THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN AGRICULTURAL PRACTICES IN THANJAVUR DISTRICT

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ABSTRACT

Information and Communications Technology is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications. ICT includes any communication device or application as radio, computer, television, network hardware, cellular phones, software, and satellite systems etc., as well as the various services and applications associated with them, such as distance learning and video conferencing. It is an integration of the technologies and the processes to distribute and communicate the desired information to the target audience and making the target audience more participative in nature

Key words: Information and Communications Technology, ICT, IT Industry, Agricultural development, ICT in Agricultural.

http://www.iaeme.com/ijm/index.asp

1. INTRODUCTION

ICT (information and communications technology - or technologies) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications

2. ICT USED IN AGRICULTURE

ICTs (information communication technology) includes any communication device or application as radio, computer, television, network hardware, cellular phones, software, and satellite systems etc., as well as the various services and applications associated with them, such as distance learning and video conferencing. It is an integration of the technologies and the processes to distribute and communicate the desired information to the target audience and making the target audience more participative in nature.

Today agricultural development is fast emerging in both developing and developed countries the overall development of rural areas is expanding in new directions; old ways of delivering important services to citizens are being challenged; and traditional societies are being transformed into knowledge societies all over the world. ICTs play a key role in improving the availability of agricultural production and market information in developing countries. ICT-based market information systems have a proven track record for improving rural livelihoods in middle income developing countries where they have been introduced. However, these systems are generally limited in scale and have not been effectively replicated beyond the local level. Broad basing agricultural extension activities; developing farming system research and extension; having location-specific modules of research and extension; and promoting market extension, sustainable agricultural development, participatory research, etc. are some of the numerous areas where ICT can play an important role. IT can help here, by enabling extension workers to gather, store, retrieve and inseminate a broad range of information needed by farmers, thus transforming them from extension workers into knowledge workers. Agricultural extension systems in most developing countries are under-funded and have had mixed effects. Much of the extension information has been found to be out of date, irrelevant and not applicable to small farmers’ needs, leaving such farmers with very little information or resources to improve their productivity. ICT helps the extension system in re-orienting itself towards the overall agricultural development of small production systems. With the appropriate knowledge, small-scale producers can even have a competitive edge over larger operations. When knowledge is harnessed by strong organizations of small producers, strategic planning can be used to provide members with least-cost inputs, better storage facilities, improved transportation links and collective negotiations with buyers.

Some agricultural development services that can be provided in the developing world, using ICT, are:

- Online services for information, education and training, monitoring and consultation, diagnosis and monitoring, and transaction and processing;
- E-commerce for direct linkages between local producers, traders, retailers and suppliers;
- The facilitation of interaction among researchers, extension (knowledge) workers, and farmers;
- Question-and-answer services where experts respond to queries on specialized subjects ICT services to block- and district-level developmental officials for greater efficiency in delivering services for overall agricultural development;
- Up-to-date information, supplied to farmers as early as possible, about subjects such as packages of practices, market information, weather forecasting, input supplies, credit availability, etc.;
- Creation of databases with details of the resources of local villages and villagers, site-specific information systems, expert systems, etc.;
- Provision of early warning systems about disease/ pest problems, information regarding rural development programmes and crop insurances, post-harvest technology, etc.;
- Facilitation of land records and online registration services;
- Improved marketing of milk and milk products;
- Services providing information to farmers regarding farm business and management;
Increased efficiency and productivity of cooperative societies through the computer communication network and the latest database technology;

Tele-education for farmers

ICTs play a key role in improving the availability of agricultural production and market information in developing countries. ICT based market information systems have a proven track record for improving rural livelihoods in middle income developing countries where they have been introduced. However, these systems are generally limited in scale and have not been effectively replicated beyond the local level. This paper attempts an analysis of the ICT play an important role in bringing about sustainable agricultural development and future perspectives in agriculture and ICT. It is recommended that, in drought-prone and less endowed areas, future ICT initiatives provide information services such as facilitation of access to land records, question-and-answer services, information on rural development programs, weather forecasting, marketing information, best package of practices for dry land agriculture, information on crop insurance and post-harvest technology. It is also recommended that, before ICT services are set up in a region, efforts are made to develop among the farmers both a satisfactory level of faith in the intentions of the ICT staff and a firm commitment to the goals of the proposed project. It is also suggested that participatory and rapid rural appraisals are carried out to ascertain what information the farmers need. In the process, the farmers’ self-fulfilling faith in the information services provided should be enhanced. It is further recommended that the farmers be instructed in how to get the best possible use out of the services provided.

3. OBJECTIVES OF THE STUDY
The main purpose of this study is to explore the extent of usage of ICT in Agricultural by the farmers in Thanjavur District.

The present study has the following objectives

- To find out the information needs of the rural farmers in Thanjavur district
- To find out the nature and type of information required by the farmers
- To examine the information communication channels and the information sources used by the farmers
- To find out the awareness of ICT application in transfer of information.

4. RESEARCH METHODOLOGY
The researcher adopted descriptive research design as the research aimed at describing the role of ICT in agricultural development and the researcher collected data from the farmers of Thanjavur district. About 50 respondents were selected through simple random sampling in Thiruvaiyaru Block, Thanjavur. Both primary and secondary data were used for this study. The primary data were collected using a pre tested questionnaire.

4.1. Data Analysis and Discussion

41.1. Frequency of Information Needs by Farmers

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Frequency of information needs</th>
<th>No of response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Daily</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>2.</td>
<td>Sometimes</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>3.</td>
<td>Never</td>
<td>06</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>
4.1.3. Table 3 Using ICT applications

<table>
<thead>
<tr>
<th>Sl.no</th>
<th>Using ICT applications to get information</th>
<th>Response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use Internet</td>
<td>04</td>
<td>08</td>
</tr>
<tr>
<td>2</td>
<td>Use Mobile Phone</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>3</td>
<td>Use Information centers</td>
<td>08</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>Follow SMS alerts</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>50</td>
<td>100</td>
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</tbody>
</table>

Table 3 reveals that the preference of the rural community in the use of ICT applications are as follows: Use Mobile phones (52 %), follow SMS alerts (24%), Use Information center (16 %) and Use Internet (8. %).

5. KEY FINDINGS

- **ICTs available in the study area:** The survey found that most of the respondents have television and high majority of the respondents use mobile phone available ICT in the area. Most of the respondents have used traditional ICTs. On the other hand, the ICT tools that were not available to many respondents included: computer, Internet, Scanners etc.

- **Awareness of ICT in farmers** the study reveals that 56 % the respondents awareness that ICT is important that their occupation. Small portion of the respondents they don’t want any communication facilities for their survival. So the study concluded that half of the respondent’s lack of aware about the ICT usages.

- **Attitude of farmers towards ICT:** The survey found that half of respondents believe that ICT is essential for their agricultural and its allied activities. In order to assess the attitude of farmers towards ICT, they felt agricultural is important for their survival.

- **Effectiveness of ICT in agricultural development:** Nearly 46 % of respondents strongly agree that effective ICT tools and techniques are used in farming practices is very use full to their day to day affairs. 25 % respondents says they did not believe the ICT’s effectiveness for their development so the study find that most of farmers don’t properly use the ICT’s effectiveness.

- **Need for ICT facilities in farmers:** The findings of the study reveal that the rural farmers are need in agricultural related information. Their needs are specific for different purposes. The information channels they depend upon for getting information are Cell phone and
newspapers, television, and radio. Majority of them getting information use cell phone but due to the familiarity in using mobile phones, most of them make agriculture related inquiries through mobile phones and the SMS alert service. Most of the respondents received information from fellow farmers and friends.

- **Types of information required farmers:** The result shows that the majority of the farmers required that output prices information some farmers want to technical advice on agricultural practices small portion of the respondents says that they need the climate conditions, crop variety and insurance related information.

- **Constrains to use of ICT in farmers:** CT adoption is relay a problem according to responses indicated that 36 % agree that the major factor limiting the use of ICT in agriculture was the lake of ICT knowledge 25% opine that the high cost 10 % of the farmers not interested in ICT's usages. So the study reveals that most of the farmers not properly utilized ICTs because their un awareness and also most of them felt that ICTs services are high cost.

6. **HYPOTHESIS TEST**

There is no significance relationship between educational qualification and information needs of the forming community of the respondents. It had been proved by chi-square test (x² =34.27). The table value of x² 5 percentage difference for 2 degree of freedom is 5.991. The calculated value is less than the table value and hence the null hypothesis is accepted and concluded that there is no significant relationship between the educational qualification and information needs of the forming community of the respondents.

7. **CONCLUSION**

This study has revealed that the most available, accessed and used ICT facilities in the area include: mobile phones, television and radio. The access and use of ICTs in the study area is medium and the respondents have little knowledge about ICT They have useful information necessary to improve agricultural production. The ICT farmers have use only traditional ICT they have little knowledge about modern ICTs the respondents have faced some constrains in study area which include: high cost of ICT infrastructure, low income earning, lack of ICT policies to enhance ICT development in rural areas and lack of necessary skill. Based on the findings, it is necessary to make relevant policies to ensure that farmers have adequate access to ICT facilities. Government should help to provide the necessary ICT infrastructures needed for effective use of ICTs in the rural area.


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