

## International Journal of Agriculture Extension and Social Development

Volume 7; Issue 2; Feb 2024; Page No. 10-14

Received: 24-11-2023  
Accepted: 25-12-2023

Indexed Journal  
Peer Reviewed Journal

### Relationship between profile and extent of use of extension teaching methods by extension personnel of Department of Agriculture

<sup>1</sup>Aparna Jayan R and <sup>2</sup>SL Patil

<sup>1</sup>M.Sc. (Agri.), Department of Agricultural Extension Education, College of Agriculture, University of Agricultural Sciences, Dharwad, Karnataka, India

<sup>2</sup>Professor and Agricultural Extension Leader, AEEC, Gadag, Karnataka, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i2a.288>

Corresponding Author: Aparna Jayan R

#### Abstract

The present study was conducted in Dharwad and Gadag districts of Karnataka. The total sample size for the study constitute 90 extension personnel. *Ex-post facto* research design was employed for study. Findings of the study revealed that more than two fifth of the extension personnel (43.33%) belonged to middle age group and more than two third of them (68.89%) were male. Majority of the extension personnel (56.67%) obtained Master's degree in Agriculture/Home Science, 35.56 per cent had medium experience, 52.22 per cent had participated in 1 to 2 trainings, 40.00 per cent had high job involvement, 37.78 per cent had medium job satisfaction, 45.56 per cent had medium achievement motivation, 52.22 per cent had high perceived workload, 60.00 per cent had medium level of self-confidence and 51.11 per cent had high knowledge level about extension teaching methods. Out of eleven independent variables studied, two variables namely, self-confidence and knowledge of extension teaching methods were positively and significantly correlated with the extent of use of extension teaching methods by extension personnel at one per cent level of significance while, years of experience, job involvement and job satisfaction were positively and significantly correlated at five per cent significant level. Other independent variables like age, gender, educational qualification, participation in training, achievement motivation and perceived workload did not show significant relationship with extent of use of extension teaching methods. All the eleven independent variables taken together explained that 30.50 per cent of the variation in the extent of use of extension teaching methods by extension personnel.

**Keywords:** Extent of use, extension teaching methods, profile, extension personnel

#### Introduction

Extension teaching methods play a vital role in extending new knowledge and skills to the rural people by drawing their attention towards them, arousing their interest and helping them to have a successful experience of the new practice (Chikaire *et al.*, 2015) [2]. Extension personnel act as a dynamic link between farmers and research personnel. Extension agents should be trained in modern teaching methods so that he can use suitable teaching methods to the farmers (Kumbhar *et al.*, 2015) [3]. There can be no thumb rule for selection and combination of extension methods. It will depend on the situation as well as on the knowledge and experience of extension personnel (Ray, 2017) [6]. The type and size of the audience, teaching objective, subject matter, extension organization's stage of development, size of extension staff, availability of communication media, relative cost of the method and the extension worker's familiarity and proficiency with a variety of extension teaching methods are all the factors to be considered while, selecting extension teaching methods (Reddy, 2006) [7]. Extension educationists need to focus on their method of teaching by employing suitable extension teaching methods based on the individual differences in learning styles as one style does not fit for every individual. (Nikhitha *et al.*, 2018) [4].

The relationship between the profile and extent of use of extension teaching methods by extension personnel may assists in the identification of key characteristics significantly contributing to the extent of use of extension teaching methods by extension personnel. Also, the findings will facilitate in identifying the profile characteristics which needs to be improved for the increase in use of extension teaching methods by extension personnel. Keeping this in view, the present study was carried out with the objectives to study the profile of extension personnel of Department of Agriculture and to study the relationship between profile of extension personnel and extent of use of extension teaching methods by extension personnel.

#### Materials and Methods

The present study was conducted during the year 2021-22 in Dharwad and Gadag districts of Karnataka. *Ex-post facto* research design was used for the study. The sample for the present investigation constitute Agriculture Officers (AOs) and Assistant Agriculture Officers (AAOs) working in the Department of Agriculture. From Dharwad district 30 AOs and 15 AAOs were selected randomly. Similarly, from Gadag district 30 AOs and 15 AAOs were selected randomly. Thus, the total sample size constitute 90 respondents. In light of the objectives of the study, extent of

use of extension teaching methods was the dependent variable and variables like age, gender, educational qualification, years of experience, participation in training, job involvement, job satisfaction, achievement motivation, perceived workload, self confidence and knowledge of extension teaching methods were studied as independent variables. A well structured and pre-tested interview schedule was employed to collect the data through personal interview method. The data collected were tabulated and analysed using appropriate statistical tools like frequency, percentage, mean, standard deviation, correlation and regression.

**Results and Discussions**

**Profile of extension personnel of Department of Agriculture**

**Age**

The results presented in Table 1 shows that more than two fifth of the extension personnel (43.33%) belonged to middle age group (36 to 55 years) followed by, 35.56 per cent belonged to young age group (18 to 35 years) and only 21.11 per cent belonged to old age group (above 55 years). The results are quite obvious because of lack of recruitments for the post of Assistant Agriculture Officers and Agriculture Officers in the recent years due to COVID-19.

**Gender**

The perusal of the Table 1 depicts that majority of extension personnel (68.89%) were male whereas, nearly one third of them (31.11%) were female. The cadre wise data presented in Table 1 also shows that more than half of the AOs (56.67%) and large majority of AAOs (93.33%) were male. While, 43.33 per cent of AOs and a meagre percentage of AAOs (6.67%) were female. most of the women agriculture graduates prefer for higher studies immediately after B.Sc. (Agri.) and may prefer to take up jobs in other institutions like bank, research institutes and universities as they prefer for office work rather than field level extension work. This might be the reason for less percentage of female extension personnel in Department of Agriculture.

**Educational qualification**

It is evident from the Table 1 that majority of the extension personnel (56.67%) obtained Master’s degree in Agriculture/Home science while, 18.89 per cent had Bachelor’s degree in Agriculture/Home Science/Agricultural Engineering and 14.44 per cent had S.S.L.C. Only 5.56 per cent of extension personnel had Ph.D. and an equal percentage (2.22%) had P.U.C and

Bachelor’s degree in Arts/Commerce/Science. The result might be due to the fact that the recruitments for the post of Agriculture Officers and Assistant Agriculture Officers are not done regularly which prevents graduates from taking up the above job positions as soon as they complete their Bachelor's Degree and they prefer to pursue a Master’s Degree.

**Years of experience**

The data furnished in the Table 1 indicates that more than one third of the extension personnel (35.56%) had medium experience (10 to 20 years) while, one third of them (33.33%) had high experience (> 20 years) and 31.11 per cent had less experience (< 10 years). Promotion of existing Assistant Agricultural Officers as Agriculture Officers and lack of recruitment of new Agricultural Assistant Officers for a longer period of time might be the reasons for most of the extension personnel had medium to high experience.

**Participation in training**

A cursory look at the results in Table 1 reveals that more than half of the extension personnel (52.22%) had participated in 1 to 2 trainings in the last 3 years whereas, more than one third of them (35.56%) had not participated in any trainings and only 12.22 per cent had participated in 3 to 4 trainings in the last 3 years. Further, the results in Table 1 also indicates that as high as 44.45 per cent of the extension personnel belonged to low duration category of training (<7 days) while, one third of them (33.33%) belonged to medium duration category of training (7 to 41 days) and only 22.22 per cent of them belonged to high duration category of training (> 41 days). The possible reasons might be the facts that the entire nation was under lockdown due to the COVID-19 pandemic and even after the upliftment of lockdown, restrictions were imposed by the government for transport and conducting events like trainings.

**Job involvement**

It is clear from Table 1 that two fifth of extension personnel (40.00%) had high job involvement whereas, 36.67 per cent belonged to medium job involvement category and 23.33 per cent belonged to low job involvement category. Before being assigned to their position, extension personnel receive foundation training and were briefed on the nature of their job as well as their roles and responsibilities. Therefore, a clear understanding of their duties and responsibilities leads to high job involvement and ensures sound performance of job by the extension personnel

**Table 1:** Profile of extension personnel of Department of Agriculture n = 90

Sl. No.	Variables	Categories	f	%
1	Age	Young age (18 to 35 years)	32	35.56
		Middle age (36 to 55 years)	39	43.33
		Old age (Above 55 years)	19	21.11
2	Gender	<b>Male</b>		
		AOs (n <sub>1</sub> = 60)	34	56.67
		AAOs (n <sub>2</sub> = 30)	28	93.33
		Overall (n = 90)	62	68.89
		<b>Female</b>		
		AOs (n <sub>1</sub> = 60)	26	43.33
		AAOs (n <sub>2</sub> = 30)	2	6.67

		Overall (n = 90)	28	31.11
3	Educational qualification	S.S.SL.C	13	14.44
		P.U.C	2	2.22
		B.A/B.com/B.Sc	2	2.22
		B.Sc. (Agri.)/B.Sc. (H.Sc.)/B.Tech (Ag.Engg)	17	18.89
		M.Sc. (Agri.)/M.Sc. (H.Sc.)	51	56.67
		Ph.D.	5	5.56
4	Years of experience	Less experience (<10 years)	28	31.11
		Medium experience (10 to 20 years)	32	35.56
		High experience (>20 years)	30	33.33
		Mean: 14.81 S.D: 11.20		
5	Number of training participated	Not participated in training	32	35.56
		Participated in 1 to 2 trainings	47	52.22
		Participated in 3 to 4 trainings	11	12.22
6	Duration of training	Low duration of training (<7 days)	40	44.45
		Medium duration of training (7 to 41 days)	30	33.33
		High duration of training (>41 days)	20	22.22
		Mean: 24.00 S.D: 40.60		
7	Job involvement	Low job involvement (<52.90)	21	23.33
		Medium job involvement (52.90 to 57.23)	33	36.67
		High job involvement (>57.23)	36	40.00
		Mean: 55.07 S.D: 5.09		
8	Job satisfaction	Low job satisfaction (<27.53)	25	27.78
		Medium job satisfaction (27.53 to 32.07)	34	37.78
		High job satisfaction (>32.07)	31	34.44
		Mean: 29.80 S.D:5.13		
9	Achievement motivation	Low achievement motivation (<24.08)	28	31.11
		Medium achievement motivation (24.08 to 27.78)	41	45.56
		High achievement motivation (>27.78)	21	23.33
		Mean: 25.93 S.D: 4.35		
10	Perceived workload	Low perceived workload (<13.17)	20	22.22
		Medium perceived workload (13.17 to 15.49)	23	25.56
		High perceived workload (>15.49)	47	52.22
		Mean: 14.33 S.D: 2.73		
11	Self confidence	Low self confidence (<31.18)	15	16.67
		Medium self confidence (31.18 to 33.27)	54	60.00
		High self confidence (>33.27)	21	23.33
		Mean: 32.07 S.D: 2.09		
		Medium knowledge (131.11 to 137.53)	29	32.22
		High Knowledge (>137.53)	46	51.11
		Mean: 134.32 S.D:7.55		

f = Frequency, % = Percentage

### Job satisfaction

The results in Table 1 clearly shows that more than one third of the extension personnel (37.78%) had medium job satisfaction followed by, 34.44 per cent had high job satisfaction and 27.78 per cent had low job satisfaction. Extension personnel receives fair salary as per his/her pay scale and there are no reduction in salary even if the performance is not up to the mark. This ensures high job security and derives better job satisfaction. In addition, promotional opportunities, opportunity to develop the knowledge and skills through training offered by the State Department of Agriculture and Agricultural Universities, flexibility given by superior in performing their job and authority to make own decisions in job might also be the reasons why most of the extension personnel belonged to medium to high category of job satisfaction.

### Achievement motivation

A careful observation of data presented in Table 1 depicts that as high as 45.56 per cent of the extension personnel had medium achievement motivation and nearly one third of

respondents (31.11%) had low achievement motivation. While, only 23.33 per cent had high achievement motivation. No incentives/reward for the field work, high workload, poor organisational climate and lack of transport facilities to conduct extension activities might be the reasons for low to medium achievement motivation

### Perceived workload

The data presented in Table 1 reveals that majority of the extension personnel (52.22%) had high perceived workload, whereas, 25.56 per cent and 22.22 per cent had medium perceived workload and low perceived workload, respectively. Agricultural Officers and Assistant Agriculture Officers might have high work load during cropping season due to category wise distribution of inputs and unscheduled field visits due to the situational factors. Implementation of more new schemes, pressure of completion of numerous tasks in specified time and due to insufficient grass root level extension staff additional responsibilities of vacant posts were assigned to the existing Agriculture Officers and Assistant Agriculture Officers were might be the other

possible reasons for increased workload.

### Self confidence

It could be observed from Table 1 that majority of extension personnel (60.00%) had medium level of self-confidence while, more than one fifth of them (23.33%) had high level of self-confidence. Only 16.67 per cent of them had low level of self-confidence. The reason for the results might be due to the fact that most of extension personnel were Post Graduates in Agriculture/Home Science and majority of them had medium to high experience. Hence, the extension personnel have better professional knowledge and experience in their field of work which boost their self-confidence. In addition, Agriculture Officers and Assistant Agriculture Officers updates their knowledge and skills through the bimonthly workshops conducted by Agriculture Universities and trainings conducted by State Department of Agriculture. More than half of the extension personnel had participated in one or more trainings. Gaining new knowledge and skills improves the self-confidence of extension personnel. Further, support from higher officers might also had contributed to medium self-confidence.

### Relationship between independent variables with their extent of use of extension teaching methods by extension personnel

The zero order correlation coefficients were computed for the examination of the relationship between the independent variables and extent of use of extension teaching methods by extension personnel. The results to this effect are presented in Table 2. Out of eleven independent variables studied, two variables namely, self confidence and knowledge of extension teaching methods were positively and significantly correlated with the extent of use of extension teaching methods by extension personnel at one per cent level of significance while, years of experience, job involvement and job satisfaction were positively and significantly correlated at five per cent significant level. The remaining variables which did not show significant relationship with extent of use of extension teaching methods were age, gender, educational qualification, participation in training, achievement motivation and perceived workload.

Majority of extension personnel had medium to high years of experience and high knowledge about extension teaching methods. Therefore, with more years of experience and high knowledge, the extension personnel will employ different extension teaching methods and develops self confidence in using them. The job of extension personnel require more efforts to become familiar with day to day developments, which necessitates a higher level of involvement. It is quite obvious that extension personnel who are more actively involved in their jobs will employ various extension teaching methods. Due to higher satisfaction in the job, extension personnel were motivated to perform their job better by employing various traditional and modern

extension teaching methods. These facts might be the reason for positive and significant relationship between years of experience, job involvement, job satisfaction self confidence and knowledge of extension teaching methods with the extent of use of extension teaching methods. The findings of the study agree with Ajelli and Mohammed (2017) <sup>[1]</sup> who indicated that years of experience and job satisfaction had positive and significant relationship with level of usage of extension teaching methods and Ojha (2017) <sup>[5]</sup> who revealed that knowledge of extension teaching methods have strong association for extension teaching methods.

**Table 2:** Relationship between independent variables of extension personnel with their extent of use of extension teaching methods  
n=90

Variable code	Variables	'r'
X <sub>1</sub>	Age	0.094
X <sub>2</sub>	Gender	0.095
X <sub>3</sub>	Educational qualification	0.034
X <sub>4</sub>	Years of experience	0.211*
X <sub>5</sub>	Participation in training	0.016
X <sub>6</sub>	Job involvement	0.227*
X <sub>7</sub>	Job satisfaction	0.262*
X <sub>8</sub>	Achievement motivation	0.049
X <sub>9</sub>	Perceived workload	0.045
X <sub>10</sub>	Self confidence	0.392**
X <sub>11</sub>	Knowledge of extension teaching methods	0.278**

\*\* = Significant at 1 per cent level of probability

\* = Significant at 5 per cent level of probability

### Contribution of independent variables of extension personnel towards extent of use of extension teaching methods by extension personnel

Multiple regression analysis was carried out to determine the extent of contribution made by the independent variables and to identify those variables which contribute significantly towards the variation in extent of use of extension teaching methods by extension personnel. The results of multiple regression analysis are presented in Table 3. The results reveals that among the eleven independent variables, only two variables namely, self confidence and knowledge of extension teaching methods contributed significantly towards the extent of use of extension teaching methods by extension personnel at one per cent level and the other two variables namely, job involvement and job satisfaction contributed significantly at five per cent level. The calculated 'F' value of 3.112 for the multiple regression was highly significant at one per cent level of probability indicating thereby that all the independent variables put together made a significant contribution in explaining the variation in extent of use of extension teaching methods by extension personnel. The value of coefficient of determination was 0.305 which revealed that 30.50 per cent of the variation in the extent of use of extension teaching methods by extension personnel was contributed by the combined influence of all the independent variables considered in the study.

**Table 3:** Multiple linear regression analysis of independent variables with extent of use of extension teaching methods by extension personnel n=90

Variable code	Variables	Regression coefficient	Standard error	't'
X <sub>1</sub>	Age	0.002	0.107	0.015
X <sub>2</sub>	Gender	1.297	2.208	0.587
X <sub>3</sub>	Educational qualification	0.157	0.193	0.813
X <sub>4</sub>	Years of experience	0.056	0.125	0.448
X <sub>5</sub>	Participation in training	0.014	0.036	0.380
X <sub>6</sub>	Job involvement	0.438	0.210	2.088*
X <sub>7</sub>	Job satisfaction	0.545	0.224	2.439*
X <sub>8</sub>	Achievement motivation	0.344	0.267	1.288
X <sub>9</sub>	Perceived workload	0.106	0.388	0.272
X <sub>10</sub>	Self confidence	1.821	0.478	3.806**
X <sub>11</sub>	Knowledge of extension teaching methods	0.472	0.165	2.854**

$R^2 = 0.305$   $F = 3.112^{**}$

\*\* = Significant at 1 per cent level of probability

\* = Significant at 5 per cent level of probability

### Conclusion

The findings of the study indicated that years of experience, job involvement, job satisfaction, self-confidence and knowledge of extension teaching methods were positively and significantly correlated with the extent of use of extension teaching methods by extension personnel. The results of multiple regression analysis revealed that job involvement, job satisfaction, self-confidence and knowledge of extension teaching methods contributed significantly towards the extent of use of extension teaching methods by extension personnel. Therefore, to increase the usage of different extension teaching methods there is a need to improve the above-mentioned independent variables of extension personnel. This can be accomplished by providing extension personnel with the necessary training to use various extension teaching methods, including result demonstration, method demonstration, mobile applications, etc and by motivating them with appropriate recognition and incentives for their field work. Further, the co-efficient of determination ( $R^2$ ) revealed that 30.50 per cent of the variation in the extent of use of extension teaching methods by extension personnel was explained by all the eleven independent variables included in the study.

### References

1. Ajelli SAA, Mohammad DSM. Level of usage of extension methods by Agricultural Extension Workers in Sulaimani Governorate. *Alexandria Sci. Exch. J.* 2017;38(2):203-211.
2. Chikaire JU, Ani AO, Nnadi FN, Godson-Ibeji CC. Energy extension and energy literacy for sustainable energy development in rural Nigeria. *Agric Adv.* 2015;4(8):84-92.
3. Kumbhar MI, Makhijani HB, Panhwar KN, Mughal S, Abbasi NA. Study of extension teaching methods adopted through crop maximization project: A case study of Sindh province. *J Basic Appl. Sci.* 2018, 2015;11:300-303.
4. Nikitha P, Rani VS, Samuel G, Madhavalata A. A study on the extent of suitability of extension teaching methods in relation to learning styles of farmers of Telangana state. *J Pharmacogn Phytochem.* 2018;7(5):3216-3218.
5. Ojha PK. Study on the effectiveness of different extension teaching methods under KVK system of

Bihar. M.Sc. (Agri.) Thesis, Dr. Rajendra Prasad Central Agricultural University, Pusa, Bihar; c2018. p. 54-55.

6. Ray GL. *Extension Communication and Management.* Kalyani Publishers, New Delhi; c2017. p. 145-154.
7. Reddy AA. *Extension Education.* Sree Lakshmi Press, Bapatla, Guntur, Andhra Pradesh; c2006. p. 150-154.