

Awareness of Digital Media by the Farm Women of Manipur*Priyanka Rajkumari^{1*}, M. Prasuna², R. Geetha Reddy³ and Janaki Srinath⁴**¹Research Scholar, Department of EECM,
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ABSTRACT: The 1900s saw the beginning of the creation of various digital media, with radio and television serving as the first platforms for obtaining information through mass media using digitalized tools. Nowadays, many individuals have access to various digital platforms where they spend their free time, thanks to the advent of smartphones. The usage of digital technology is widespread, including areas such as marketing, advertising, and agriculture. Utilizing channels like social media, websites, apps, and web pages for marketing and advertising has become commonplace with recent developments. A study was conducted on the utilization of digital media to access information on recent developments in agriculture used by rural women in Manipur state. In this particular study, an ex-post facto research design was followed. A total of 60 respondents were selected from Thoubal district in Manipur state. The study found that the majority (48.33%) of the respondents fell into the middle age group. 51.67 percent of the respondents earned between 2,50,000 to 4,00,000 lakhs per annum. 40.00 percent of them had primary education, and 85.00 percent were married. 70.00 percent of the respondents had medium information-seeking behaviour. All the respondents utilized the M4AGRINEI portal. 85.83 percent of the respondents became aware of the portal through their friends, relatives, or neighbours. 85.00 percent of the respondents listened to radio programs, and 90.83 percent watched agricultural programs on television. None (100.00%) of the respondents had used any agricultural apps, although they had heard about them. They were less aware of other agriculture portals except for M4AGRINEI. The M4AGRINEI provided training and reliable information to the people of Manipur state. Digital media in agriculture helps extension workers reach information in remote areas and contributes to helping farm women resolve issues and engage in digital marketing. The major constraints faced by in this study were lack of infra-structured facilities, less awareness of agricultural portals and non-availability of training on the use and application of agricultural portals. The suggestion given by the farm women was to provide more hands-on training on digital media.

Keywords: Farm women, utilization, digital media, digital marketing, portal.

INTRODUCTION

Digital media is considered as any communication tool that utilizes one or more machine-readable data formats for encoding. A digital electronic device can be used for generating, viewing, sharing, editing, listening to, and preserving digital media. Digital agriculture, also known as e-agriculture or smart farming, encompasses technologies that gather, store, analyze, and distribute electronic data and information in agriculture digitally. The process of digitizing the agricultural industry has been referred to as the "digital agricultural revolution" by the Food and Agriculture Organization of the United Nations (FAO, 2022).

Digital agriculture includes on-farm technologies such as yield mapping, GPS guidance systems, and variable-rate applications. Additionally, it covers digital technologies used in e-commerce platforms, e-extension services, warehouse receipt systems, block chain-enabled food traceability systems, tractor rental apps, and more. While many industry and service sectors have made rapid progress in utilizing digital technologies for their growth, agriculture has lagged behind. Despite several advances in science and technology that have contributed to agricultural growth, the sector has missed out on the progress made in digital technologies. Worldwide, the agricultural sector has been at the bottom in terms of adopting data-driven

technologies for its growth story (Ryan and Acharya 2017).

Manipur's infrastructural development was the primary focus of state plan spending during the territorial era. Only 0.52 percent of the total plan expenditures were designated for agriculture and related activities, amounting to 1.7 percent of the total. The fundamental components of agricultural modernization were implemented throughout the two decades between the 1950s and 1970s. The Japanese Method of paddy cultivation was used in the second plan on roughly 3700 acres. Inputs for plant protection, the use of pesticides and fertilizers, and new tools and implements were all introduced. During the same plan, soil conservation work was done on 2400 acres. Therefore, agricultural investment's early, demonstrative, and qualitative nature had little direct or meaningful impact on the state's agricultural development. While precision agriculture does not fall under the category of digital agriculture, the population growth rates of 3.5 percent and 3.7 percent annually during those two decades significantly raised the burden on the land (Agriculture - ENVIS Centre, 2016). A majority of the agricultural work is conducted by female farmers in the Manipur state so all the schemes and programmes should be focusing on the women labors.

In Manipur, the ratio of female field laborers to male farm laborers is 44.43 percent on average. Additionally, women work in cottage businesses and handicrafts centered in the forest. In hill regions, about 15.49 percent of all female residents participate in a system of forest-based subsistence. Women are engaged in all aspects of fisheries, including fish rearing and post-harvest work. Women handle more than 90 percent of the fish sales. In Manipur, women play a major part in the development of agriculture and allied fields, such as crop production, livestock production, horticulture, post-harvest activities, agroforestry, fisheries, etc. (Devi and Singh 2015).

The portals which are available in the Manipur state are as follows:

MKisan: Internet penetration in rural regions is still pitifully low, according to TRAI data from May 2014, despite the fact that there are around 38 crore mobile phone connections. Because it reaches roughly 8.93 crore farm families, cell phone messaging is now the most successful method. All Central and State Government Agencies can provide information, services, and advice to Farmers via SMS in their preferred language, location, and agricultural practices through the MK is an SMS Portal for Farmers (MKisan, 2014).

Agmarknet: In March 2000, ISAM developed the Research and Information Network (MRIN), a subsidiary programme, to give electronic access to the nation's wholesale markets. The goal is to gather, analyse, and disseminate market data to farmers, dealers, policymakers, and other stakeholders. The programme covers more than 3200 markets, and over 2700 of those markets submit data to the AGMARKNET portal. The programme covers more

than 350 goods and 2000 different kinds (AGMARKNET, 2019).

NERAMAC (North Eastern Regional Agricultural Marketing Corporation Ltd.). The diverse agro-climate in North East India makes it possible to produce agricultural products from temperate, subtropical, and tropical regions, maximising the region's potential for agro-food processing, horticulture, floriculture, farming, cattle, etc. Only primary level processing is common at the moment, but as living standards rise, more chances will arise for secondary and tertiary processing of agricultural products. The role of NERAMAC enters the picture at this point as it works to be the torch bearer for aspiring businesspeople, assisting them in learning about cutting-edge processing technology, and for farmers, offering them suitable market connections as well as fair rates for their products. NERAMAC firmly believes that the current agricultural marketing system in the area needs to undergo a revolutionary shift (NERMAC, 2018).

IASF (Intelligent Advisory System for Farmers) in North East India- A web-based platform called Intelligent Advisory System for Farmers (IASF) connects KVK scientists and experts from the Department of Agriculture to farmers through an e-platform in order to address farmers' issues in a timely manner. It is seamlessly integrated with Mobile Service Delivery Gateway (MSDG) (IASF, 2018).

M4AGRINEI (Mobile Based Agro Advisory System for North-East India)- A project called "Mobile Based Agro Advisory System for North-East India (m4agriNEI)" with the Central Agricultural University (CAU), Imphal through its colleges in Meghalaya at Barapani and Tura with the aim of empowering the farmers by giving "right information at right time in local dialects - Khasi & Garo." Due to the initiative's success in Meghalaya, the government of Meghalaya assumed control of the entire m4agriNEI programme, including the full IT infrastructure, the farmers' database, and the project staff (M4AGRI, 2021).

Farmer's portal- Farmers can access the Farmers' Portal of the Department of Agriculture, Co-operation, and Farmers' Welfare as a resource for any information pertaining to agriculture. There contains comprehensive information on topics such as farmers' insurance, agricultural storage, crops, extension activities, seeds, pesticides, farm equipment, etc. There are also details about fertilizers, market costs, packages and practises, programmes, and assistance programmes. An interactive map shows information at the block level on soil fertility, storage, insurance, training, etc. (Farmer's portal, 2021).

MATERIAL AND METHODS

The research study was carried out in the Manipur state. One district i.e. Thoubal district from Manipur state was selected based on the highest number of women using digital media. From Thoubal district two blocks were selected randomly i.e. Thoubal block and Wangjing block. Purposive sampling was used in selection of the respondents based on the criteria that they were owning farm/land and involved in farm

activities and using digital media. From each block 30 respondents were selected making a total of 60 respondents.

Objective. To study the awareness of digital media among farm women of Manipur state.

RESULTS AND DISCUSSION

The view from the Table 1, revealed that the age was categorized in three groups which were 20-35 years, 35-50 years and Above 50 years. The result indicated that it was evident that the majority (48.33%) of the respondents belonged to the middle age group of 35-50 years followed by 30.00 percent who belonged to 20-35 years and 21.67 percent were to 50 years. It might be the reason that women tend to be more hardworking and active at this stage as they have to take care of their families mainly their children and elders. This study coincides with Balkrishna and Deshmukh (2017) where the study found that majority (42.00%) of the respondents were age group 30- 40 years.

Table 1: Profile characteristics of selected farm women (n= 60).

Sr. No.	Profile characteristics	F	%
Age (years)			
1.	Young (20-35)	18	30.00
	Middle (35-50)	29	48.33
	Old (Above 50)	13	21.67
Annual income (per annum)			
2.	Rs. 1,00,000/- to 2,50,000/-	16	26.67
	Rs. 2,50,000/- to 4,00,000/-	31	51.66
	Rs. 4,00,000/- to 5,50,000/-	12	20.00
	Above Rs. 5,50,000/-	1	1.67
Education			
3.	Illiterate	4	6.67
	Primary School	24	40.00
	Secondary School	22	36.66
	High School	9	15.00
	Graduation	1	1.67
Marital status			
4.	Married	51	85.00
	Unmarried	0	0.00
	Widowed	9	15.00
Information seeking behavior			
5.	Low (12-20)	0	0.00
	Medium (20-28)	42	70.00
	High (28-36)	18	30.00

The annual income of the selected farm women was categorized as 1,00,000-2,50,000 lakhs, 2,50,000-4,00,000 lakhs, 4,00,000-5,50,000 lakhs and above 5,50,000 lakhs per annum. The result showed that the majority (51.67%) of the respondents had an annual income of Rs. 2,50,000/- to 4,00,000/- followed by 26.67 percent had between Rs. 1,00,000/- to 2,50,000/- lakhs, 20.00 percent had between Rs. 4,00,000/- to 5,50,000/- and only 1.67 percent had an annual income above 5,50,000. The reason might be because majority of the group earned using agriculture and small

agriculture- related business as their main sources of income and agriculture was a seasonal business so the income ranges between 1,00,000 to 2,50,000 lakhs per annum and 2,50,000 to 4,00,000 lakhs per annum. It was in line with Pal (2018) where his study found that the majority of farmers (75.47%) had medium family income i.e. between Rs. 55, 587-91,395 per month, while 16.04 percent of the farmers had low family income group with income less than Rs. 55,587 per month and only 8.49 percent of farmers had high family income with monthly income exceeding more than Rs. 91,395 per month.

Education was categorized in the above Table 1 as illiterate, primary school, secondary school, high school and graduation. The result data depicted that majority (40.00%) had completed their primary education, 36.66 percent completed their secondary education followed by high school (15.00%), 6.67 percent were illiterate, and a negligible 1.67 percent have completed their graduation. Majority comes under the primary education with was considered to be from nursery to 6th class this might be because in the olden days the girls' education was very less as they were considered to get married when they reach certain age and mainly in rural areas there were no proper education system. The study lines up with Naik (2014) From this study it was found that the majority of the mobile users (39.40%) completed primary schooling followed by high school (23.90%) and higher secondary (15.00%) about 12.00 percent of them functional literates (11.70%) while about 4 percent were illiterate and about 6 percent were graduates.

The above Table 1 categorized marital status in terms of married, unmarried, divorce and widowed. The results showed that the majority (85.00%) of the respondents were married and 15.00 percent were widowed. This might be because most of the respondents were in middle age, due to which they were found to be married. The study was similar with Okwu and Daudu (2011) found that most of the respondents (97.33%) were married followed by 2.21 percent were single while only one (0.32%) was a widow.

The Table 1 categorized information-seeking behaviour into low, medium and high. The results showed that majority (70.00%) of the Manipur respondents had medium information-seeking behaviour followed by high behaviour (30.00%). It was noted that none of the respondents had low information-seeking behaviour. The reason might be because the respondents were in contact with informal sources like neighbors, friends and families, they learned about various useful new information available in their community, and they also watched and listened to television and radio programmes to obtain the information. The study coincides with the study conducted by Chandra (2019) where his study revealed that the majority (53.33 %) of the farmers belonged to medium information-seeking behaviour followed by low (17.5 %) and the remaining only 12.5 percent of farmers belonged to high information-seeking behaviour.

Table 2: Distribution of respondents according to the listening behaviour of farm radio programme per week by the rural women (n=60).

Sr. No.	Listening to farm radio programmes	F	%
1.	2-4 hours	2	3.33
2.	5-7 hours	5	8.33
3.	8- 10 hours	50	83.34
4.	Morethan10 hours	0	0.00
5.	Never	3	5.00

The results shown in Table 2 it was found that the majority of the respondents listened for 8-10 hours per week followed by (8.33%) for 5-7 hours, (3.33%) for 2-4 hours and a negligible (5.00%) number of respondents didn't listen at all. It is to be noted that none of the respondents listened to the radio more than 10 hours a week. This might be because the programmes time were very short and it will be aired 3 times a week. People loved to listened to the entertainment programmes more than the farm programmes. The respondents were using their phones majorly like watching youtube, facebook, and other apps or they listen to other entertainment programmes. Majorly the agricultural programmes were mainly aired in the afternoon time. This study contrasts the research Middha and Singh (2019) conducted a study where they found that farm women were truly dedicated to their work and only 30 percent of women listen to radio but that too necessarily for agricultural programs.

Table 3: Distribution of respondents according to the frequency of Watching agriculture programme per week by the rural women (n=60).

Sr. No.	Frequency of watching programmes	F	%
1.	Daily	2	3.33
2.	2-4times a week	18	30.00
3.	Once a week	31	51.67
4.	Never	9	15.00

The above Table 3 depicted that the majority (51.67%) of the respondents watch agricultural programmes once a week trailed by 2-4 times a week (30.00%) and (3.33%) some of the respondents watch daily. It was to be noted that 15.00 percent didn't watch the television programmes at all. This might be due to the reason that the respondents watch television on their free time and some agriculture channels like DD Kisan aired interesting agriculture related useful information. Other local channels like ISTV aired many Agricultural programmes regarding the trainings and arrival of new information mainly regarding the equipment. The fact that majority of the respondents preferred to watch entertainment programmes rather than educational programmes. The study coincides Middha and Singh (2019) in the study it was found that every woman watches television but not necessarily agricultural coverage. They watch TV for entertainment purposes the most and not specifically for agricultural coverage.

Table 4: Distribution of respondents according to their usage of the internet per day (n=60).

Sr. No.	Hours of using internet	F	%
1.	0-2 hours	20	33.33
2.	2-4 hours	33	55.00
3.	4-6 hours	7	11.67

Based on the Table 4 the hours of using the internet it was categorized into 0-2 hours, 2-4 hours and 4-6 hours, the results revealed that more than half (55.00%) of the Manipur respondents have spent 2-4 hours in using internet, one third (33.33%) of the respondents have spent 0-2 hours and 11.67 percent have spent 4-7 hours on the internet per day. This might be due to the reason that the women were mainly involved in their household chores, looking after their children and elders living in their families and taking care of other responsibilities which might not have made them spare much time to use internet as they were also working in the fields. They watched a few videos and used social media platforms like Facebook and YouTube in their free time. The study coincides with Chen *et al.* (2022) The study found that 1683 people used the internet to obtain agricultural production information, accounting for 79.16 percent; 443 people did not use the internet to obtain agricultural production information, accounting for 20.84 percent.

Table 5: Distribution of respondents according to the usage of farm and related portals by the rural women (n=60).

Sr. No.	Usage of farming and related portals	F	%
1.	University portal	36	60.00
2.	KIRAN	0	0.00
3.	NERAMAC	0	0.00
4.	AGMARKNET	2	3.33
5.	IASF	0	0.00
6.	M4AGRINEI	60	100
7.	Farmer's portal	0	0.00
8.	National portal of India	0	0.00

Table 5 indicated that all (100.00%) of the respondents in Manipur have used the M4AGRINEI portal followed by the university portal (60.00%) and only 3.33 percent were using the AGMARNET. It was also noted that the KIRAN portal, NERMAC, IASF, Farmer's portal, and National portal of India were not being used by the respondents even though these portals were available in the state. This might be because under M4AGRINEI, training was provided and one of the ongoing training was the mushroom plantation. M4AGRINEI also provides toll free calls for the farmers if they have any issue regarding agriculture and allied sectors.

The Table 6 illustrated that more than three by fourth (81.47%) of the Manipur respondents got the awareness of portals from their friends, relatives, and neighbours followed by newspapers and magazines (48.33%), the extension workers (35.00%), agricultural institutes (21.67%), governmental organization or university (16.67%), then through fellow farmers or commission agents or fellow farmers (13.33%), 11.67 percent were aware through television and radio and only 5.00

percent had clicked by chance. The reason might be because every individual is closed to their friends/family and neighbours so if any new thing had been heard by their surroundings it was spread fast to the community. These was one of the most effective methods to spread awareness regarding new innovation, trainings based on any field of agriculture. Kameswari (2011) found in the study, friends, and relatives were also important and reliable sources of information, especially in remote villages. However, it was observed that only 2.00 percent of the respondents reported using the TV for seeking agricultural information despite high ownership.

Table 6: Distribution of respondents according to the source of awareness of the portals by farm women (n=60).

Sr. No.	Awareness regarding portals	F	%
1.	Click by chance	3	5.00
2.	Friends/relatives/ neighbors	49	81.67
3.	Through fellow farmers/ commission agent/ fellow farmers	8	13.33
4.	Agricultural institutes	13	21.67
5.	Extension workers	21	35.00
6.	Television/radio	7	11.67
7.	Newspaper/magazine	29	48.33
8.	Governmental organization/ University	10	16.67

Table 7: Distribution of respondents according to the awareness regarding farming apps (n=60).

Sr. No.	Awareness of agricultural apps	F	%
1.	Heard of farming apps	49	81.67
2.	Try using these apps	54	90.00
3.	Use of the apps	60	100.00

According to the Table 7 data it was found that all (100.00%) of the respondents haven't used any of the agricultural apps, where the majority (90.00%) of them want to try using the apps and 81.67 percent of the respondents have heard about the farming apps. This might be because nowadays they had their own phone and vast advertisement are done in many ways. In some YouTube channels they recommend the viewers to try certain apps which might be useful to them through the advertisement they might have heard about Agricultural apps. The majority want to try these apps might be because in the present era they also want to explore in the new things. The study lines up with Costopoulou *et al.* (2016) the study discussed the use of mobile agriculture apps, 95.00 percent replied that they do not use any mobile app for their agricultural activities. The main reason for not using any mobile agricultural app is that they are not informed on the availability of apps, as well as on the value of these apps to support daily farming.

CONCLUSIONS

Majority (48.33%) of the respondents belonged to middle age group of 35-50 years, majority (51.67%) of the respondents had income of Rs. 2,50,000/- to 4,00,000/- per annum, majority (40.00%) had

completed their primary education, majority (85.00%) of them were married, majority (70.00%) of the Manipur respondents had medium information seeking behaviour, majority of the respondents listened for 8-10 hours per week followed by (8.33%) 5-7 hours, more than half (51.67%) of them of the respondents watch agricultural programmes once a week more than half (55.00%) of them have spent 2-4 hours in using internet, all (100.00%) the respondents have used the M4AGRINEI portal, 81.67 percent i.e. more than three by fourth of the respondents got the awareness of portals from their friends, relatives and neighbours, cent (100.00%) percent of the respondents haven't used any of the agricultural apps, where majority (90.00%) of them want to try using the apps and 81.67 percent of the respondents have heard about the farming apps. The results showed that majority were aware of the M4AGRINEI portal, which they were using through the extension personnel. They were utilizing television and radio for their information. The agricultural applications were available but the majority were not aware of them. The major suggestion from the study was to provide awareness and training on the different portals and applications available on digital media.

FUTURE SCOPE

Future research can be done on various areas of interest like AGMARKNET, regional wise portals, and applications that were intended for agriculture. They can also study the application of artificial intelligence and drones in agriculture.

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REFERENCES

- AGMARKNET (2019). <https://agmarknet.gov.in/>
Agriculture - ENVIS Centre (2016). http://manenvis.nic.in/Database/Agriculture_2720.aspx
- Balkrishna, B. B. and Deshmukh, A. A. (2017). A Study on the Role of Social Media in Agriculture Marketing and its Scope. *Global Journal of Management and Business Research: E-Marketing*, 17(1), 2249-4588.
- Chandra, S. (2019). A Study on the utilization pattern of ICTs for selected pulse crops in Banda districts of Uttar Pradesh. M.Sc. Thesis. Institute of Agricultural Sciences Banaras Hindu University Varanasi.
- Chen, F., Zhang, C. and Wang, W. (2022). Study on the Impact of Internet Use on Farmers' Straw Returning to the Field: A Micro Survey Data from China. *Sustainability*, 14, 8917.
- Costopoulou, C., Ntaliani, M. and Karetos, S. (2016). Studying Mobile Apps for Agriculture. *Journal of Mobile Computing & Application*, 3(6), 44-99.
- Devi, S. R. and Singh, L. K. (2015). Women's role in agriculture and allied fields in Manipur. *Indian Journal of Hill Farming*, 28(2), 154-157.

- FAO (2022). <https://www.fao.org/e-agriculture/>
- Farmer's portal (2021). <https://farmer.gov.in/>
- IASF (2018). <https://www.aesanetwork.org/intelligent-advisory-system-for-farmers-in-north-east-india/>
- Kameswari, V. L. V. (2011). ICTS for Agricultural Extension: A Study in the Indian Himalayan Region. *The Electronic Journal on Information Systems in Developing Countries*, 48(3), 1-12.
- M4AGRI (2021). <https://m4agri.dic.gov.in/index.php/notification/project-info/history>
- Middha, G. K. and Singh, A. (2019). Awareness of Farm Women in Regards to Agricultural Coverage in Media. *International Journal of Recent Technology and Engineering*, 8(4), 2277-3878.
- MKisan (2014). <https://mkisan.gov.in/>
- Naik, V. R. (2014). Effectiveness and Impact Analysis of Innovative Information and Communication Technology-Based Extension Models. *Ph.D. Thesis*. Indian Agricultural Research Institute, New Delhi.
- NERMAC (2018). <http://www.neramac.com/>
- Okwu, O. J. and Daudu, S. (2011). Extension communication channels' usage and preference by farmers in Benue State, Nigeria. *Journal of Agricultural Extension and Rural Development*, 3(5), 88-94.
- Pal, A. (2018). Perception of farmers towards use of social media for seeking agricultural information: a study in Udham Singh Nagar district of Uttarakhand. *M.Sc. Thesis*. G.B. Pant University of Agriculture and Technology, Pantnagar.
- Ryan, R. and Acharya, A. (2017). Can Artificial Intelligence Help Feed The World?. *Forbes*. <https://www.forbes.com/sites/themixingbowl/2017/09/05/can-artificial-intelligence-help-feed-the-world/>

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