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## **Extent of Awareness of Farmers on ITD Methods Implemented by Different Agricultural Institutions in Kerala**

**Namitha Reghunath<sup>1\*</sup> and N. Kishore Kumar<sup>2</sup>**

<sup>1</sup>*Department of Agricultural Extension, College of Agriculture Padannakad, Padannakad, P.O. Kasargod- 671314, Kerala, India.*

<sup>2</sup>*Department of Agricultural Extension, College of Agriculture Vellayani, Thiruvananthapuram, India.*

### **Authors' contributions**

*This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.*

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### **ABSTRACT**

Innovations in Technology Dissemination (ITD) is part of the agricultural extension system that holds key to rapid development and transformation of rural society and it is greatly influenced by the linkage between the research subsystem, extension subsystem and client subsystem. In Kerala, several linkage mechanisms are existed at the state and regional levels to provide strong ties between research and extension system. The study was conducted in Kannur district of Kerala to identify the extent of awareness of farmers on ITD methods implemented by different agricultural institutions in Kannur district. Thirty farmers each from four selected grama panchayats (Ezhome, Kankol- Alapadamba, Kadannapalli- Panapuzha and Mayyil) of Kannur were identified using simple random sampling and a total of one hundred and twenty respondents were included in the study. A well-structured interview schedule was used for collecting the data from the respondents. The data were tabulated and inferences were drawn from the appropriate statistical analysis. The result shows that majority of the farmers were aware of the

\*Corresponding author: E-mail: [namitharaghunathcv@gmail.com](mailto:namitharaghunathcv@gmail.com);

ITD methods like training programmes by ATMA (68.33%), ATMA newsletter (58.33%), LEADS activities (53.33%) and training and workshops by Department of Agriculture (66.67%). Most of the farmers lack awareness about the innovations by NGOs and farmers clubs formed by different banks.

**Keywords:** *ITD; ATMA; LEADS; ATMA PLUS; department of agriculture; personal interview; extent of awareness.*

## 1. INTRODUCTION

Agriculture is the lifeblood of Indian population and it is one of the most important sectors of Indian economy. But Indian agriculture now confronting several challenges due to the lack of technological back up among the farming community. Majority of farmers in India are small and marginal farmers with less land and lack of idea about latest technologies. Acceptance and continued use of many technologies depend on the prevailing development policies, climate or weather parameters, availability of inputs, supporting factors like market, institutions, credit availability and the user or consumer preferences [1]. Extension system has been introducing new policies and strategies to modify and improve the way of assessment refinement and dissemination of new technologies. Farm information and technology dissemination to the farmers provide opportunities for their self-development, enhance existing knowledge, abilities and improve their capabilities [2]. Agricultural extension or agricultural advisory services consist of different organizations that support people involved in agricultural production, facilitate their efforts to solve problems and attain information, skills, and technologies to improve their livelihoods [3]. Agricultural extension has witnessed remarkable structural and functional changes to meet the global challenges in the agricultural sector during the last two and half decades in most of the nations. According to [4] extension services helps to impart the necessary skills and knowledge to the farmers for undertaking improved agricultural operations, to make available to them timely information, improved practices in an easily understandable form suited to their level of literacy and awareness, and to create in them a favorable attitude for innovation and change. The agricultural knowledge infrastructure is emerging in a big way with the emergence of pluralistic extension factors and innovations to satisfy the needs of farmers [5]. The public, private and Non Governmental Organisation (NGO) extension changing from individual to group approaches,

that facilitates extension planning and implementation and it makes the system more farmer accountable, involvement of groups in decision making, value addition, access to credit and marketing which will lead to sustainability [6]. Hence the study investigates the extent of awareness of farmers on ITD methods implemented by different agricultural institutions in Kannur district.

## 2. METHODOLOGY

The present study was conducted in Kannur district of Kerala. From the eleven block panchayats present in Kannur, Taliparamba, Kalliaseri, Payyanur and Irikur blocks were selected based on the agro ecological zones of the district and from these four blocks four grama panchayats, Ezhome, Kankol- Alapadamba, Kadannapalli- Panapuzha, and Mayil were selected after consulting with each block panchayat office. A list of progressive farmers from each Grama Panchayat was collected from successive Krishi Bhavans and thirty farmers each were selected by simple random sampling, so the total number of respondents were one hundred and twenty. A well-structured interview schedule was used for collecting the data from the respondents.

### 2.1 Extent of Awareness of Farmers on ITD Methods

Awareness was operationalised as the level of the extent to which the respondents were familiar with the Innovations in Technology Dissemination (ITD) methods implemented.

Scale followed by [7,8] with slight modification was used. The scale consists of the number of Innovations implemented by different agricultural institutions in Kannur district. The respondents were advised to mark the degree of awareness about the innovations in a two point scale aware and not aware of scores 1 and 0 respectively.

Correlation coefficient was worked out to identify the relationship between the socio-economic and psychological characters and extent of awareness of farmers on ITD methods implemented by different agricultural institutions in Kannur.

### **3. RESULTS AND DISCUSSION**

#### **3.1 ITD Methods Implemented by Different Agricultural Institutions in Kannur District**

Department of Agriculture, Government of Kerala has implemented a number of programmes in Kannur district for transferring latest agricultural technologies to the farmer's field. LEADS, ATMA, ATMA PLUS, NGOs etc. were also able to bring a drastic change in the technology dissemination culture.

##### **3.1.1 Training programmes by ATMA**

ATMA is a central government initiative to Support to State Extension Programmes for Extension Reforms (SSEPER) scheme, which was implemented into the district level.

##### **3.1.2 LEADS**

In order to revitalize the present system of extension, a concept of frontier extension system revolved around lead farmer-satellite farmer concept on an Agro-Ecological Zone basis within a district. The lead farmers are an important agent in the chain of transfer of technology in agriculture. Kannur district was selected as the LEADS district along with Kollam, Palakkad and Wayanad. The district is divided into two Agro Ecological Zones (AEZ) and each Agro Ecological Zone (AEZ) is divided into Agro Ecological Units (AEU). Visit schedule, as well as technology advice for every month, is prepared on agro ecological unit-wise. The project is being implemented in 81 panchayats of Kannur and 243 lead farmers and 243 satellite farmer groups have been formed at the rate of three groups per panchayat, each group comprising of 10 selected farmers, for effective technology dissemination. The regular field visit will be done by field assistants and one field assistant will cover two Krishi Bhavans. There should not be any change in the field visit schedule finalized for a month. The Agricultural officer and Agricultural Assistant will conduct at

least one visit each per month to the field of lead farmer.

##### **3.1.3 ATMA PLUS activities**

ATMA plus is a new initiative by Department of Agriculture to support ATMA activities. It is a combination of ATMA and LEADS to strengthen the ATMA cafeteria activities. Main objective of ATMA PLUS is to promote innovations in extension at Panchayat level. Components of ATMA PLUS include farmers field school, technology meet, ATMA Newsletter, Farmer Extension Organization (FEO) and Farmer led Technology Development (FTD)

##### **3.1.4 Trainings and workshops by department of agriculture**

Department of Agriculture provides a variety of trainings and workshops to Agricultural Officers, Agricultural Assistants and progressive farmers on various topics with the help of SAMETI, ATMA etc.

##### **3.1.5 Crop health management scheme**

Crop Health Management scheme helps to develop an effective pest surveillance based crop advisory system to help the farmers to adopt timely and advance plant protection measures.

##### **3.1.6 Plant health clinics**

Plant health clinics were started in 28 selected blocks of Kerala. In Kannur, 7 blocks and 14 Krishi Bhavans were selected for pest surveillance. Mobile clinics were also working to provide timely advice to farmers on pest and disease management.

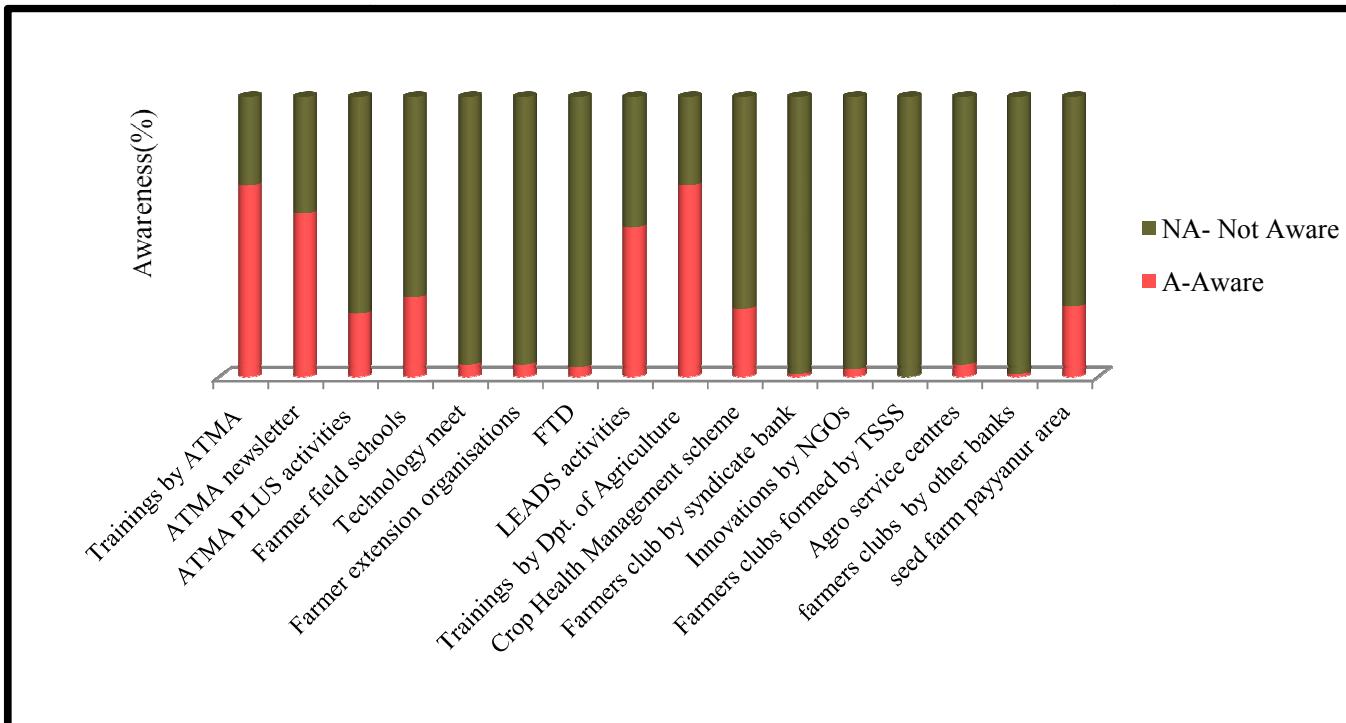
##### **3.1.7 Innovations by NGOs**

Tellissery Social Service Society (TSSS), KAIROS, social organization for rural development, Nocer India were the important NGOs for the dissemination of latest agricultural technologies to farmers in Kannur district. TSSS having its main office at Tellissery providing number of training programmes to farmers on the topics, production of biofertilizers and biochemicals, soil and water conservation, organic farming, organic certification, mushroom cultivation, bee keeping, value addition, animal rearing etc. They have 18 farmers groups with 266 farmers.

**Table 1. Extent of Awareness of farmers on Innovations in Technology Dissemination (ITD) methods implemented by different agricultural institutions in Kannur district, per cent (n= 120)**

Sl. no.	ITD methods	Ezhome		Kankol		Kadannappalli		Ezhome		Total	
		A	NA	A	NA	A	NA	A	NA	A	NA
1	Training programmes by ATMA in Kannur	<b>77.59</b>	10	16.67	83.33	70	30	<b>96.67</b>	3.33	<b>68.33</b>	31.67
2	ATMA newsletter	66.67	33.33	10	90	63.33	36.67	<b>93.33</b>	6.67	58.33	41.67
3	ATMA PLUS activities	43.33	<b>56.67</b>	0	100	23.33	<b>76.67</b>	23.33	76.67	22.5	77.5
4	Farmer field schools	46.67	53.33	0	100	30	70	36.67	63.33	28.33	71.67
5	Technology meet	10	90	0	100	3.33	<b>96.67</b>	3.33	96.67	4.17	95.83
6	Farmer extension organisation	13.33	<b>86.67</b>	0	100	0	100	3.33	96.67	4.17	95.83
7	Farmer led technology development	6.67	93.33	0	100	0	100	6.67	93.33	3.33	96.67
8	Trainings & workshops by Dept. of Agriculture	<b>93.33</b>	6.67	20	80	<b>86.67</b>	13.33	66.67	23.33	<b>66.67</b>	30.83
9	LEADS activities	<b>86.67</b>	13.33	<b>36.67</b>	63.33	33.33	66.67	<b>56.67</b>	43.33	53.33	46.67
10	Crop health management scheme	3.33	<b>96.67</b>	0	100	<b>90</b>	10	3.33	96.67	2.5	97.5
11	Farmers clubs formed with the help of Syndicate Bank	3.33	<b>96.67</b>	0	100	0	100	0	100	0.83	99.17
12	Innovations by NGOs	6.67	93.33	0	100	0	100	3.33	96.67	2.5	97.5
13	Farmers clubs formed by TSSS	0	100	0	100	0	100	0	100	0	100
14	Agro service centres	<b>16.67</b>	83.33	0	100	0	100	0	100	4.17	95.83
15	Farmers clubs by other banks	3.33	<b>96.67</b>	0	100	0	100	0	100	0.83	99.17
16	Seed farm Payyanur area	0	100	<b>100</b>	0	0	100	0	100	25	75

A- Aware NA- Not Aware



**Fig. 1. Extent of Awareness of farmers on Innovations in Technology Dissemination (ITD) methods implemented by different agricultural institutions in Kannur district**

From the table it could be inferred that majority of the farmers were aware of the ITD methods like training programmes by ATMA (68.33 percent), ATMA newsletter (58.33 percent), LEADS activities (53.33 percent) and trainings and workshops by Department of Agriculture (66.67 percent).

Compared to farmers of Kankol and Kadannappalli panchayat majority of the farmers in Ezhome (77.59 per cent) and Mayil panchayat (96.67 per cent) were aware of the training programmes conducted by ATMA, and most of the farmers in Ezhome panchayat (86.67 percent) were aware the activities of LEADS.

From table it was evident that majority of the farmers in Ezhome (93.33 percent) and Kadannappalli (86.67 percent) panchayat were aware of the training and workshops by the Department of Agriculture.

It was also observed from the table that 90 percent of the respondents in Kadannappalli Panchayat were aware of the crop health management scheme implemented by the Department of Agriculture, because in Kadannappalli Krishibhavan one plant health clinic is there, and it is working very well. So most of the farmers in this area were approaching the clinic to solve the problems related to pest and disease management.

Compared to all the three panchayats selected 16.67 percent of the respondents in Ezhome panchayat were aware of the agro service centres.

Hundred percent of the respondents in Kankol-Alapadamba panchayat were aware of the seed farm because most of the farmers in Kankol-Alapadamba panchayat were depended on the seed farm to get inputs like seeds, planting materials, fertilizers, pesticides etc.

From the table it was clear that all the respondents in Kankol- Alapadamba panchayat were not aware of the ATMA PLUS activities, Innovations by NGOs and farmers clubs formed by different banks. In the case of ATMA PLUS activities 28.33 percent of the farmers were aware of the farmers field schools for pest and disease management and most of the respondents were not aware of the technology meet, farmer led technology development and farmer extension organisations.

It can be concluded that majority of the farmers lack awareness about the innovations by NGOs and farmers clubs formed by different banks.

The data presented in Table 2 clearly indicates that the extent of awareness of farmers is positively correlated with number of trainings attended, mass media exposure, extension agency contact, extension participation, social participation, economic motivation, innovation proneness, acceptance of innovation, participation efficiency and group interaction at 1 percent level and need satisfaction at 5 percent level. It might be due to the fact that when the farmers attend different trainings and extension activities, they awareness on different ITD methods

**Table 2. Relationship among personal, socio-economic and psychological characteristics of farmers with their extent of awareness on Innovations in Technology Dissemination (ITD) methods implemented by different agricultural institutions in Kannur district**

Sl. No.	Independent variables	Correlation coefficient 'r' value
1	Age	-0.264**
2	No. of trainings	0.290**
3	Mass media exposure	0.428**
4	Extension agency contact	0.664**
5	Extension participation	0.515**
6	Social participation	0.288**
7	Decision making ability	0.125 NS
8	Economic motivation	0.332**
9	Innovation proneness	0.382**
10	Acceptance of innovation	0.312**
11	Participation efficiency	0.241**
12	Group interaction	0.241**
13	Need satisfaction	0.181*

will come across various new practices and methods and it will leads to increase in implemented by different agricultural institutions in Kannur.

#### 4. CONCLUSION

ITD holds key to rapid development and transformation of rural society and it is greatly influenced by the linkage between the research subsystem, extension subsystem and client subsystem. Now, the pluralistic system was emerged, that involve different public, private and NGOs in technology dissemination process. Pluralistic system is more broad based and served as knowledge or information agents that initiate and facilitate mutually meaningful and equitable knowledge based transactions among agricultural researchers, trainers and primary producers. Extent of awareness of farmers on various ITD methods implemented by different agricultural institutions in Kannur district of Kerala was identified and it shows that Majority of the farmers were aware of the ITD methods like training programmes by ATMA (68.33 percent), ATMA newsletter (58.33 percent), LEADS activities (53.33 percent) and trainings and workshops by Department of Agriculture (66.67 percent). Most of the farmers lack awareness about the innovations by NGOs and farmers clubs formed by different banks.

To improve or modify the existing technology dissemination methods, there should be introduction of an ideal system called Participatory Client Oriented Approach (PCOA) that include participatory decision making, inclusion of farmer led technologies, youth oriented programmes, effective trainings etc.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. Gowda MJC, Dixit S, Burman RR, Ananth PN. Extension Research and Technology Development; 2014.
2. Burman RR, Dubey SK, Sharma JP, Vijayaragavan K, Sangeetha V, Singh I. Information dynamics for designing cyber extension model for agricultural development. *J. Community Mobilization Sustain. Dev.* 2013;8(2):182-185.
3. Birner R, Davis K, Pender J, Nkonya E, Anandayasekeram P, Ekboir J, Mbabu A, Spielman DJ, Horna D, Benin S, Cohen M. Best practice to best fit: A framework for analyzing pluralistic agricultural advisory services world wide. *J. Agric. Educ. Ext.* 2009;15(4):341–355.
4. Altab AAT, Filipek T, Skowron P. The role of agricultural extension in the transfer and adoption of agricultural technologies. *Asian J. Agric. Food Sci.* 2015;3(5).
5. Saravanan R. Agricultural extension-World Wide innovations. New India Publishing Agency, New Delhi. 2008;417.
6. Sulaiman RV. Agricultural extension: Involvement of private sector. Occasional. Department of Economic Analysis and Research, National Bank for Agriculture and Rural Development (NABARD), Mumbai. 2003;29.
7. Jayawardhana JKJP. Organic agricultural practices in coconut based homesteads in Thiruvananthapuram district. M.Sc.(Ag) thesis, Kerala Agricultural University, Thrissur. 2007;99.
8. Sasidharan A. Adoption of organic farming technologies in banana and vegetable crops in Kasargod district. M.Sc.(Ag) thesis, Kerala Agricultural University, Thrissur. 2015;121.

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