

TRAINING NEEDS ASSESSMENT OF EXTENSION PERSONNEL IN ICT AND TRANSFER OF TECHNOLOGY

Meenambigai .J¹ and C.Thatchinamoorthy²

Associate Professor and Ph.D. Research Scholar

Department of Agricultural Extension,

Faculty of Agriculture, Annamalai University,

Tamil Nadu, India

extensionmeena@gmail.com

ABSTRACT

Training has been recognized as an important input of improving the professional competency of extension personnel for effective transfer of technology to the farming community. The reorganized agriculture extension system popularly known as Broad Based Extension system and the communication component of extension work has been given the important place. It has been understood that information communication technology (ICT) should necessarily form a component of in-service training programme for extension personnel. Hence, this study was conducted among the extension personnel employed in the state department of agriculture in Coimbatore and Madurai districts. In the light of the objectives of the present study a questionnaire was developed to identify the training needs of the extension personnel. The training needs were determined by assessing self-perception by the respondents. The findings of the study revealed that the major training needs of the extension personnel in ICT and transfer of technology were presenting programmes through television and radio, writing of articles, preparation of video programmes, and preparation of audio-visual aids, effective public speech making and use of teaching equipments. These sub-areas of training needs identified under the main area namely information communication technology and transfer of technology.

Keywords: Extension personnel, Training needs, ICT, TOT

Introduction

Training needs for extension personnel can be defined in terms of gap between job requirements and job performance (Mishra 1990). The training needs of agricultural school masters can be worked out with the help of Training Need Quotient developed by Sidhu (1973). Training is considered as an important sub system which refers to the organization's efforts to improve an individual's ability to perform a job or organizational role. It is often conducted in order to improve productivity, improve the quality of performance, lower scrap loss and/or reduce inefficiency, minimize accidents, reduce turnover and absenteeism. So it is advisable for every organization to arrange for systematic training of its work force. In most of the organizations training is not seen as effective because those who handle training limit their role to sponsoring the executives for training. In order to make training effective the

training need should be systematically identified through performance appraisals and other mechanism.

Most of the family farmers in developing countries live rural areas and are in most cases divorced from technology and vital agricultural support services needed to carry out farming activities. Extension and advisory services are relevant to smallholder farmers, who remain the bedrock of the agricultural and food supply chains in developing countries (Francis, 2014). Providing farmers with (i) timely and relevant information; (ii) access to credit; and (iii) better market prices could go a long way in addressing global poverty and improving agricultural productivity. The aspect of timely and relevant information, especially with the role of Information Communication and Technology to connect farmers with the information they need has received much attention in the last decade. There is a growing body of experience providing lessons on factors required for successful ICT applications in agricultural extension and on how ICT can lead to beneficial behavior change amongst poor farmers (Mark Bell, 2015).

Training has been recognized as an important input of improving the professional competence of extension personnel for effective transfer of technology to the farming community. The reorganized agriculture extension system popularly known as Broad Based Extension System (BBES) and the ICT component of extension work has been given the important place. Keeping in view the proliferation ICT and transfer of technology, a question naturally arises what kind of training do extension personnel need in the area of ICT and transfer of technology? Keeping in view their crucial role, the paper deals with information communication technology and transfer of technology training needs for the extension personnel in BBES under Tamil Nadu Agricultural Development Project (TNADP).

Literature Review

Extension personnel need training not only in what to teach but also in how to teach. Basavaraju, V (1993) has also reported that farm and home visits and result demonstrations in extension work were ranked first and second respectively by the majority of village level workers as appropriate extension teaching methods for effectiveness of extension jobs of late authors Mishra, (1990) have advocated the use of new communication technologies or electronic technologies including community radio, satellite television, computers, mobile video vans etc. to multiply the impact of extension. The training need has been reported as high in the area viz., conducting demonstrations, organization of team visits, preparing plan of action, communication media and methods which were the findings come out from the studies of Prasad et. al. (2000). Majority of the extension personnel had low and medium training needs. Thus, necessary steps should be taken to identify the unfelt needs of the demonstrators and strengthen their knowledge, skills and attitudes required for performing their job efficiently. Nongtdu et. al. (2012) state that majority of the extension personnel had low and medium training needs. Thus, necessary steps should be taken to identify the unfelt needs of the demonstrators and strengthen their knowledge, skills and attitudes required for

performing their job efficiently. Thus it has been understood that ICT should necessarily form a component of in-service training programme for extension personnel.

Research methodology

This study was conducted among the extension personnel employed in the State Department of Agriculture in Coimbatore and Madurai districts. In the light of the objectives of the present study, a questionnaire was developed to identify the training needs of extension personnel on the basis of extensive review of literature. There are 4 different categories of extension personnel were selected viz., Agricultural Development officers, Agricultural Officers (Extension), Agricultural officers (Tamil Nadu Women in Agriculture), Agricultural Officers (Subject Matter Specialists) working under TNADP system. One main area of training is identified as information communication technology transfers of technology 25 sub-areas under this area are also listed out. The training needs were determined by assessing self-perception by the respondents in the sub-areas of each main area. The respondents were asked to give their response on a 4 point continuum scale against each sub area of training needs viz., Most needed, Needed, Less needed and Not needed and 4,3,2 and 1 scores were given respectively. Then mean scores were worked out to identify the training needs in specific areas.

Findings and Discussion

To find out the training needs of extension personnel in information communication technology and transfer of technology on knowledge and skill aspects, mean scores were worked out and presented in the Table1. It could be revealed from the table that the ADOS felt that they needed training in presenting “Programmes through television (3.34) “writing of articles” (3.28) and “presenting programmes through radio” (3.25) followed by preparation of video programmes” (3.16) “preparation of visuals”, “Preparation of materials for radio broadcast and telecast through television” (3.13) in order to gain knowledge. They also wanted to gain skill in preparation of video programmes (3.47), preparation of literature (3.13), preparing materials for radio broadcast (3.28) and telecast (3.16) through appropriate training.

AOS (Extension) perceived that they lack knowledge in presenting programmes through television (3.24) and radio (3.21), preparing materials for radio broadcast (3.18), preparation of visuals (3.15), preparing audio-visual aids (3.12), effective public speech making (3.12) and operation and use of communication equipments (3.06) and wanted to be trained.

Table 1: Training needs of extension personnel in the area of ICT and transfer of ethnology

| Sl. No. | Areas of training needs | Mean Scores | | | | | | | |
|---------|--|-------------|------|-----------|------|------------|------|----------|------|
| | | ADO | | AO (Extn) | | AO (TANWA) | | AO (SMS) | |
| | | K | S | K | S | K | S | K | S |
| | ICT and transfer of technology | | | | | | | | |
| 1. | Knowledge of different methods and media of communication | 2.65 | 2.47 | 2.79 | 2.58 | 2.85 | 2.81 | 2.79 | 2.51 |
| 2. | Use of communication media in extension | 2.72 | 2.63 | 2.73 | 2.58 | 3.04 | 3.00 | 3.04 | 2.77 |
| 3. | Selection of appropriate communication media and methods | 2.63 | 2.56 | 2.91 | 2.64 | 2.85 | 2.81 | 2.81 | 2.55 |
| 4. | Operation and use of communication equipments | 2.94 | 2.91 | 3.06 | 2.79 | 3.23 | 3.08 | 3.06 | 2.81 |
| 5. | Preparing communication strategies/plan | 2.78 | 2.84 | 2.91 | 2.76 | 2.81 | 3.00 | 3.04 | 2.75 |
| 6. | Preparing audio-visual aids | 3.03 | 2.81 | 3.12 | 2.82 | 3.31 | 3.12 | 3.21 | 2.64 |
| 7. | Effective writing of articles/extension literature/ report | 3.28 | 3.09 | 3.00 | 2.76 | 3.31 | 3.08 | 2.89 | 2.47 |
| 8. | Formulation of communication objectives | 2.53 | 2.47 | 2.88 | 2.61 | 3.15 | 2.96 | 2.72 | 2.42 |
| 9. | Acquisition of information from different sources | 2.78 | 2.75 | 2.85 | 2.69 | 3.15 | 2.96 | 2.77 | 2.49 |
| 10. | Processing of information and encoding for different clientele | 2.78 | 2.56 | 2.88 | 2.76 | 3.12 | 3.08 | 2.85 | 2.68 |
| 11. | Different methods of storing information | 2.94 | 2.78 | 2.97 | 2.97 | 3.23 | 3.04 | 2.92 | 2.32 |
| 12. | Preparation of visual for teaching | 3.13 | 2.84 | 3.15 | 3.18 | 3.42 | 3.23 | 2.87 | 2.57 |
| 13. | Preparation of video programmes | 3.16 | 3.47 | 2.97 | 3.03 | 3.31 | 3.27 | 2.96 | 2.69 |
| 14. | Preparation of literature for farmers use | 3.00 | 3.13 | 2.97 | 2.97 | 3.00 | 3.04 | 2.94 | 2.83 |
| 15. | Preparing materials for radio broadcast in different modes | 3.13 | 3.28 | 3.18 | 3.18 | 3.23 | 3.23 | 3.19 | 2.79 |
| 16. | Preparation of materials for telecast in different modes | 3.13 | 3.16 | 3.03 | 3.18 | 3.38 | 3.12 | 2.87 | 2.85 |
| 17. | Use of teaching equipments | 3.00 | 3.13 | 3.06 | 3.09 | 3.50 | 3.27 | 2.91 | 2.69 |
| 18. | Effective public speech making | 3.13 | 3.03 | 3.12 | 2.97 | 3.35 | 3.15 | 2.91 | 2.62 |
| 19. | Monitoring and recording feedback | 2.97 | 2.91 | 3.03 | 2.97 | 3.27 | 2.96 | 2.92 | 2.62 |
| 20. | Presenting programs through radio | 3.25 | 2.97 | 3.21 | 3.18 | 3.23 | 3.08 | 3.13 | 2.83 |
| 21. | Presenting programmes through TV | 3.34 | 3.06 | 3.24 | 2.91 | 3.27 | 3.08 | 2.96 | 2.69 |
| 22. | Web portals | 3.03 | 2.47 | 2.97 | 3.03 | 3.31 | 3.27 | 2.91 | 2.62 |
| 23. | Social networks | 3.00 | 3.13 | 2.97 | 2.97 | 3.00 | 3.15 | 2.94 | 2.91 |
| 24. | Interactive voice response system | 3.18 | 2.84 | 3.18 | 2.69 | 2.85 | 2.96 | 3.19 | 2.79 |
| 25. | Mobile apps in agriculture | 3.13 | 3.27 | 3.21 | 3.18 | 3.23 | 3.00 | 3.87 | 2.85 |

K – Knowledge, S – Skill

They also felt that they lack skill in the areas like preparing materials for radio broadcast and TV telecast, presenting programmes through radio and preparation of visuals (3.18) and hence they need training. AOS (TANWA) opined that they needed knowledge oriented training on the use of teaching equipments (3.50), preparation of materials for telecast (3.38) effective public speech making (3.35) and preparation of visuals for teaching (3.42). They needed skill oriented training in the use of teaching equipments (3.27), preparing materials for radio broadcast (3.23), preparation of video programmes (3.27) and preparation of visuals (3.23). AOS (SMS) expressed their need to attend training on knowledge oriented areas on preparing audio-visual aids (3.21), preparing materials for radio broadcast (3.19) and presenting programmes through radio (3.13). They wanted to gain skill in the preparation of materials for telecast (2.85), presenting programmes through radio (2.83) and preparation of literature (2.83)

From the above findings it was found out that the major areas of training needs identified of all the 4 categories of extension personnel were “Presenting programmes through Radio and Television, writing of articles, preparation of video programmes, preparation of audio-visual aids, and effective public speech making.

Hence, it could be interpreted that the mass media like, radio television and print were found to be very effective to reach the rural community and communicate the message in a simple and understandable manner. The extension personnel are also wish to get the popularity by way of presenting the programmes through radio and television and writing the popular articles in news papers and magazines. This might be one of the reasons for the preference of training areas by the extension personnel.

Comparative analysis of training needs among the extension personnel

To test the significance of difference between mean scores of training needs of the extension personnel, “t” test was used and 22 different possible paired comparisons were made between the knowledge and skill training needs of extension personnel and the results are presented in Table 2.

Table 2 Paired comparisons of training needs of extension personnel

| SI. No. | Paired Combinations | “t” value |
|---------|--------------------------------|-----------|
| Pair 1 | ADO K Vs S | 1.961 |
| Pair 2 | AO (Extn.) K vs. S | -0.870 |
| Pair 3 | AO (TANWA) K vs. S | 4.827** |
| Pair 4 | AO (SMS) K vs. S | 10.449** |
| Pair 5 | ADO K vs. AO (Extn.) K | -1.179 |
| Pair 6 | ADO S vs. AO (Extn.) K | -2.194 |
| Pair 7 | ADO K vs. AO (Extn.) S | -.909 |
| Pair 8 | ADO S vs. AO (Extn.) S | -.980 |
| Pair 9 | ADO K vs. AO (TANWA) K | -5.971NS |
| Pair 10 | ADO K vs. AO (TANWA) S | -2.677 NS |
| Pair 11 | ADO S vs. AO (TANWA) K | -5.894 NS |
| Pair 12 | ADO S Vs AO (TANWA) S | -3.963 NS |
| Pair 13 | ADO K vs. AO (SMS) K | 0.572 NS |
| Pair 14 | ADO K vs. AO (SMS) S | 6.433 ** |
| Pair 15 | ADO S Vs AO (SMS) K | -.807 NS |
| Pair 16 | ADO S vs. AO (SMS) K | 4.805 ** |
| Pair 17 | AO (Extn.) K AO (TANWA) K | -5.816 NS |
| Pair 18 | AO (Extn.) K AO (TANWA) S | -2.398 NS |
| Pair 19 | AO (Extn.) S vs. AO (SMS) S | .953 NS |
| Pair 20 | AO (TANWA) K vs. AO (SMS) S | 1.270 NS |
| Pair 21 | AO (TANWA) K vs. | 5.342 ** |

| | | |
|---------|----------------------------------|-----------|
| | AO (TANWA) K | |
| Pair 22 | AO (TANWA) K vs. AO (TANWA) S | 10.573 ** |

** - Significant at 1% level K-Knowledge S-Skill Vs – Versus

From the table it was found out that there was a significant difference between the knowledge and skill training needs of AO (TANWA), AO (SMS). Then the significant differences was also noted between the knowledge training needs of ADOs and skill training needs of AO (SMS), ADOs skill training need and AO (SMS) skill training need, Knowledge training needs of AO (TANWA) and AO (SMS) and knowledge training needs of AO (TANWA) and skill training needs of AO (SMS). It was also noted that the difference between the knowledge versus skill training needs of AO (SMS) and AO (TANWA) knowledge versus AO (SMS) skill were found to be highly significant.

Hence, it could be interpreted that the significant differences was noted in the knowledge and skill training needs of ADOs and AOs due to the cadre difference, responsibilities and job requirements.

Conclusion

The present study shows an exclusive need for training on information communication technology and transfer of technology among the extension personnel employed in the State Department of Agriculture under TNADP. They are varying in their extent of training needs in various sub-areas of information communication technology and transfer of technology. The extension personnel have recognized well the importance and need of communication in their routine work. The major training needs identified in this area were presenting programmes through television and radio, writing of articles, preparation of video programmes, preparation of audio-visual aids effective public speech making and use of teaching equipments no doubt, these are the areas having direct concern in their day to day work also. Thus, one exposure to each area is a must on priority basis. Further, training is not a one-shot affair. Being an educational and continuous process, it requires that regular and ad-hoc courses and programmes to be implemented. Also a systematic effort on curriculum planning is needed for training of extension personnel at regular intervals.

References

1. Basavaraju, V. (1993). *Listening frequency of farmers to farm broadcast and their characteristics. M.Sc.(Agri) Thesis. Univ. Agri. Sci. Bangalore.*
2. Francis, (2014). *Modern ICTs and rural extension: Have we reached the tipping point?, RURAL 21-01. www.rural21.com.*
3. Mark Bell, (2015). *ICT – Powering Behavior Change in Agricultural Extension, FEED THE FUTURE, United States Agency for International Development (USAID).*

4. *Mishra DC (1990). New Directions in Extension Training. Directorate of Extension, Ministry of Agriculture, New Delhi.*
5. *Nongtdu.G, R.Bordoloi, R.Saravanan, R.Singh and N.U.Singh (2012).Training needs of agricultural extension personnel in Meghalaya. Indian Journal of Hill Farming 25(1):1-8.*
6. *Prasad, S.V., Reddy, .LB., & Sivanarayana, G. (2000). Training needs of village extension officers of Kurnool district of Andhra Pradesh. Journal of Research, ANGRAU, India. 28(3): 37–40.*
7. *Sidhu BS (1973). Training needs of agricultural masters in high school of Punjab. Summaries of extension research by post graduate students. Department of Extension Education, PAU, Ludhiana.*