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A STUDY TO ASSESS THE CONSTRAINTS FACED BY THE AGRICULTURAL OFFICERS IN UTILIZATION OF ICTs

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ABSTRACT

The present investigation was carried out in Nellore, Srikakulam, Ananthapur districts of Andhra Pradesh during 2016-17. The main objective of the study was to analyze the constraints faced by the agricultural officers in ICT utilization. Ex-post- facto research design was followed for the study. A total 120 respondents covering the three districts equally were selected for the study. The most important constraints faced by the Agricultural Officers were 'Lack of expertise and skills in using ICT', 'Poor/ limited internet speed', 'High cost of ICT equipment', 'Limited budget for purchase of ICT equipment', 'Lack of ICT facility at office', 'Lack of personal ICT equipment / tools' and 'Lack of ICT technicians and professionals in the vicinity', 'Poor annual maintenance of the ICT equipment', 'Overburdened allied activities' and 'Limited power supply'. The important suggestions given by the majority of agricultural officers to overcome the constraints were 'Periodical training programmes on application of ICTs', 'Creating awareness on importance of different ICT tools and programmes', 'Uninterrupted high speed internet with high quality broad band facility', 'Establishing WIFI in all the agricultural offices', 'Engaging an ICT professional / technician on permanent basis', 'Proper mechanism for annual maintenance of ICTs', 'Uninterrupted power supply in the agricultural offices', 'Hands -on training through coaching and counseling', 'Allocation of enough budget to buy latest ICT tools and programmes', 'Regular updating of recent advances in ICT' and 'Special budget for capacity building for the Agricultural Officers' were the suggestions given by the Agricultural Officers.

KEYWORDS: Constraints, suggestions, agricultural officers, ICT utilization.

Information and Communication Technologies (ICT) are key enablers of globalization. They allow for the efficient and cost-effective flow of information, products, people and capital across national and regional boundaries. Information communication technologies include technologies and methods for storing, managing, processing information (e.g., computers, softwares, digital and non digital libraries) and for communicating information such as mail and email, radio television, telephones, cell phones, pagers, instant messaging and "the web." However, in everyday speech, ICTs commonly refer to electronic and digital devices and the software used for storing, retrieving, and communicating information. Extension workers at the grassroots level who have direct links with farmers and other actors, are well positioned to make use of ICTs to access modern knowledge or other types of information that could facilitate the accomplishment of their related activities.

But the 'Agricultural Officers' are facing many constraints in utilization of ICTs. Taking into consideration these limitations, the study was undertaken to find out the constraints faced by the Agricultural Officers in utilization of ICT and suggestions to overcome these constraints.

MATERIAL AND METHODS

A study was conducted with ex-post-facto research design to study the constraints faced by the Agricultural Officers in ICT utilization. The Andhra Pradesh state was chosen as the locale of the study, since the researcher belongs to the state and was familiar with the local conditions as well as organizational set up in the State Department of Agriculture. All the three regions in the newly formed state of Andhra Pradesh *viz.,* Rayalaseema, Coastal Andhra and North Coastal region were included in the sutdy. One district from each region was selected by simple random sampling procedure. The names of the selected districts were Ananthapur from Rayalaseema region, Nellore from Coastal region and Srikakulam from North Coastal region. From each of the selected district, 40 Agricultural Officers were selected as respondents by following simple random sampling procedure. The sample constituted to a total of 120 respondents.

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'Constraint' was operationalized as the unsatisfactory situations with respect to extent of Information Communication Technology (ICT) utilization as perceived by the 'Agricultural Officers'. A set of ten important constraints were identified in consultation with 'Agricultural Officers' and also experts in the field of ICT. They were measured on 3 point continuum *i.e.* 'major reason', 'minor reason' and 'not a reason' by giving scores 2, 1 and 0 respectively. 'Suggestion' was operationally defined as the requirements expressed by the 'Agricultural Officers' in order to fulfill their extent of Information Communication Technology (ICT) utilization needs. Information from respondents was sought through an open ended questionnaire.

RESULTS AND DISCUSSION

It is evident from the Table 1 that 'Lack of expertise and skills in using ICT', 'Poor/ limited internet speed', 'High cost of ICT equipment', 'Limited budget for purchase of ICT equipment' and 'Lack of ICT facility at office' were the important constraints faced by the Agricultural Officers with 84.58, 81.67, 79.58, 76.25 and 74.58 per cent and ranked from first to fifth respectively. Further analysis of table clearly reveals that both 'Lack of personal ICT equipment / tools' and 'Lack of ICT technicians and professionals in the vicinity', 'Poor annual maintenance of the ICT equipment', 'Overburdened allied activities' and 'Limited power supply' was regarded as the least important constraints faced by the Agricultural Officers with 73.75, 73.75, 73.33, 68.33 and 58.33 per cent and ranked from sixth to tenth rank respectively. These results are in line with findings of Agwu *et al*. (2008), Amar *et al*. (2011), Aromolaran *et al*. (2016), Cynthia and Nwabugwu (2016), Omotesho *et al*. (2012), Shirke and Rahool (2013), Umar *et al*. (2015).

It is evident from the Table 2 that 'Periodical training programmes on application of ICTs is one of the major suggestions given by the respondents and it was ranked first with 91.46 per cent. 'Creating awareness on importance of different ICT tools and programmes', 'Uninterrupted high speed internet with high quality broad band facility', 'Establishing WIFI in all the agricultural offices' and 'engaging an ICT professional / technician on permanent basis' are the important suggestions given by the Agricultural Officers with 88.23, 87.41, 80.52, 80.16 per cent and ranked from second to fifth respectively. 'Proper mechanism for annual maintenance of ICTs', 'Uninterrupted power supply in the agricultural offices', 'Hands -on training through coaching and counseling', 'Allocation of enough budget to buy latest ICT tools and programmes', 'Regular updating of recent advances in ICT' and 'special budget for capacity building for the Agricultural Officers' with 74.28, 72.89, 69.05, 64.21, 60.02 and 58.61 per cent and ranked from sixth to

Table 1. Constraints faced by the 'Agricultural Officers' in utilization of ICTs

S. No.	Constraints in ICT utilization	Weighted sum	Per cent	Rank
1.	Lack of expertise and skills in using ICT	203	84.58	I
2.	Poor/ limited internet speed	196	81.67	II
3.	High cost of ICT equipment	191	79.58	III
4.	Limited budget for purchase of ICT equipment	183	76.25	IV
5.	Lack of ICT facility at office	179	74.58	V
6.	Lack of personal ICT equipment / tools	177	73.75	VI
7.	Lack of ICT technicians and professionals in the vicinity	177	73.75	VI
8.	Poor annual maintenance of the ICT equipment	176	73.33	VIII
9.	Overburdened allied activities	164	68.33	IX
10.	Limited power supply	140	58.33	X

Table 2. Suggestions given by the 'Agricultural Officers'

S. No	Suggestions	Percentage	Rank
1.	Periodical training programmes on application of ICTs	91.46	I
2.	Creating awareness on importance of different ICT tools and programmes	88.23	II
3.	Uninterrupted high speed internet with high quality broad band facility	87.41	III
4.	Establishing WIFI in all the agricultural offices	80.52	IV
5.	Engaging an ICT professional/ technician on permanent basis	80.16	V
6.	Proper mechanism for annual maintenance of ICTs	74.28	VI
7.	Uninterrupted power supply in the agricultural offices	72.89	VII
8.	Hands- on training through coaching and counselling	69.05	VIII
9.	Allocation of enough budget to buy latest ICT tools and programmes	64.21	IX
10.	Regular updating of recent advances in ICT	60.02	X
11.	Special budget for capacity building for the agricultural officers	58.61	XI

eleventh respectively. These results are in line with findings of Aboh (2008), Salau and Saingbe (2008), Omotesho *et al*. (2012), Ezeh (2013), Khamoushi and Gupta (2014).

CONCLUSION

Organizing need based training programmes and access to different ICT tools were the major recommendations derived out of the present research study. Hence the policy makers have to design appropriate strategies keeping in view of the results of the study.

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