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Knowledge of the Extension Personnel on Tech-Enabled Platforms (TEP) in Telangana

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ABSTRACT

Agriculture is an educational service which brings information and new technologies to farming communities to enable them to improve their production, income and standard of living. As agricultural extension is the vital component for the growth and development of the society, the inclusion of TEP in agricultural extension system, will definitely produce more unimaginable growth in field of agriculture. Hence there is every need for the Agricultural Officer to transform their traditional style of functioning to the digital style of functioning which involves more usage of ICTs in their professional activities. Districts of Telangana i.e Mahabubnagar from Southern Telangana zone, Waranagal from Central Telanagana zone and Nizamabad from Northern Telangana zone and20 Agricultural officers (AO)and 20 Agricultural extension officers (AEO) from each erstwhile district are selected. Thus, a total of 120 extension personnel's were selected randomly. Ex post-facto research design was used and data was collected interview schedule. The Technology enabled platforms used were Applications like Pantala yajamanyam, Rythu bandhu, Kisan Suvidha and portals like OLMS (Online License Management System), OSSDS (Online subsidy seed distribution system), Farm inventory, Agrisnet, PM kisan yojana, PMKSY, PKVY, m-kisan and Soil health card portal, m- kisan and Kisan Suvidha were not at all used by the AEOs. Knowledge test is conducted and the results AOs had high level of knowledge and AEOs had medium Knowledge.

***Key words** : Knowledge ; Technology enabled platforms; Extension personnel. Introduction*

Information is regarded as one of the most valuable resources in agricultural and rural development programmes (*Morrow et al., 2002*). The primary task of agricultural extension service is to exchange and share agricultural information. Information and communication technology (ICT) has emerged as a tool for achieving meaningful societal transformation (*Meera et al., 2004*). *Hedjazi et al. (2006)* conducted a study on factors affecting the use of ICTs by Iranian agriculture extension specialists. The results revealed that specialist's level of knowledge and skill in producing and preparing papers was more than other ICT-related materials.

Bahgat and Antar (2007) in their study on Evaluations of extension personnel in Assiut governorate of their levels of knowledge and use and the degree of importance of information communication technology revealed that 49 % of them had low or very low levels of knowledge on ICT, only 18.2 % of them had high or very high levels of knowledge.

Michael and Maier (2007) in their study on gender, culture and ICT use in rural south India opined that among the non-users sampled, nine reported having at least some knowledge of services being offered at kiosk. *Ndag et al. (2008)* in their study comparative analysis of information and communication technology (ICT) use by agricultural extension workers in south-west and north- central Nigeria concluded that the 51.17 percent and 55.71 percent of the respondent in north central and south, respectively had medium knowledge of ICT use.

Glendenning and Ficarelli (2012) evaluated the content development and management processes of six

well known ICT projects in India. Three of them (IKSL, RML and Lifeline) used mobile phones to deliver the information where as other three (Digital Green, e- Sagu, and a-Aqua) were internet-based service providers. They recommended that the integration of ICT platforms with existing public agricultural institutions could ensure the sharing of expert tacit knowledge with farmers. *Hamiduzzaman (2012*) reported that e-governance in education system in Bangladesh and mentioned in the paper "e-governance in management of education system in Bangladesh: Innovations for next generation level" that e-Governance can help to provide transparent and accountable management system and cut out the evidence of corruption from the management. Indian agriculture involves millions of small and marginal farmers, and many of those small and marginal farmers are illiterate and have little or no access to resources to access modern technology in agriculture (*Yadav et al., 2015*). The goal of ICT is to provide the benefits of information revolution to the rural masses by enhancing farming efficiency, farm productivity and farmers' income (*Sangeetha et al., 2015*).

Kusuma and Husain (2016) in his study revealed that out of 30 knowledge items there are only three items that were answered by all the respondents which showed zero discrimination power and a difficulty index of 100. In addition, there were nine items having difficulty index greater than 80. Thus, a total of 11 items were found very easy by the respondents to answer, among all the items listed, which showed a poor discrimination index. Thus, 14 such items were identified to be included for the final knowledge test. *Dishant (2017)* in his study revealed that the overall knowledge level of extension functionaries regarding ICT tools is medium. *James and Lakshminarayan (2018)* revealed that three-fourth (75.00%) of the agriculture extension functionaries were having high and medium level of overall knowledge regarding ICT tools.

The present study was undertaken to measure the knowledge level of extension personnel regarding the utilization of Technology enabled platforms.

METHODOLOGY

The present study was conducted in state of Telangana. Ex-post facto research design was adopted in the present investigation. Three (3) zones of Telangana state were selected for the study. One erstwhile district from each zone was selected randomly *i.e* Mahabubnagar district from Southern Telangana Zone, Nizamabad district from Northern Telangana Zone and Warangal from Central Telangana Zone. Respondents were Agricultural officers (AO) in mandal level and Agricultural extension officers (AEO) in village level. 20 Agricultural officers and 20 Agricultural extension officers from each erstwhile district are selected. Thus, a total of 120 extension personnels were selected randomly. The Technology enabled platforms used were Applications like Pantala yajamanyam, Rythu bandhu, Kisan Suvidha and portals like OLMS (Online License Management System), OSSDS(Online subsidy seed distribution system), Farm inventory, Agrisnet, PM kisan yojana, PMKSY, PKVY, m- kisan and soil health card portal.

Construction and standardization of knowledge test :

Collection of items : An item pool of knowledge questions was prepared on Technology enabled platforms by consulting the scientists and literature. After screening, fine tuning and editing, based on the opinion of the scientists 44 items were selected. These 44 items were subjected to item analysis to screen some more items based on the response scores of the respondents in non-sample area. The 44 items which covered Technology enabled platforms were selected for constructing knowledge test and these items were framed into objective type questions namely, fill in the blanks, multiple choice, yes or no and true or false type and shown in the appendix.

Pre-testing : The items selected for the knowledge test on technology enabled platforms were administered to 90 respondents. Care was taken to see that 90 respondents selected for this purpose were outside the main sample area of this study.

Item analysis : The item analysis was carried out in terms of three indices that are item difficulty index, item discrimination index and point biserial correlation. The index of item discrimination provides information on how well an item discriminates respondents, i.e. whether an item really discriminates a well-informed respondent from a poorly informed respondent. Whereas, item difficulty index indicates the extent to which an item was difficult. The point biserial correlation provided information on how well item measures or discriminates in agreement with the rest of the test.

To analyze the items undertaken for item analysis,

each response for multiple choice, fill in the blanks, yes or no and true or false questions were given a score of one and zero for correct and incorrect responses, respectively. After computing the individual total score for the 90 respondents, the respondents were arranged in descending order based on total score. These 90 respondents were then divided into 6 equal groups and were named as G1, G2, G3, G4, G5 and G6 with 15 respondents in each group. For item analysis, the middle two groups G3 and G4 were eliminated retaining 4 extreme groups consisting of two groups from high scores namely G1 and G2 and low scores namely G5 and G6. After getting the four extreme groups for item analysis, the responses for each of the items were subjected to analysis to calculate item difficulty index, discrimination index and point biserial correlation as shown below.

Item Difficulty Index (P) : Item difficulty index measured the degree of difficulty in answering a particular question. Item difficulty index of each of the items, i.e., the percentage of respondents answering an item correctly was computed by using the following formula :

$$P = \frac{\text{No. of Correct answers for the ith item}}{\text{Total no. of respondents}} \times 100$$

Where : P= Difficulty Index

The items with difficult index ranging from 20 to 80 were considered for final inclusion in the knowledge test to avoid the extremely simple and difficult items which distort the required homogeneity and discrimination.

Discrimination Index ($E^{1/3}$): Discrimination index measured the distinguishing difference of a question between high and low groups. Discrimination index of each of the items were compared by using the following formula.

$$\text{Discrimination Index } (E^{1/3}) = \frac{(S1 + S2) - (S5 + S6)}{N/3}$$

Where: S1, S2, S5 and S6 are the frequencies of correct answers in groups G1, G2, G5 and G6 respectively and

N= Total number of respondents in the sample selected for item analysis (90).

The value of the discrimination index for the knowledge items are presented in Appendix IV.

The items with values ranging from 0.2 to 0.8 were considered for inclusion in the knowledge test for same reasons explained under item difficulty index.

Point biserial correlation (rpbis) : The main aim of calculating point biserial (rpbis) correlation was to work out the internal consistency of the items i.e. the relationship of the total score to a dichotomized answer of any given item. In a way, the validity power of the item was computed by the correlation of the individual item of preliminary knowledge test calculated by using the formula.

$$\text{rpbis} = \frac{M_P - M_q}{S.D.} \times \sqrt{pq}$$

Where,

rpbis = Point biserial correlation.

Mp = Mean of the total scores of the respondents who answered the item correctly.

$$Mp = \frac{Sum\ total\ of\ XY}{\text{Total number of correct answers}}$$

$$Mq = \frac{\text{Sum total of x} - \text{Sum total of XY}}{\text{Total number of wrong answers}}$$

SD = Standard deviation of the entire sample.

p = Proportion of the respondents giving correct answer to the item.

$$P = \frac{\text{Total no. of correct answer}}{\text{Total number of respondent}}$$

q = Proportion of the respondents giving incorrect answer to the item

q = 1-P

X = Total score of the respondent for all items.

Y = Response of the individual for the items i.e.

(Correct = 1; Incorrect = 0)

XY = Total score of the respondent multiplied by the response of the individual to the item. i.e. (Correct = 1; Incorrect = 0)

Items having significant point biserial correlation either at 1 per cent or 5 per cent level was selected for inclusion in the final knowledge test.

Representativeness of the test : Care was taken to see that the test items selected finally covered the entire universe of respondent's knowledge on Technology-enabled platforms.

Total items selected : Out of 44 items, 25 items were finally selected based on

1. Items with difficulty index indices ranging from 20 to 80.
2. Items with discrimination index ranging from 0.2 to 0.8.
3. Items having significant point biserial correlation either at 1 per cent or 5 per cent level.
4. Items have 0.80 and 0.20 as correct proportion. The average of this proportion is equal to (0.80 + 0.20)/2 = 0.50.

Thus, the finally selected knowledge test items comprised of 4 types of questions viz; fill in the blanks, multiple choice and true or false questions totaling to 25 items to measure the knowledge level of extension personnel on Technology enabled platforms.comprised of 4 types of questions viz; fill in the blanks, multiple choice and true or false questions totaling to 25 items to measure the knowledge level of extension personnel on Technology enabled platforms.

Reliability of the test : Split half method was used to find out the reliability. The selected 25 items were administered to 90 respondents in non-sample area and responses were obtained. Then scores of respondents against statement were calculated and items were divided into to two nearly equal halves. The common way of splitting is by odd-even method. Under Split half method Rulon and Flanagan formulae was used to estimate the Internal consistency reliability. Both provided the reliability of whole test. The formula estimates the reliability coefficient on the basis of proportion of error variance in total variance of the test. The lesser the variance the greater will be the reliability.

The reliability co-efficient (r=0.81) was found to be highly significant indicating a high degree of dependability of the instrument for measuring knowledge of the extension personnel on Technology enabled platforms.

Validity of the test : The validity of the test items was tested by the method of point biserial correlation (rpbis). The items with highly significant correlation coefficients either at 1 per cent (or) at 5 per cent level indicated the validity of the items of the knowledge test designed to measure the knowledge of the extension personnel on Technology enabled platforms.

Content validity was tested through jury opinion. As the test included all the content suggested by experts, it was inferred to have content validity.

Thus, the knowledge test developed in the present study measures the knowledge level of extension personnel as it showed a greater degree of reliability and validity.

Administration of the test : Data on knowledge items were collected from the extension personnel on Technology enabled platforms. The data on knowledge items were collected by personal interview in all three districts with the help of test developed for the study.

Table 1. Depicts categorization of Agricultural officers into three groups based on the exclusive class intervals along with the maximum and minimum obtained scores as indicated below

Categories of Knowledge	Class interval for AOs
Low	17 - 19
Medium	19 - 21
High	21 - 23

Table 2. Depicts categorization of Agricultural extension officers into three groups based on the exclusive class intervals along with the maximum and minimum obtained scores as indicated below

Categories of Knowledge	Class interval for AEOs
Low	11 - 14
Medium	14 - 17
High	17 - 20

While collecting the data, each item in the knowledge test was read out to the respondents in translated version (Telugu) by the investigator and the responses in the form of correct or incorrect answers were recorded. The correct answer was assigned a weightage of 'one' and the incorrect with 'zero'.

Scoring pattern and categorization : The selected knowledge test items were arranged under different types as fill in the blanks, multiple choice, yes or no and true or false questions. The correct response to each test item was given a score of 'one' and incorrect response a score of 'zero', that the knowledge score of a respondent is the summation of scores of correctly answered items out of total test items.

The possible maximum and minimum scores were 25 and 0 respectively, whereas the maximum and minimum obtained scores were 23 and 17 respectively. The maximum and minimum scores obtained for Agricultural extension officers were 20 and 11 respectively. Based on knowledge level of Agricultural extension officers, were categorized into three groups based on the exclusive class intervals as indicated below in Table 2.

RESULTS AND DISCUSSION

Knowledge can be gained only through the education. It can be gained and developed through lifelong learning process. Knowledge can be overwhelmed with more research, experience and

Table 3. Distribution of the respondents according to their socio-demographic characteristics

Characteristic	AO		Characteristic	AEO	
	No.	%		No.	%
Age					
Young (<35years)	15	25.1	Young(>35years)	41	68.3
Middle (36 - 45 years)	35	58.3	Middle (36 - 45 yrs)	12	20.0
Old (46 years <)	10	16.5	Old (46 years <)	7	11.6
Experience					
Low (4 -8)	12	20.0	Low (4 - 13)	33	55.0
Medium (8- 12)	19	31.6	Medium (13 - 22)	8	13.3
High (12 -16)	29	48.3	High (22 - 31)	19	31.6
e-Readiness					
Low (35 - 41)	5	8.3	Low (34 - 38)	4	6.6
Medium (41 – 47)	17	28.3	Medium (38 - 42)	25	41.6
High (47 – 53)	38	63.3	High (42 - 46)	31	51.6
Cosmopoliteness					
Low (4 - 6)	7	11.6	Low (7 - 8)	9	15.0
Medium (6 - 8)	14	23.3	Medium (8 - 9)	25	41.6
High (8 - 10)	39	65.0	High (9 - 10)	26	43.3
Innovative proneness					
Low (9 - 13)	10	16.5	Low (9 - 12)	20	33.3
Medium (13 - 17)	15	25.1	Medium (12 - 15)	31	51.7
High (17 - 21)	35	58.3	High (15- 18)	9	15.0
Job commitment					
Low (21 - 30)	7	11.6	Low (20- 28)	28	46.6
Medium (30-39)	29	48.3	Medium (28 - 36)	22	36.6
High (39-48)	24	40.0	High (36 - 44)	10	16.6
Organizational support					
Low (17 -28)	9	15.0	Low (14 - 19)	31	51.6
Medium (28-39)	30	50.0	Medium (19 - 24)	23	38.3
High (39-50)	21	35.0	High (24 - 29)	6	10.0
Number of trainings					
Low (23 - 37)	25	41.6	Low (14 - 19)	44	73.3
Medium (37 – 51)	27	45.0	Medium (19 - 24)	16	26.6
High (51 - 65)	8	13.3	High (24 - 29)	0	0
Information processing behaviour					
Low (17 – 27)	7	11.6	Low (10 -16)	14	23.3
Medium (27 - 37)	14	23.3	Medium (16 - 22)	26	43.3
High (37 - 47)	39	65.0	High (22 - 26)	20	33.3

training. As some of the extension personnel are more qualified and exposed towards more training and research and mass media. Hence, it is obvious that they have more Knowledge compared to that of other extension personnel.

Selected Characteristics of the Extension personnel : The selected profile characteristics of the Agricultural officers (AOs) is presented in Table 3. Results furnished in Table 3 exposed that majority of the AOs were middle aged (58.3%) with long service experience (48.3%), had high e-readiness (63.3%), high Cosmopoliteness (65%) and high level of innovative proneness (58.3%). Regarding Job commitment AOs showed medium level (48.3%) with medium organizational support (50%) and have high information processing behaviour (65%). They had undergone medium number of trainings (45%).

Profile characteristics of the Agricultural extension officers (AEOs) is presented in Table 3. Results revealed that majority of the AEOs were young aged (68.3%) with low service experience (55%), had high e-readiness (51.6%), high cosmopoliteness (43.3%) and medium level of innovative proneness (51.7%). Regarding Job commitment AEOs showed low level of commitment (46.6%) , low organizational support (51.6%) and have medium information processing behavior(43.3%).They had undergone less number of trainings (73.3%).

The prepared schedule is interviewed by the researcher with the Extension personnel and all the answers were noted and after analysis the results revealed were explained below as follows.

Table 4 showed that, 51.67% of AOs had high knowledge of TEP, followed by 38.33% had medium level of knowledge, only 10 % of AOs had low level of knowledge on TEP.AOs had high level of knowledge on new TEP as their level of education is high, qualification is also high, well experienced. Further AOs

Table 4. Distribution of Agriculture officer (AO) according to their level of knowledge about TEP (n=60)

Categories of level knowledge	A. O	
	No.	%
Low (17 - 19)	6	10.00
Medium (19 - 21)	23	38.33
High (21 - 23)	31	51.67
Total	60	100

are exposed to multimedia and they have undergone a greater number of trainings, level of interaction with higher officials is more, exposure to external environment is also high. Good communication skills and they are acquainted with both upward and downward communication. AOs also perform the responsibilities of Seed, Fertilizer and Pesticide quality aspects as Quality control officers. They possess more gadgets and have good access to all multimedia and ICTs. The attitude of AOs is always positive towards the job chart, scientific orientation is also high in case of AOs. Decision making behavior is also medium to high in case of AOs. They show more innovativeness and achievement motivation towards their jobs. Dedication towards their jobs is also high in case of AOs. AOs had high level of knowledge on Applications like Rythu bandhu,Kisan suvidha while had medium level of knowledge on Pantala yajamanyam Application. They frequently used and had good amount of knowledge on portals like OLMS (Online License Management System), OSSDS (Online subsidy seed distribution system), Farm inventory, Agrisnet, PM kisan yojana, PMKSY, PKVY, m-kisan and Soil health card portal. Taking into consideration their usage AOs utilize Agrisnet, Farm inventory, m-kisan portal very less. Frequency of utilization is less in case of such portals.

Result showed (Table 5) that, 55% of AEOs had medium knowledge of TEP, followed by 33.33% had high level of knowledge, only 11.67 % of AEOs had low level of knowledge on TEP AEOs had medium Knowledge as this is the era of digitalization and their job chart included daily use of TEP. AEOs are exposed to less multimedia and they have undergone a smaller number of trainings, level of interaction with higher officials is medium, exposure to external environment is medium. They mostly show downward type of communication and have more interaction with farmers. They are not involved in quality control activities. They cannot take decisions and have less innovativeness than the AOs. Dedication towards their jobs is also medium in case of AEOs. Recently many online schemes were introduced by the Government into the State Department of Agriculture which requires use of TEP in transferring information to farmers. Recently introduced Online schemes were portals for seed distribution and farm mechanization, soil health card portal, Online license management, AGRISNET

Table 5 Distribution of Agriculture Extension officer (AEO) according to their level of knowledge about TEP (n=60)

Categories of level Knowledge	A. E. O	
	No.	%
Low (11 – 14)	7	11.67
Medium (14 - 17)	33	55.00
High (17-21)	20	33.33

Portal, Kisan Suvidha and Rythu Bandhu Applications etc. AEOs had high level of knowledge on Applications like Rythu bandhu, Kisan suvidha while had less level of knowledge on Pantala yajamanyam Application and portals like OLMS (Online License Management System), OSSDS (Online subsidy seed distribution system), Farm inventory, Agrisnet, PM kisan yojana, PMKSY, PKVY, m-kisan and Soil health card portal. Frequency of utilization is less in case of such portals.

CONCLUSION

Globally, agricultural practices are fully going to be information based and mechanized. However, findings of this study revealed that extension workers still lag behind adopting modern technology to disseminate latest information to the farmers and Gap is visible in the performance of AOs and AEOs. Extension workers are solely depending on mobile phone to collect and transfer information over phone calls only. Research was conducted in Telangana State by taking Extension personnel (AOs and AEOs) as respondents. Different types of Technology Enabled Platforms were used for the study. Ex- post Facto research design was used. Results revealed that AOs are highly knowledgeable than the AEOs in utilization of TEP. AOs have high innovativeness, responsivities, more exposure to different multimedia, communication skills, high cosmopoliteness whereas AEOs had medium level of innovativeness, less exposure to different platforms, medium cosmopoliteness and less communication skills. So there is need for exposure of AOs and AEOs to different multimedia platforms and ensure that both of them are given trainings whenever needed. There is need for regular change in the job chart by involving usage of more ICT and TEP for performing their jobs effectively and also save time. Regular supervision and updating of Govt platforms is highly essential. However, difference of ICT utilization among the extension workers was influenced by training exposure, service

experiences, job satisfaction, perception and access to information sources. Therefore, extension service provider needs proper training and access to ICTs on immediate basis to ensure effective dissemination of farming information and technology to the farmers. Proper initiatives must be taken for arranging TEP based training programs for AOs and AEOs giving emphasis on perception of modern ICT and TEP tools, their efficiency and effectiveness for disseminating agricultural information to the farmers.

Gap is needed to be filled taking into consideration all the initiatives of extension personnel and more oppurtunities should be provided in digitalizing the agricultural platforms. Utilization of TEPs should be improvised in order to reduce the errors while disposing their jobs. Focusing on Trainings of the extension personnel on tremendous utilization of TEPs. Creation of Applications, Portals and other platforms in such a way that transparency and understanding is given priority.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

REFERENCES

Bahgat, M. A. and Antar, S. M. (2007). Evaluations of extension personnel in Assiut governorate of their levels of knowledge and use and the degree of importance of information and communication technology. African Crop Science Conference Proceedings. 8 (2): 1307-1311.

Dishant Jojit James (2017). Knowledge, Attitude and Extent of Utilization of Information and Communication tools among Extension Functionaries. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Benguluru.

Glendenning, C.J. and Ficarelli, P.P. (2012). The relevance of content in ICT initiatives in India agriculture. Discussion Paper. 1180

Hamiduzzaman, M. (2012). e-Governance in management of Education system in Bangladesh: Innovations for next generation level. *Uni. J. Edu. and Gen. Studies*, **1** (7): 195-209.

Hedjazi, Y.; Rezaee, R. and Zamani, N. (2006). Factors affecting the use of ICTs by Iranian agriculture extension specialists. *J. Ext. System*. **22**(2):1-15.

James Dishant Jajit and Lakshminarayan M.T. (2018). Knowledge of Agriculture Extension Functionaries Regarding Information and Communication Technology Tools, *Asian J. of Agril. Ext., Eco. & Socio.,* **24** (3): 1-7.

Kusuma Kumari, N and Sakeer Husain, A. (2016). A standardized knowledge test to measure the extent of knowledge of agricultural extension personnel on m-tools. *J. Ext. Educ.,* **28** ((1) : 5614 -5619.

Meera, SN.; Jhamtani, A. and Rao, DUM. (2004). Information and communication technology in agricultural development: A comparative analysis of three projects from India. Agricultural Research & Extension Network Paper No 135.

Michael, L.B. and Maier, S.G. (2007). Gender, culture and ICT use in rural technology South India, *Gender Tech. and Devel.,* **11** (2):137-155.

Morrow, K.; Nielse, F. and Wettasinha, C. (2002). Changing information flows. *LEISA*, **18** (12): 4-5.

Ndag, I.; Sanusi, R.A. and Aigbekaen, E.O. (2008). Comparative analysis of information and communication technology (ICT) uses by agriculture extension workers. paper presented in: 19th Annual International Information Management Association, **7** (1 : 13-15.

Sangeetha, V.; Burman, R.R.; Dubey, S.K.; Sharma, J.P. and Singh, I. (2015). Attitude of agricultural stakeholders on use of short message service (SMS) in transfer of technology. *Indian J. Ext. Edu.*, **51** (1&2) : 60–65.

Yadav, K.; Rasheed Sulaiman, V.; Yaduraju, N.; Balaji, V. and Prabhakar, T. (2015). ICTs in knowledge management: The case of the Agripedia platform for Indian Agriculture. *Knowledge Mngt. for Devel. J.,* **11** : 2.

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