



Research Article

An analysis of role performance of agricultural extension workers in Chhattisgarh

■ KEDAR NATH YADAW, M.L. SHARMA AND L.R. VERMA

ARTICLE CHRONICLE :

Received :
08.02.2013;

Revised :
27.05.2013;

Accepted :
01.06.2013

SUMMARY : The present study was undertaken during the year 2012. The main objectives of this study to assess the role performance of agricultural extension workers and constraints perceived by them in their role performance. For this study, data were collected from the 50 extension workers during PGDEM course programme at State Agriculture Management Extension Training Institute (SAMETI), Raipur (C.G.). The data were collected with help of questionnaire through personal interview and analysed with the help of suitable statistical methods. The study reveals that the majority of the respondents (80%) were good role performer, whereas 14 per cent of the respondents were moderate role performer. Only 6 per cent of respondents were found to be poor role performers. 56 per cent of the extension workers were of the opinion that unavailability of distributional material (seed, fertilisers, etc.) in required quantity at right time, followed by lack of audio-visual aids for extension work and lack of storage facility for agricultural inputs in the villages, etc. 42 per cent of extension workers suggested that agricultural inputs available in time for distribution followed by all the audio-visual aids and other materials for extension work should be available, etc.

How to cite this article : Yadaw, Kedar Nath, Sharma, M.L. and Verma, L.R. (2013). An analysis of role performance of agricultural extension workers in Chhattisgarh. *Agric. Update*, 8(3): 324-331.

KEY WORDS:

Role performance, Job satisfaction, Constraints, Agricultural extension workers

BACKGROUND AND OBJECTIVES

Agriculture is the dominant sector of Indian economy. Agricultural performance not only affects the agriculture sector but other sectors as well, indeed the overall economic performance. Nearly three-fourth of India's population directly or indirectly depends on agriculture for their livelihood. Hence, all-round development of farmers and increasing agricultural production is the main object before country.

The term agricultural extension is a professional communication intervention deployed by organisations to disseminate agricultural knowledge and technologies to rural communities. Extension has a long history, based on adult education, communication science, community development, rural development, international development, and has strong linkages with agricultural research and practice (Karbasioun *et al.*, 2007).

Agriculture extension services were established in India to provide rural clientele with practical and useful information relevant to solving their agricultural problems. Over the years, India has made progress in the area of agricultural development. This may in part be attributed to the concentrated efforts of researchers, policy makers, policies of the government and the significant role played by the extension system, despite these past efforts, there has been considerable debate about the effectiveness of the extension system in India.

Agricultural extension officers are intermediaries between research and farmers. They operate as facilitators and communicators, helping farmers in their decision-making and ensuring that appropriate knowledge is implemented to obtain the best results.

Agricultural extension officers need to communicate to farmers agricultural information on natural resources, animals, crops, on how best

Author for correspondence :

KEDARNATH YADAW
Department of Agricultural Extension, Indira Gandhi Krishi Vishwavidyalaya, RAIPUR (C.G.) INDIA
Email: k2gdnr_03@yahoo.com

See end of the article for authors' affiliations

to utilise the farmland, how to construct proper irrigation schemes, economic use and storage of water, how to combat animal disease and save on the cost of farming equipment and procedures. They need to ensure that farmers understand this information and use it on their farms in order to obtain the best production.

The success of an extension services organisation is reliant on the extension leader's ability to optimise human resources. A good extension worker as a leader understands the importance of individuals in achieving the goals of the extension services, and that motivating these farmers is of paramount importance in achieving these goals. It has been widely accepted that effective organisations require effective leadership and that organisational performance will suffer in direct proportion to the neglect of this (Dubrin, 2007). It is generally accepted that the effectiveness of any set of people is largely dependent on the quality of its leadership – effective leader behaviour facilitates the attainment of the follower's desires, which then results in effective performance (Maritz, 1995).

In view of this, the present study has been undertaken to study the role performance of Agricultural extension officers and constraints faced by them.

RESOURCES AND METHODS

The data were collected from a sample 50 agricultural extension officers (*i.e.* rural agricultural extension workers (RAEOs), Veterinary assistant surgeon (VAS), senior horticulture development officers (SHDO), SAE, Block technology manager under ATMA) of Chhattisgarh during PGDEM course programme at State Agriculture Management Extension Training Institute (SAMETI), Raipur (C.G.) in the year 2012. The respondents were interviewed personally by the authors using a structured interview schedule. A survey procedure involving interviewing agricultural extension officers and recording their responses at a single point of time was used as a mode of investigation. Information supplied by the respondents while interviewing thus constituted the data for analysis. Collected data were analyzed and presented in

frequency and percentage, etc.

OBSERVATIONS AND ANALYSIS

The results of the present study as well as relevant discussions have been presented under following sub heads:

Availability of general facilities :

The extent of availability of general facilities may be an important factor influencing the role performance of extension workers.

The data in Table 1 reveal that the 42 per cent of the extension workers got medium level of general facilities, followed by 30 per cent of the extension workers got low level of general facilities and 28 per cent of the extension workers got high level of general facilities Mohan (2000), Nagananda (2005) and Sandika (2006) also found almost similar findings in their studies.

Table 1 : Distribution the respondents according to extent availability of general facilities (n=50)

General facilities available	Frequency	Percentage
Low (Up to 33.33%)	15	30.00
Medium (33.34 to 66.66%)	21	42.00
High (Above 66.66%)	14	28.00

The data in Table 2 reveal that 50 per cent of the respondents said training facilities were available sometimes followed by 36 per cent of them said place of practical works were available seldom, 50 per cent of the respondents said materials for practical work were available seldom, 68 per cent of the respondents said vehicle facilities for visit to farmers field were not available, and 56 per cent of them said residual facilities were not available, 48 per cent of them said audiovisual aids were not available.

Incase of vehicle facility for farmers for visiting research station field 30 per cent of the respondents said this facility was not available, followed by 26 per cent of them said this was available some times, 24 per cent of them said this facility

Table 2: Distribution of respondents on the basis of general facilities available (n=50)

Particulars	General facilities available			
	Always	Sometimes	Seldom	Never
Training	8 (16.00)	25 (50.00)	13 (26.00)	04 (08.00)
Place of practical work	4 (08.00)	11 (22.00)	18 (36.00)	17 (34.00)
Materials for practical work	3 (06.00)	09 (18.00)	25 (50.00)	13 (26.00)
Vehicle facilities for visit to farmers field	4 (08.00)	03 (06.00)	09 (18.00)	34 (68.00)
Residential facilities	7 (14.00)	07 (14.00)	08 (16.00)	28 (56.00)
Communication media	3 (06.00)	13 (26.00)	16 (32.00)	18 (36.00)
Audio-visual aids	6 (12.00)	08 (16.00)	12 (24.00)	24 (48.00)
Vehicle facility for farmers for visiting research station field	10 (20.00)	13 (26.00)	12 (24.00)	15 (30.00)
Physical facilities for training and demonstration	7 (14.00)	06 (12.00)	24 (48.00)	13 (26.00)

was available seldom and 20 per cent of them said this facility was always available.

Incase of physical facilities for training and demonstration, 48 per cent of the respondents said this facility was available seldom, followed by 26 per cent of them said this facility was not available, 14 per cent of them said facility was always available and only 12 per cent of them said this facility was available sometimes.

Level of satisfaction :

The data in Table 3 reveal that the 72 per cent of total extension workers had high level of satisfaction, while 24 per cent of the extension workers had medium level of satisfaction. Out of the total respondents, only 4 per cent of the extension workers had low level of satisfaction about different general facilities availability.

Table 3 : Distribution of the respondents on the basis of their over level of satisfaction about different general facilities availability (n=50)

Level of satisfaction	Frequency	Percentage
Low satisfaction (Up to 33.33%)	02	04.00
Medium satisfaction (33.34 to 66.66%)	12	24.00
High satisfaction (Above 66.66%)	36	72.00

The data in Table 4 shows that the level of satisfaction of the respondents about different general facilities like training, place of practical work, materials for practical work, vehicles facilities to visit farmers field, residential facilities, communication media, audio visual aids, vehicle facilities for farmers for visiting research station field and physical facilities for training and demonstration. The most of the respondents (56%) fully satisfied with vehicle facilities available for visit to farmer's field. 46 per cent of the respondents were satisfied with materials available for practical work and fully satisfied with residential facilities, etc.

Extent of role performance :

The Table 5 shows that the extent of role performance on

various expectation dimension. Incase to make planned visit to contact farmers fields, 58 per cent of respondents made always visit to farmers field, followed by 30 per cent of the respondents made visit some times, 10 per cent of the respondents said visit was seldom and only 2 per cent of the respondent never made visit to farmer's field.

Incase to give information about agricultural technology to farmers and convincing them to adopt it, 74 per cent of the respondents always performed their role, followed by 24 per cent and 2 per cent of the respondents performed sometimes and seldom.

Incase to maintain basic data and information regarding level of production and knowledge of individual contact farmers, majority (64%) of the respondents performed their role always followed by 20 per cent and 16 per cent of them pertaining their role sometimes and seldom.

Incase to write a daily dairy for recording details of work done and taken follow up action on instruction, 66 per cent of the respondents performed their role always, followed by 16 per cent of the respondents were performed role sometimes, 14 per cent of the respondents were performing their role seldom and only 4 per cent of respondents were not performing their role.

Incase to maintain input register to record the input needs and services required by farmers (seed, fertiliser, pesticides, credit etc.), 74 per cent of the respondents performed their role always, followed by 12 per cent of the respondents were performing role sometimes, 6 per cent of the respondents were performing their role seldom and 8 per cent of respondents were not performing their role.

Incase to attend fortnightly training session given by subject matter specialists, 80 per cent of the respondents performed their role always, followed by 14 per cent of the respondents were performing role sometimes, 2 per cent of the respondents were performing their role seldom and 4 per cent of respondents were not performing their role.

Incase to report the farmers need and their response to new agricultural technology in fortnightly meeting, 66 per cent

Table 4 : Distribution the respondents on the basis of level of satisfaction about different general facilities availability (n=50)

Particulars	Level of satisfaction			
	Fully satisfied	Satisfied	Low satisfaction	Never satisfied
Training	10 (20.00)	17 (34.00)	20 (40.00)	3 (06.00)
Place of practical work	21 (42.00)	20 (40.00)	8 (16.00)	01 (02.00)
Materials for practical work	17 (34.00)	23 (46.00)	8 (16.00)	02 (04.00)
Vehicle facilities for visit to farmers field	28 (56.00)	12 (24.00)	7 (16.00)	03 (06.00)
Residential facilities	23 (46.00)	12 (24.00)	11 (22.00)	04 (08.00)
Communication media	20 (40.00)	18 (36.00)	11 (22.00)	01 (02.00)
Audio-visual aids	22 (44.00)	18 (36.00)	8 (16.00)	02 (04.00)
Vehicle facility for farmers for visiting research station field	15 (30.00)	19 (38.00)	14 (28.00)	02 (04.00)
Physical facilities for training and demonstration	14 (28.00)	12 (24.00)	11 (22.00)	03 (06.00)

of the respondents performed their role always, followed by 22 per cent of the respondents were performing role sometimes, 6 per cent of the respondents were performing their role seldom and 6 per cent of respondents were not performing their role.

Incase to maintain a record showing the contents of training received at various level and make use of the same to increase technical proficiency and skills, 78 per cent of the respondents performed their role always, followed by 20 per cent of the respondents were performing role sometimes, 2 per cent of the respondents were performing their role seldom.

Incase to attend review meeting with his agricultural development officers, 80 per cent of the respondents performed their role always, followed by 12 per cent of the respondents were performing role sometimes, 6 per cent of the respondents were performing their role seldom and 2 per cent of respondents were not performing their role.

Incase of trying to give the solution to farmers problems about agricultural technology, 82 per cent of the respondents performed their role always, followed by 8 per cent of the respondents were performing role sometimes, 10 per cent of the respondents were performing their role seldom.

Incase to identify innovative farmers and local leaders and make best use of them for introduction of new ideas, 72 per cent of the respondents performed their role always, followed by 20 per cent of the respondents were performing role sometimes, 6 per cent of the respondents were performing their role seldom and 2 per cent of respondents were not performing their role.

Incase to organise farmers meetings and discussion on appropriate occasion to explain programmes, exchange of view etc., 56 per cent of the respondents performed their role always, followed by 34 per cent of the respondents were

Table 5: Distribution of the respondents on the basis of the their Role performance in different role expectation dimensions (n=50)

Sr. No.	Role expectation dimensions	Extent of role performance			
		Always	Some times	Seldom	Never
1.	To make planned visit to contact farmers fields.	29 (58.00)	15 (30.00)	5 (10.00)	1 (02.00)
2.	To give information about agricultural technology to farmers and convincing them to adopt it.	37 (74.00)	12 (24.00)	1 (02.00)	0 (00.00)
3.	To maintain basic data and information regarding level of production and knowledge of individual contact farmers.	32 (64.00)	10 (20.00)	8 (16.00)	0 (00.00)
4.	To write a daily dairy for recording details of work done and take follow up action on instruction.	33 (66.00)	8 (16.00)	7 (14.00)	2 (04.00)
5.	To maintain input register to record the input needs and services required by farmers (seed, fertiliser, pesticides, credit etc.)	37 (74.00)	6 (12.00)	3 (06.00)	4 (08.00)
6.	To attend fortnightly training session given by subject matter specialists	40 (80.00)	7 (14.00)	1 (02.00)	2 (04.00)
7.	To report the farmers need and their response to new agricultural technology in fortnightly meeting.	33 (66.00)	11 (22.00)	3 (06.00)	3 (06.00)
8.	To maintain a record showing the contents of training received at various level and make use of the same to increase technical proficiency and skills.	39 (78.00)	10 (20.00)	1 (02.00)	0 (00.00)
9.	To attend review meeting with his agricultural development officers.	40 (80.00)	6 (12.00)	3 (06.00)	1 (02.00)
10.	Try to give the solution to farmers problems about agricultural technology	41 (82.00)	4 (08.00)	5 (10.00)	0 (00.00)
11.	To identify innovative farmers and local leaders and make best use of them for introduction of new ideas.	36 (72.00)	10 (20.00)	3 (06.00)	1 (02.00)
12.	To organise farmers meetings and discussion on appropriate occasion to explain programmes, exchange of view etc.	28 (56.00)	17 (34.00)	4 (08.00)	1 (02.00)
13.	To organise training session and field visit to research station for farmers.	15 (30.00)	25 (50.00)	9 (18.00)	1 (02.00)
14.	To give special attention to study the needs and problems of smaller farmers.	36 (72.00)	9 (18.00)	4 (04.00)	1 (02.00)
15.	To maintain constant contacts with ADO's and SMSs for obtaining advice, guidance solution and feedback of field problems.	33 (66.00)	14 (28.00)	0 (00.00)	3 (06.00)
16.	To provide the facilities of inputs such as seed, fertiliser, insecticide etc. in time	28 (56.00)	11 (22.00)	6 (12.00)	5 (10.00)
17.	To help in getting loan to the farmers	37 (74.00)	9 (18.00)	3 (06.00)	1 (02.00)
18.	To carry out the demonstration on farmers fields and keep records of demonstration	39 (78.00)	5 (10.00)	5 (10.00)	1 (02.00)
19.	To carry out crop cutting experiments as per guidelines in the presence of farmers	35 (70.00)	12 (24.00)	0 (00.00)	3 (06.00)
20.	To maintain constant contacts with local staff of other departments, agencies involved in agriculture development.	32 (64.00)	15 (30.00)	2 (04.00)	1 (02.00)

performing role sometimes, 8 per cent of the respondents were performing their role seldom and 2 per cent of respondents were not performing their role.

Incase to organise training session and field visit to research station for farmers, 30 per cent of the respondents performed their role always, followed by 50 per cent of the respondents were performing role sometimes, 18 per cent of the respondents were performing their role seldom and 2 per cent of respondents were not performing their role.

Incase to give special attention to study the needs and problems of smaller farmers, 72 per cent of the respondents performed their role always, followed by 18 per cent of the respondents were performing role sometimes, 4 per cent of the respondents were performing their role seldom and 2 per cent of respondents were not performing their role.

Incase to maintain constant contacts with ADO's and SMSs for obtaining advice, guidance, solution and feedback of field problems, 66 per cent of the respondents performed their role always, followed by 28 per cent of the respondents were performing role sometimes and 6 per cent of the respondents not performing their role.

Incase to provide the facilities of inputs such as seed, fertiliser, insecticide etc. in time, 56 per cent of the respondents performed their role always, followed by 22 per cent of the respondents were performing role sometimes, 12 per cent of the respondents were performing their role seldom and 10 per cent of respondents were not performing their role.

Incase to help in getting loan to the farmers, 74 per cent of the respondents performed their role always, followed by 18 per cent of the respondents were performing role sometimes, 6 per cent of the respondents were performing their role seldom and 2 per cent of respondents were not performing their role.

Incase to carry out the demonstration on farmers fields and keep records of demonstration, 78 per cent of the respondents performed their role always, followed by 10 per cent of the respondents were performing role sometimes, 10 per cent of the respondents were performing their role seldom and 2 per cent of respondents were not performing their role.

Incase to carry out crop cutting experiments as per guidelines in the presence of farmers, 70 per cent of the respondents performed their role always, followed by 24 per cent of the respondents were performing role sometimes and 6 per cent of respondents were not performing their role.

Incase to maintain constant contacts with local staff of other departments, agencies involved in agriculture development, 64 per cent of the respondents performed their role always, followed by 30 per cent of the respondents were performing role sometimes, 4 per cent of the respondents were performing their role seldom and 2 per cent of respondents were not performing their role.

Extent of overall role performance :

The data compiled in Table 6 show that majority of the respondents (80%) were good role performer, whereas 14 per cent of the respondents were moderate role performer. Only 6 per cent of respondents were found to be poor role performers. Hedge and Channegowda (1989), Natraj (1989), Nagi Reddy (1990), Thippeswamaiah (1991), Halkatti (1991), Rath (1992), Vijayalakshmi (1993), Rahad *et al.* (1995), Jaiswal *et al.* (1997) and Mohan (2000) also found almost similar findings in their studies.

Table 6: Distribution of respondents on the basis of their extent of role performance

Extent of role performance	Frequency	Percentage
Poor (Up to 33.33%)	03	06.00
Moderate (33.34 to 66.66%)	07	14.00
Good (Above 66.66%)	40	80.00

This clearly indicates substantial scope for increasing role performance level of extension workers.

Constraints in role performance :

The constraints perceived by the respondents were listed in the Table 7. This table shows that the maximum (56%) said unavailability of distributional material in required quantity at right time, followed by 20 per cent of the respondents said lack of audio visual aid for extension works, 18 per cent of the respondents said complete information about scheme were not provided by the department and lack of transporting facility, 14 per cent of the respondents said activities of local leader created barriers in work and farmers were illiterate. Due to old tradition it is difficult to understand new technologies, 12 per cent of the respondents said assigned duties in other work with departmental work, lack of basic facilities for extension workers in village, 10 per cent of the respondents said nacasalism was big problem and soil testing results were not available in time, 8 per cent of the respondents said lack of storage facilities for agricultural inputs in the villages, working area is very broad so it was difficult to manage, target were very big, difficulties in transport of agriculture material to headquarter from office, lack of improved agriculture implements, farmers did not actively participated in extension work and no qualities in distributional materials and only 4 per cent of the respondents said farmers were not available at right time in the village Thippeswamaiah (1991), Kubde *et al.* (1988), Jaiswal *et al.* (1997), Ashalatha *et al.* (1999), Mohan (2000), Nagananda (2005), and Sandika (2006) had found almost similar findings in their studies.

Suggestions to minimize the constraints :

As regards to suggestions given by the respondents to

overcome the constraints in extension works, the findings are presented in Table 8. The data reveals that the majority of the respondents (42%) were of the opinion that agricultural inputs should be made available in time for distribution, followed by 36 per cent of the respondents were

of the opinion that all the problems should be solved in time by senior officers, 34 per cent of the respondents were of the opinion that all the material for extension work should be available, 30 per cent of the respondents were of the opinion that information should be available about new

Table 7: Constraints perceived by the respondents in their role performance

(n=50)

Constraints	Frequency*	Percentage
Unavailability of distributional material (seed, fertilizers, etc.) in required quantity at right time	28	56
Lack of improved agricultural implements	04	08
Lack of audio visual aid for extension work	10	20
Farmers are not available in right time	02	04
Farmers are not actively participate	04	08
Assigned duty in other work with departmental work	06	12
Complete information about schemes are not provided by department	09	18
Activities of local leaders creates barriers in work	07	14
Farmers are illiterate	07	14
Due to old tradition it is difficult to understand new technologies	07	14
Difficulties in transporting agricultural material to headquarter from office	04	08
Lack of basic facilities (house, transport etc.) for RAEO's in village	06	12
Lack of training	07	14
Lack of transporting facility	09	18
Lack of storage facility for agriculture inputs in the villages	04	08
Working area is very broad so it is difficult to manage	04	08
Targets are very big	04	08
No qualities in distributional material	04	08
Nacsalism is big problem	05	10
Soil testing results are not available in time	05	10

* Frequency based on the multiple responses

Table 8: Suggestions offered by the respondents for their effective role performance

(n=50)

Suggestions	Frequency*	Percentage
Solved the problems in time	18	36
All the materials for extension work should be available	17	34
Agricultural inputs should be available in time for distribution	21	42
Not assigned any work to RAEO's pressure	05	10
Provide basic facilities to the RAEO's in the villages	06	12
Increase the speed of extension work	06	12
Provide good quality inputs	05	10
Assigned duties in only departmental works	04	08
Provide complete and clear information about schemes	10	20
Audio visual aids should be available easily for extension works	06	12
Information should be available about new technology and training in time	15	30
No political pressure in extension works	06	12
Provide increments on the basis of education level	02	04
Decrease the involvement of dealers	02	04
Provide storage facilities for agricultural inputs in the village	06	12
Availability of scientist help	05	10
Provide good transport facilities	06	12

* Frequency based on the multiple responses

technology and training in time, 20 per cent of the respondents were of the opinion that complete information should be provided about schemes, 12 per cent of the respondents were of the opinion that basic facilities should be available to the respondents in the villages, increase the speed of extension work, audio visual aids should be available easily for extension works, no political pressure in extension works, storage facilities for agricultural inputs should be provided in the village and provide good transport facilities. About 10 per cent of the respondents suggested that extension worker should not be assigned other departmental works, followed by 8 per cent of the respondents suggested that assigned duties in only departmental works and only 4 per cent of respondents suggested that provide increments on the basis of educational level. Veeraraghavareddy and Venkureddy (1990), Singh and Roy (1991), Ingle *et al.* (1993), Nagananda (2005) and Sandika (2006) also noted almost similar suggestions to minimize the constraints.

Conclusion :

From the above study it can be concluded that the reveals that 50 per cent of the respondents said training facilities were available sometimes and most of the respondents (56%) fully satisfied with vehicle facilities available for visit to farmer's field. Majority of the respondents were good role performer. Unavailability of distributional material (seed, fertilisers, etc.) in required quantity at right time, followed by lack of audio-visual aids for extension work and lack of storage facility for agricultural inputs in the villages, etc. were the major problems faced by extension workers which can be reduced by providing agricultural inputs in time for distribution followed by all the audio-visual aids and other materials for extension work should be available in time, etc.

Authors' affiliations :

M.L. SHARMA AND L.R. VERMA, Department of Agricultural Extension, Indira Gandhi Krishi Vishwavidyalaya, RAIPUR (C.G.) INDIA

REFERENCES

- Armstrong, M.** (2006). *A Handbook of Human Resource Management Practice*. London : Kogan Page.
- Ashalatha, S., Husain, M.M. and Bhaskaran, C.** (1999). Constraints in effective role performance of agricultural assistants. *J. Extn. Edu.*, **10**(2): 2396-2400.
- Bhairankar, M.S., Kadad, J.R. and Nirban, A.J.** (1997). Training needs of master trainer's in T and V system. *Maharashtra J. Extn. Edu.*, **16**: 47-52.
- Bhatnagar, O.P., Desai, G.R. and Reddy, M.R.** (1986). Management of agricultural extension, under T and V system in India. *J.Rural Develop.*, **5** (5) : 561-571.
- Birajdar, V. M.** (2002). Study on knowledge level of farmers and extension personnel about ill effects of agricultural chemicals. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).
- Chhabra, U.** (1979). Level of job satisfaction among the scientific workers of an I.C.A.R. institute. Ph.D. Thesis, National Dairy Research Institute, Karnal, HARYANA (INDIA).
- Dubrin, A. J.** (2007). *Leadership: research findings, practice and skills*. Houghton Mifflin Company, New York.
- Girija, P.R., Shivmurthy, M. and Niranjan, B.S.**(1994). Job satisfaction and job stress of agricultural graduates in Karnataka. *J. Extn. Edu.*, **5**(4): 946-954.
- Halakatti, S.V.** (1991). A study on job performance and job attitude of agricultural assistants in T and V system of Karnataka. Ph. D. Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).
- Hanchinal, S.N.** (1999). Privatization of extension services: Attitude and preferences of farmers and extension workers. Ph. D. Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).
- Hegde, V.G.** (1984). A study of job performance, job usefulness and job satisfaction of agricultural assistants in Dharwad district of Karnataka state. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA) .
- Hegde, V.G. and Channegowda, M.B.** (1989). Influence of personnel characteristics of agricultural assistants on their job performance. *Indian J.Extn. Edu.*, **25**(3&4): 100-102.
- Ingle, P. O., Kubde, N.R. and Dhanokar, C.R.** (1993). Involvement and participation teachers and research workers in extension work. *Maharashtra J. Extn. Edu.*, **12**: 59-62.
- Jahagirdar, K.A.** (1987). A study of job involvement, organisational commitment and job satisfaction of subject matter specialists of in T and V system in Karnataka. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Jaiswal, P.K., Dubolia, S.R. and Sharma, P.N.** (1997). Identification of problems and barriers of Rural Agricultural Extension Officers. *Maharashtra J.Extn. Edu.*, **16**: 40-46.
- Karbasioun, M., Mulder, M. and Biemans, H.** (2007). Towards a job competency profile for agricultural extension instructors: A survey of views of experts. *Human Resource Dev. Internat.*, **10**(2): 137-151.
- Kubde, V.R., Kalantri, L.B. and Mankar, D.M.** (1988). Training needs of VEW's in T and V system. *Maharashtra J.Extn. Edu.*, **7**: 153-157.
- Manimegalan, M.** (1990). A study on task and time management of Assistant Director of Agriculture working under NAEP in Karnataka. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Maritz, D.** (1995). Leadership and mobilising potential, *Human Resource Mgmt.*, **10**(1): 8-16.

- Menasinhal, S.K.** (1992). A study on job satisfaction of Agricultural Assistants working under NAEP in Karnataka state. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).
- Mohan, B.** (2000). A study on job performance and job satisfaction of Assistant Agricultural Officers in Northern districts of Karnataka. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).
- Murphy, K.R. and Cleveland, J.N.** (1995). *Understanding performance appraisal*. Thousand Oaks: Sage Publication.
- Nagananda, C.** (2005). A study on organisational climate perception of ADAs and AOs of Karnataka state department of agriculture. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).
- Nagi Reddy, K.** (1990). Job competence and job performance of agricultural officers in T and V system in Andhra Pradesh. Ph.D. Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Narasimhaiah, K.C.** (1978). A study of some operational and management aspects of extension programmes of UAS and KSDA. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Nataraj, A.C.** (1989). Job perception and job performance of Assistant Directors of Agriculture under NAEP. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Patel, M.M., Dubey, M.C. and Sharma, H.O.** (1994). Performance of Rural Agricultural Extension Officers. *Maharashtra J. Extn. Edu.*, **8**: 31-33.
- Radhakrishnamurthy** (1988). Job satisfaction of Village Extension Officers. *Andh. Agric. J.*, **35**(1&2): 64-66.
- Rahad, B.G., Ingle, P.O. and Supe, S.V.** (1995). Job performance pattern of VEW's of T and V and factors associated with it. *Maharashtra J. Extn. Edu.*, **14**: 197-200.
- Rao, Ramakrishna** (1985). Task and time management by Assistant Agricultural Officers working under AEP in Karnataka. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Rao, S.V.N. and Sohal, T.S.** (1982). Performance appraisal of extension workers. *Indian J. Extn. Edu.*, **18**(3&4): 57-60.
- Rath, N.C.** (1992). Job performance of Subject Matter Specialists under T and V system in Orissa. Ph.D. Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Sallam, M. and Akram, B.** (2005). Agricultural extension situation in Dhamar province. Dhamar Rural Development Project, Ministry of Agriculture and Irrigation, YEMEN.
- Sandika, A. L.** (2006). A study on organizational climate perception by veterinary officers (VOS) and veterinary livestock inspectors (VLS) of department of animal husbandry and veterinary service, Karnataka. M. Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).
- Sharma, Ravindra** (1985). Job satisfaction of VEWs in Rajasthan. *Indian J. Pub. Adm.*, **32** (1): 92-105.
- Siddaramaiah, B.S. and Shivalingegowda, N.S.** (1987). Job perception, job performance and job satisfaction of extension guides in the University extension system of Karnataka. *Indian J. Extn. Edu.*, **23**(1&2): 48-50.
- Singh, S. and Roy, N.K.** (1991). Problems in conducting monthly workshops in T&V system. *Indian J. Extn. Edu.*, **9**: 38-41.
- Srinath, R.** (1987). Job analysis and time management in respect of District Horticultural Officers and Assistant Directors of Horticulture in Karnataka. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Bengaluru, KARNATAKA (INDIA).
- Thippeswamaiah, J.M.** (1991). A study on the job performance and job satisfaction of Subject Matter Specialists working under NAEP, Karnataka. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).
- Veeraraghavareddy, M. and Venkureddy** (1990). Suggestions of extension personnel to improve the working of T and V system in Guntur district of Andhra Pradesh. *Indian Psychol. Rev.*, **35**(5&6): 21-25.
- Vijayalaxmi** (1997). A study on job performance level of Anganwadi workers in Guntur district of Andhra Pradesh, M.Sc. (Ag.) Thesis, IARI, NEW DELHI, INDIA.
- Vijayalaxmi, M.** (1993). Job performance and job satisfaction of Anganawadi workers of Gadag and Ranebennur Taluk, Dharwad district. M.Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad, KARNATAKA (INDIA).



 ★★★★★ of Excellence ★★★★★