extension staff (17.50%) and researchers (13.33%) belonged to less accessible category.

The results in table also showed the accessibility with regard to Short Message Services. Further, 65.00 per cent of the overall faculty belonged to less accessible category followed by moderately accessible (26.11%) and highly accessible (8.89%) category. A close observation of the data revealed that as high as (68.75%) of teachers, extension staff (67.50%) and researchers (58.33%) belonged to less accessible category. Whereas, less than one third (31.67%) of researchers, one fourth (25.00%) of teachers and one fifth (20.00%) of extension staff belonged to moderately accessible category. While, 12.50 per cent of extension staff, researchers (10.00%) and teachers (6.25%) belonged to highly accessible category.

A cursory look into the table also showed the accessibility with regard to Online transaction applications. Further, 52.78 per cent of the overall faculty belonged to moderately accessible category followed by highly accessible (30.00%) and less accessible (16.67%) category. A close observation of the data revealed that as high as teachers (53.75%), researchers (53.33%) and extension staff (50.00%) belonged to moderately accessible category. Whereas, less than one third (31.25%) of teachers, an equal percentage (30.00%) of

researchers and extension staff belonged to highly accessible category. While, 20.00 per cent of extension staff, researchers (16.67%) and teachers (15.00%) belonged to less accessible category.

The probable reason might be that computer mediated learning is playing a major role in academic, extension and research fields in recent years. Information and Communication Technologies are used for variety of purposes, such as personal messages to peer group communication, tele conferencing, access to electronic news bulletin boards, electronic journals, subject database etc. With greater access to global networks, teachers, extension staff, researcher and scientists can gain access to a vast array of information very quickly. Similar findings were reported by Nagalakshmi (2007)^[5] and Smaranika (2010)^[7].

Some of the ICTs resources like websites and data bases related to agriculture, social networking sites and conferencing were not available for university faculty in general. Wherever available they were inadequate, those available are being underutilized. Numerous factors are favoring underutilization and thus need to be addressed. This might be the probable reason for teaching, research and extension faculty to be found in moderate accessibility category and for using selected ICTs. These results are in agreement with the findings of Mavellas *et al.* (2015)^[4].

Table 7: Mandate wise distribution of accessibility to ICTs among the faculty of SAUs

(n=180)

Sl. No	Information and Communication Technology (ICT) and extent of Accessibility	Faculty							
		Teaching (n=80)		Research (n=60)		Extension (n=40)		Overall (n=180)	
		f	%	f	%	f	%	f	%
A	Tools and peripherals								
	Less accessible (< 14.48)	10	12.50	8	13.33	5	12.50	23	12.78
	Moderately accessible (14.48- 19.58)	42	52.50	28	46.67	21	52.50	91	50.56
	High accessible (> 19.58)	28	35.00	24	40.00	14	35.00	66	36.67
B	Programmes								
	Less accessible (< 8.93)	11	13.75	9	15.00	7	17.50	27	15.00
	Moderately accessible (8.93-11.88)	41	51.25	31	51.67	21	52.50	93	51.67
	High accessible (> 11.88)	28	35.00	20	33.33	12	30.00	60	33.33
C	Web Browsers								
	Less accessible (< 2.01)	12	15.00	10	16.67	8	20.00	30	16.67
	Moderately accessible (2.01-3.07)	40	50.00	33	55.00	22	55.00	95	52.78
	High accessible (> 3.07)	28	35.00	17	28.33	10	25.00	55	30.56
D	Search Engines								
	Less accessible (< 1.97)	4	5.00	4	6.67	3	7.50	11	6.11
	Moderately accessible (1.97-2.97)	41	51.25	37	61.67	21	52.50	99	55.00
	High accessible (> 2.97)	35	43.75	19	31.67	16	40.00	70	38.89
E	Personal Mails								
	Less accessible (< 2.05)	3	3.75	3	5.00	3	7.50	9	5.00
	Moderately accessible (2.05-3.21)	41	51.25	32	53.33	21	52.50	94	52.22
	High accessible (> 3.21)	36	45.00	25	41.67	16	40.00	77	42.78
F	Mobile Applications								
	Less accessible (< 4.92)	28	35.00	20	33.33	13	32.50	61	33.89
	Moderately accessible (4.92-10.94)	34	42.50	23	38.33	18	45.00	75	41.67
	High accessible (> 10.94)	18	22.50	17	28.33	9	22.50	44	24.44
G	Websites and databases related to Agriculture								
	Less accessible (< 3.90)	21	26.25	15	25.00	12	30.00	48	26.67
	Moderately accessible (3.90-7.12)	41	51.25	28	46.67	19	47.50	88	48.89
	High accessible (> 7.12)	18	22.50	17	28.33	9	22.50	44	24.44
H	Social networking sites								
	Less accessible (< 7.04)	15	18.75	8	13.33	7	17.50	30	16.67
	Moderately accessible (7.04-10.87)	34	42.50	30	50.00	21	52.50	85	47.22
	High accessible (> 10.87)	31	38.75	22	36.67	12	30.00	65	36.11
I	Conferencing								
	Less accessible (< 0.24)	50	62.50	39	65.00	19	47.50	108	60.00

	Moderately accessible (0.24-2.32)	23	28.75	13	21.67	14	35.00	50	27.78
	High accessible (> 2.32)	7	8.75	8	13.33	7	17.50	22	12.22
J	Short Message Services								
	Less accessible (< 0.22)	55	68.75	35	58.33	27	67.50	117	65.00
	Moderately accessible (0.22-2.22)	20	25.00	19	31.67	8	20.00	47	26.11
	High accessible (> 2.22)	5	6.25	6	10.00	5	12.50	16	8.89
K	Online transaction applications								
	Less accessible (< 7.61)	12	15.00	10	16.67	8	20.00	30	16.67
	Moderately accessible (7.61-9.98)	43	53.75	32	53.33	20	50.00	95	52.78
	High accessible (> 9.98)	25	31.25	18	30.00	12	30.00	55	30.56

f – Frequency

% - Percentage

Conclusion

The agriculture education is not an exception which needs timely dissemination of the latest knowledge, information being generated and updated across the globe from time to time. In the fast emerging information explosion ICT has the great potential in facilitating the search of required information easily and quickly. The moderately accessible to ICTs was observed with 41.11 per cent faculty followed by highly accessible and less accessible with 28.89 and 27.78 per cent faculty, respectively. Extent of accessibility to ICTs by the faculty with regard to tools and peripherals revealed that nearly two third (62.22%) of faculty from UAHS S, more than half (53.33%) of faculty from UASR while less than half (46.67%) of faculty from UASD and little more than one third (40.00%) of faculty from UASB belonged to moderately accessible category. With regard to programmes, more than half (55.56%) of faculty from UAS B and most (60.00%) of the faculty from UASD whereas less than half (44.44%) of faculty from UASR and little less than half (46.67%) of faculty from UAHS S belonged to moderately accessible to ICTs category. The government need to opt for service providers who provide better internet connectivity at universities to access and disseminate agricultural information by the faculty was the suggestion given by the faculty.

students in universities. M.Sc. (Hm. Sci.) Thesis (Unpub.), Univ. Agric. Sci., Dharwad, 2010.

References

1. Dishant JJ. Knowledge attitude and extent of utilization pattern of ICT tools among extension functionaries. M.Sc. (Agri) Thesis (Unpub.), Univ. Agric. Sci., Sciences, Bengaluru, 2017.
2. Janaka IGK. Usage pattern of e-resources by the faculty of university of agricultural sciences, Dharwad. MSc. (Agri.) thesis (unpub.), University of Agricultural Sciences, Dharwad, 2016.
3. Joteen SRK, Madhuri D, Arup R. Use of internet based e-resources at Manipur University. *Annals Lib. Inf. Studies.* 2009; 56(3):52-57.
4. Mavellas S, Wellington M, Samuel F. Assessment of the availability and utilization of ICTs for teaching and learning in secondary schools-case of a high school in Kwekwe, Zimbabwe. *International Journal of Scientific & Technology Research.* 2015; 4(8):282-288.
5. Nagalakshmi C. Integrating ICT with multiple functions for agriculture development. MSc. (Agri.) thesis (unpub.), University of Agricultural Sciences, Bangalore, 2007.
6. Okwuchukwu OG. Access to and pattern of ICT use among undergraduate students of Nnamdi Azikiwe University, Awka-Nigeria. Department of Mass Communication, Nnamdi Azikiwe University Awka. *SRG International Journal of Humanities and Social Science.* 2015; 2(1):20-25.
7. Smaranika P. Utilization of Information and Communication Technology (ICT) tools by staff and