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# Constraints Perceived by Agricultural Extension Personnel in Using M-Tools

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## ABSTRACT

Information and Communication Technology (ICT) has become a very important feature in the agricultural sector. m-extension is the emerging field of ICT for providing easy access to information at any place and any time. Researchers and Extensionists are important stake holders in the development of agricultural sector. This study examines the constraints perceived by agricultural extension personnel of Kerala in using m-tools. Data were collected using a pre-structured interview schedule. Results showed that majority of the extension personnel opined that non-availability of Malayalam (local language) interface and non-availability of mobile phone networks in remote areas were the major constraints faced by them in using m-tools.

**Key Words:** Agriculture, Extension personnel, Constraints, m-tools.

## INTRODUCTION

Mobile telephony had overcome geographic, economic, social and cultural barriers which unveiled the new 3G and 4G technologies. Mobiles are going to revolutionise agricultural extension might be overstating the facts right now, but so far, within a few years of its introduction in the country, it has changed the mode of agricultural extension and proved to be a great aid to the human resource of the extension system (Sravanan, 2014). This device when lined-up with extension and advisory services improves the livelihood of rural people by providing need based information at affordable price. This so called mobile-based extension and advisory services (m-extension) empowers value-added services such as mobile agro-services and machine to machine services (Stryjak *et al,* 2015) that help farmers in tracking their crops and farm machinery using mobile phones (Sharma *et al*, 2012).

Agricultural extensionists act as direct link between the researchers and the farmers. In order to perform their role effectively and efficiently, they must have steady access to updated agricultural information. Constraints faced by agricultural extension personnel in using m-tools stood as the barrier for making effective use of the information provided by m-tools. Therefore, an attempt was made to identify the constraints that are responsible for restricting the use of m-tools by the agricultural extension personnel.

## MATERIALS AND METHODS

The study was conducted in the state of Kerala. Five districts, one each representing each agro-climatic zone in Kerala was selected randomly: Kozhikode (Northern zone), Trivandrum (Southern zone), Thrissur (Central zone), Wayanad (High altitude zone) and Alappuzha-Kuttanad tract (Problem area zone).

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Agricultural Extension Personnel comprising of Agricultural Officers (AOs) and Agricultural Assistants (AAs) from Krishibhavans (grass root level agricultural development officers in Kerala) were selected as the respondents of the study. From each of the selected five districts, 15 Krishibhavans were randomly selected and from each Krishibhavan one AO and one AAs were selected. Thus a total of 75 AOs and 75 AAs were identified, thus constituting a sample of 150 Agricultural Extension Personnel.

**Constraints in using m-tools:**

Constraints were operationally defined as the limitations or restrictions faced by the respondents in accessing and using various m-tools and services in agriculture. Through gathering relevant literature, discussion with scientists and non-sample extension personnel, a list of 17 constraints were prepared and administered to the respondents. For measuring this variable the scoring procedure followed by Ravikishore (2014) was adopted, in which the importance of constraints were measured on a five point scale ranging from very important (5), important (4), less important (3), least important (2) and not important (1). The possible highest score was 85 and the least possible score was 17.

## RESULTS AND DISCUSSION

The constraints perceived by the extension personnel are presented in Table 1.

Of all the constraints listed, majority of the respondents felt non-availability of Malayalam interface as the important constraint with mean value of 4.22. Malayalam being the local language was preferred by most of the extension personnel for easiness in understanding the content. Unfortunately, m-tools available in Malayalam were very limited.

Non-availability of mobile phone networks in remote areas (4.20) was ranked as the second most important constraint. Though Kerala is blessed with good coverage of networks, some interior remote areas are there where signal tower is not nearby and was with poor connectivity.

**Table 1. Constraints perceived by extension personnel in using m-tools (n=150)**

| Sr. No. | Constraint | Score | Mean | Rank |
|---|---|---|---|---|
| 1. | Non-availability of Malayalam interface | 634 | 4.22 | I |
| 2. | Non-availability of mobile phone networks in remote areas | 630 | 4.20 | II |
| 3. | Non-availability of user friendly m-apps | 627 | 4.18 | III |
| 4. | Lack of exposure to m-education | 623 | 4.15 | IV |
| 5. | Low level of e-readiness by extension personnel/organizations | 614 | 4.09 | V |
| 6. | Non-availability of mobile phones supported audio-video files on agricultural technologies | 593 | 3.95 | VI |
| 7. | Lack of awareness of various options available in the mobile phone | 583 | 3.88 | VII |
| 8. | Poor ICT infrastructural development | 569 | 3.79 | VIII |
| 9. | Policy inconsistencies by government in both telecommunication and agricultural sectors | 568 | 3.78 | IX |
| 10. | Difficulty in loading of data files on mobile phone | 544 | 3.62 | X |
| 11. | Limited access to worldwide databases | 534 | 3.56 | XI |
| 12. | Certain soft wares are difficult to learn and use | 531 | 3.54 | XII |

Non-availability of the user friendly m-apps (4.18) was the other difficulty faced by the extension personnel which was because of the complexity with the existing apps which were not providing need based and location specific information.

Lack of exposure to m-education and low level of e-readiness by extension personnel/organizations was the next major constraint, as this may be because of lack of relevant trainings conducted for the staff of the Department of Agriculture. All types of mobile phones will not support multimedia files like videos. The compatibility and version of the mobile phone matters in this case, which may be the reason why the extension personnel mentioned non-availability of mobile phone supported audio video files. Some of the extension personnel were still reluctant to use smart phones as they felt that it was difficult to handle smart phones and they mentioned that they use mobile phone only for the purpose of telephone calling. Other constraints include poor ICT infrastructural development and policy inconsistencies by government in both telecommunication and agricultural sectors, difficulty in loading of data files on mobile phone, limited access to worldwide databases and certain softwares are difficult to learn and use.

## CONCLUSION

In conclusion, if new technologies are not adequately built into the mainstream of agricultural extension system, there is likely to be stagnation in the dissemination, utilization and application of scientific agricultural information for development of the system. On the other hand the constraints as reported in the study were preventing the effective use of m-tools and its services by the agricultural extension personnel. To mitigate the constraints m-tools in Malayalam (local language) should be made available, extension personnel should be encouraged to use smart phones which provides a way for accessing information easily. As lack of exposure to m-extension and low level of e-readiness among the agricultural extension personnel were found as the other important constraints, training programmes should be organised to make them aware of m-tools and to develop a positive attitude among them.

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