



INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AND FARMERS - AN EXPERIMENTAL STUDY IN MADURAI AND TIRCHY DISTRICTS

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ABSTRACT

“Access to Internet will soon be universal, and it can provide unrestricted low-cost access to information, as well as high interactive distance learning. The internet will not only facilitate interactions among researchers but also quickly improve their ability to communicate effectively with the potential users of their research knowledge” - Prof. M.S. Swaminathan. The world is indeed a small place. This saying stands correct in today's ever growing and changing world order. It would not be wrong to say that today's world is the world of information and telecommunication. Everyday, new technology and inventions are made in the area of information processing and travelling. There is hardly any area which has not been affected by this. Due to all this, the word 'distance' sounds ironical in present day context. The whole world is changing into a small place where any information can be exchanged by people within few seconds and that, too, in proper and effective way without any loss of data while it is being processed. At the one hand, all these different ways of telecommunication and information exchange have highlighted the necessity for multi-purpose development and growth of information technology and on the other, the easy access and use of it has boosted the network of information exchange. All this has been possible through information technology like telephone, computers, Internet, E-mail, Multimedia and web-education technology. In this paper we try to study the profile characteristics of agriculture web-education learners in selected districts of Tamil Nadu, the knowledge levels of agriculture web-education learners, the symbolic adoption of agriculture web-

education learners, the problems faced by the agricultural we-education learners and the suggestions of the learners about agricultural web-education. This study was conducted in Madurai and Tiruchirappalli districts of Tamil Nadu because these two districts had close proximity with agricultural productivity.

Key words: Web education, ICT platforms, rural connectivity, diffusion of ICT.

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1. INTRODUCTION

India is vast country and traditionally an agrarian economy. Nearly 70% of India's population still resides in the villages. The penetration level of the new telecommunication tools is low in the rural areas as compared to the urban sector. New technologies and ICT platforms are evolving, featuring collaboration between the development agencies, academia and the local government (Gopinath, 2019). In this paper we try to study the profile characteristics of agriculture web-education learners in selected districts of Tamil Nadu, the knowledge levels of agriculture web-education learners, the symbolic adoption of agriculture web-education learners, the problems faced by the agricultural we-education learners and the suggestions of the learners about agricultural web-education (Gopinath et al., 2016). This study was conducted in Madurai and Tiruchirappalli districts of Tamil Nadu because these two districts had close proximity with agricultural productivity.

2. OBJECTIVES:

The following specific objectives were formulated:

- To study the profile characteristics of agricultural web-education learners in selected district of Tamil Nadu.
- To find out the problems faced by the agricultural web-education learners.
- To find out the suggestions of the learners about agricultural web-education.

3. RESEARCH METHODOLOGY

This study was conducted in Madurai and Tiruchirappalli districts of Tamil Nadu because these two districts had close proximity with agricultural productivity. Among the villages four villages viz, Usilampatti, Vadipatti from Madurai district and Manachanallur, Lalgudi from Tiruchirappalli district were selected at random. From each of the villages, forty five respondents are selected with the use of simple random sampling. The respondents are expected to have a minimum educational qualification of 5th standard and above. They will have to undergo pre and post exposure knowledge test.

Abstract of the sampling procedure

Number of districts	: 2
Number of villages	: 4 @ 2 villages per district
Number of respondents	: 180 @ 45 respondents per village

4. PROFILE OF THE AREA

4.1. Usilampatti

According to 2011 census, Usilampatti had a population of 35,219 with a sex-ratio of 998 females for every 1,000 males, much above the national average of 929. A total of 3,427 were under the age of six, constituting 1,800 males and 1,627 females. Scheduled Castes and Scheduled Tribes accounted for 7.94% and .01% of the population respectively. The average literacy of the town was 78.39%, compared to the national average of 72.99%. The town had a total of : 9101 households. There were a total of 13,031 workers, comprising 443 cultivators, 1,113 main agricultural labourers, 417 in house hold industries, 9,892 other workers, 1,166 marginal workers, 32 marginal cultivators, 343 marginal agricultural labourers, 76 marginal workers in household industries and 715 other marginal workers. As per the religious census of 2011, Usilampatti had 94.53% Hindus, 2.33% Muslims, 2.91% Christians, 0.02% Sikhs, 0.19% following other religions and 0.01% following no religion or did not indicate any religious preference.

4.2. Vadipatti

As of a 2001 Indian census, Vadipatti had a population of 21,780. Males and females each constitute 50% of the population. Vadipatti has an average literacy rate of 68%, higher than the national average of 59.5%: male literacy is 77%, and female literacy is 61%. In Vadipatti, 10% of the population is under 6 years of age. Its paddy field and plantain field are source for the people who live around this place.

4.3. Manachanallur

According to the 2011 census, the taluk of Manachanallur had a population of 192,818 with 96,142 males and 96,676 females. There were 1006 women for every 1000 men. The taluk had a literacy rate of 74.64. Child population in the age group below 6 was 9,284 Males and 8,930 Females. The area of this taluk is 36383.85 Hectares

4.4. Lalgudi

According to the 2011 census, Lalgudi had a population of 254,705 with 124,855 males and 129,850 females. There were 1040 women for every 1000 men. The taluk had a literacy rate of 75.56%. The under-6 age group held 11,821 Males and 11,296 Females.

5. FINDINGS AND DISCUSSION

This section forms the crux of this report. The data collected as per the research methodology explained in previous chapter have been analyzed and results obtained are discussed. The data were classified, tabulated and then treated with scientific methods to get the results.

Table 1 Distribution of Respondents According to their utilization behavior of websites

S.N	Category	No.	Percent
I.	Web sites (N = 180)*		
a.	Not utilized	110	61.11
b.	Utilized	70	38.88
II	Purpose of use (n = 40)*		
a.	Agriculture	13	32.5
b.	Non- Agriculture	27	67.5
III	Mode of use (n=40)*		
a.	Browsing	40	100
b.	E-mail	40	100
c.	Chatting	20	50

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IV.	Frequency of use (n=40)*		
a.	Daily	11	27.5
b.	Once in two days	9	22.5
c.	Once in a week	20	50
V	Message Storability (n=40)*		
a.	Hard disc	20	50
b.	Hard Copies	5	12.5
c.	Pen Drive	15	37.5

(* Multiple response obtained)

From table 1, it is inferred that about 61.11 percent of the farmers had not utilized agricultural web sites for the betterment of farming; remaining 38.88 percent of farmers utilized the agricultural web sites.

5.1. Purpose of Utilization

Table 1 shows that 67.5 percent had internet connection for non-agricultural usage, followed by 32.5 percent of the farmers for agricultural purposes. It could be inferred from the table that, it is one of the modern communication tool for sharing information within or outside the country. In future, there will be a possibility to have more agricultural websites and in turn this may motivate the farmers to utilize the content

5.2. Mode of Use

Table 1 shows it is seen that all those farmers who had access to web sites preferred the mode of browsing and E-mailing. About 50 percent used chatting mode. It could be concluded that highly literate farmers only used the chatting mode to convey information to others through internet.

5.3. Frequency of Use

Table 1 shows it is seen that all those farmers who had access to web sites preferred the mode of browsing 27.5 percent of the farmers were found to use the website daily and 22.5 percent with once in two days. It could be inferred that the farmer browsed website mainly to get information on market related and weather forecast on internet might have been the reason for browsing daily and once in two days.

5.4. Message Storability

Table 1 shows majority 50 percent of the farmers were saving or storing the web site information in hard disc followed by 37.5 percent as hard copies. The information such as market price, correspondence and important documents were taken as printouts.

6. PROBLEM IN UTILIZING WEB-EDUCATION TECHNOLOGY

It is necessary to study the constraints in any social research. The constraint analysis helps the planners, administrators, development workers, scientists and others to frame policies and to implement schemes (Gopinath & Poornapriya, 2020). Hence, the constraints faced by the farmers in utilizing web-education technology were studied (Gopinath & Chitra, 2020) . The multiple responses constraints were worked out. The results are presented in Table 2.

Table 2 Problems Expressed by Web-education Learners

(N = 180)

S.N	Problems	Number (Multiple Response)	Percent (%)
1.	Lack of information in Local Language	170	94.44
2.	High cost for establishment	162	90.00
3.	Not suitable to illiterate people	159	88.33
4.	Difficult in handling of computer mouse	155	86.11
5.	Difficulty to type the URL to access the web page	150	83.33
6	High cost for internet connection	147	81.67
7	Lack of skill to use modern information technology gadgets	132	73.33
8.	Lack of familiarity towards modern information technology gadgets	130	72.22
9.	Lack of relevant information in the website	122	67.78
10	Lack of prompt reply to online queries and clarification	87	48.33
11.	Inability to make or receive electronic payments	80	44.44
12.	Slow down loading and uploading of photos / files / videos	72	40.00
13.	Lack of update information	65	36.11
14.	Difficulty in reading online information	52	28.89

The result could be observed from table 2, the major problem as expressed by all respondents was lack of information in local language (94.44%) was due to the fact that most of the web information published in English, high cost for establishment(90.00%), illiterate people cannot use(88.33%) , difficulty in handling of computer mouse(86.11%) and this might be due to lack of practice and proper training on the use of mouse in computer and its accessories, difficulty to type the URL to access (83.33%) the web page was expressed because all the URL addresses are exclusively in English language, high cost to connecting internet (81.67%) and this was due to the reason of unavailability of internet providers at village level, lack of skill to use modern information technology gadgets (73.33%) as most of the respondents lacked training on the use of modern gadgets, lack of familiarity (72.22%), lack of relevant information (67.78%), lack of prompt reply to online queries (48.33%) and clarification, inability to make or receive electronic payments (44.44%), slow downloading and uploading of photos / files(40.00%), lack of update information (36.11%) and few percent of the respondents expressed that they had difficulty in reading online information (28.89%) (Usharani & Gopinth, 2020).

7. SUGGESTIONS FOR EFFECTIVE UTILIZATION OF WEB-EDUCATION TECHNOLOGY

Any stud would be complete if it gives suggestions for development in the field of investigation. The suggestions rendered by the respondents for effective utilization of web-education technology were studied. The results are presented in Table 3.

Table 3 Suggestions for effective Utilization of Web-education Technology

N =180

S.N	Suggestion	Number (Multiple Response)	Percent (%)
1	Information may be in local language	162	90.00
2	Location specific information may be provided	163	90.56
3	Training may be provided to learn computer in detail	160	88.89
4	Regular update of website information	157	87.22
5	Installation of software in Tamil of word, excel, power point, e-mail can be installed in information kiosk	150	83.33
6.	Valarum vellanmai may be published in online	147	81.67
7	Information kiosks may provide location specific weather data	142	78.89
8	Linking of Village information center with State Agricultural University, Krishi Vigyan Kendra and development departments	139	77.22
9.	On line marketing facilities for farm produce	127	70.56
10	Keeping the agricultural website addresses on the desktop of computers in Village Information Center	92	51.11
11	Self Help Groups can run the information center	81	45.00
12	More number of information kiosk	61	33.89
13	Use of video conferencing	41	22.78

Suggestion rendered by the respondents could be seen from table 3. Major suggestion were giving information in local language expressed by all the respondents (90.00 %) for easy comprehension by all farmers, followed by location specific information (90.56%) to reach all farmers who are spread across the state and country with diversified climatic condition, training to operate computers (88.89 %) due to digital divide among rural farmers the usage of computer, regular update of website information (87.22%) to fulfill the latest and current agricultural information need to of the farmers, software in Tamil of word, excel, power point, e-mail be installed in information kiosk (83.33 %) , valarum vellanmai may be published in online (81.67 %), information kiosk may provide location specific weather data (78.89 %), linking of Village Information Center with State Agricultural University, Krishi Vigyan Kendra and development departments (77.22 %) on line marketing facilities for farm produce (70.56 %) keeping the agricultural website addresses on the desktop of computes in Village information center (51.11 %), Self Help Groups may run the information center (45.00 %) more number of information kiosk (33.89 %) and very few percent of the respondents suggested that use of video conferencing (22.78 %) is required for effective utilization of web education technology (Rajalakshmi et al.,2020a).

8. CONCLUSION

The study revealed that the non-computer owning respondents lack skill to operate computer and to know about technologies given through we-education. So information kiosks should be installed in villages and skilled trainers should give proper and regular trainings (Rajalakshmi et al., 2020b). The results clearly depict that majority of the respondents were unaware of website-education, despite the fact that they are more interested to know about it. Such large-scale awareness campaigns and mass media can be utilized in a big way to promote web-

education technology (Bhawiya Roopaa & Gopinath, 2020). The study revealed that respondents were satisfied with tool website but not convinced with the technology existed on it (Karthick et al., 2020a). So the scientific community should take initiatives to evolve technologies, which could compromise farmers in terms of affordability and effectiveness. The study revealed the respondents are more satisfied with the web-education and transfer of technology through computers.

Further, this finding has indicated that they are inclined towards accepting Cyber Extension. So the farm graduates who are unemployed can be manned in information shops and can facilitate farmers to know timely, accurate information through world wide web. The awareness level and utilization behavior of websites was found to be low and this indicated that there is an urgent need for development and popularization of such websites. The variables such as educational status, mass media exposure, innovativeness, farm status and farming experience were found to act as critical variables (Karthick et al., 2020b).

So, while preparing web-education in future, one should take care of above variables. Public and private computer training institutions and entrepreneurs may be entrusted with the task of opening information clubs on partnership with farm association to teach, train farmers and keep away their fear in using this new technology in areas. This may be done as a Government policy initiation.

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