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Analysis of the Job Performance of Development Agents: The Case of Kombolcha Woreda, East Hararghe, Oromia, Ethiopia

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Abstract
The study was conducted in Kombolcha woreda, East Hararghe Zone of Oromia Regional State, Ethiopia with the objective to describe the performance level of DAs and to identify factors influencing the performance of DAs in the study area. Based on different literature and personal observation, sixteen independent variables were hypothesized to affect the dependent variable 'job performance'. Among personal factors age, sex, work experience, agriculture background, marital status, and distance from home place to working area were considered as important factors influencing DAs' job performance. Organizational administration, supervision, interpersonal relationship, and working condition were analyzed under organizational or institutional factors. Recognition, advancement, responsibility and the work itself were analyzed under work related factors. Achievement motivation and perception about salary were considered under psychological factors. Both quantitative and qualitative data were collected from primary and secondary sources. A survey, consisting of questionnaire, key informants interview and group discussions was carried-out to achieve the research objectives. Descriptive statistics like percentage and chi-square test were used. Moreover, an econometric ordered logit regression model was used for data analysis. The overall job performance of DAs was at 23.5, 51 and 25.5 percent at low, medium and high levels respectively. This was close to customer satisfaction survey/ key informants' responses which was at 24.21, 48.42, and 27.37 percent low, medium and high levels of satisfaction from the extension service respectively. The results of the ordered logit regression model revealed that achievement, advancement, job background, and working conditions were significant for the job performance level of DAs. Based on research findings of this study, suitable and practical recommendations were made so that the performance of the DAs in the area could be enhanced.
Keywords: Development Agents, Job Performance, Job satisfaction, Customer satisfaction, Dependent variable, Agricultural Extension

1. Introduction

Agriculture is characterized by mixed farming system of crop and livestock production in Ethiopia (MoARD, 2005). The short–term gains, in increased agricultural GDP in the 1990s, were achieved primarily through a top–down delivery of massive production inputs including improved seeds, fertilizers and credit under the National Agricultural Extension Intervention Program (NAEIP), based on SG-2000 project principles and approaches. The program is targeted at high potential areas resulting in the marginalization of the needs and capabilities of the vast majority of resource–poor farmers; field level extension service is typically understaffed and its function is limited to a passive transmission of recommended packages of technology to farmers with little adaptation of such technology to local conditions.

In order to overcome the problems associated with the NAEIP, the government has embarked on reforming the agricultural advisory services. An important element of the reform strategy is the initiation of Agricultural Technical Vocational and Education Training (ATVET) program in 2001 that seeks to advance access, quality and equity of extension services (GoFDRE, 2005). As a result the Federal Democratic Republic of Ethiopia (FDRE) has initiated 25 ATVET colleges which is mainly aimed at producing skilled, competent and motivated labor force that will make a difference in transforming subsistence agriculture to commercial agriculture which is firstly introduced on September 2002. Though it was not sufficient and not at all Peasant Associations (PAs), three Development Agents (DAs) from different field of study were assigned at each PAs to give advisory service at grass root level. DAs in the study area showed low moral, absenteeism, less interaction with farmers and their performance is not to the expectation of the farmers. Thus the objective of the study was to describe the job performance level of DAs and to identify factors influencing their job performance.

2. Methodology

2.1. Description of the Study Area

Kombolcha district is found in Eastern Hararghe administrative zone of Oromia regional state and located at a distance of 17 km from Harar town in North East direction and 542 km from the capital city of Addis Ababa. It is bordered by Harari region in the South, Dire Dawa administrative zone in the North; Haramaya

woreda in the West and Jarso woreda in the East. The topography is characterized by sloppy hills, mountains and rugged and most areas are categorized as mid and high lands. It lies in the altitude range between 1200 -2460 m.a.s.l (GoFDRE, 2005). The district comprises 19 PAs or peasant association of which 10 peasant associations are in the mid land and 9 of them are located in the low land areas. The highland and mid-land areas of the district are densely populated and the average land-holding is 0.25 ha per household. There are 52 DAs serving 24, 801 farming households and the ratio of these DAs to households is 1:477. Although they are not equipped with required facilities, 15 peasant associations have their own farmer training centers (FTC).

2.2. Sampling and Data Collection

2.2.1. Sampling techniques

The district was purposively selected for the study since it is the nearest woreda for Kombolcha ATVET College where the researcher is employed. Factors like research cost, time, human resource, accessibility and availability of transport facilities were also considered in this regard. The population consists of 51 DAs from 19 PAs and a census method was used due to their small number. Sampling frame is obtained from BoA. A total of 95 key informants, which were considered as model farmers by BoA, were selected from all PAs for customer satisfaction survey (focus group discussion).

2.2.2. Types and sources of data

Both qualitative and quantitative data were collected from primary and secondary sources. Background information on the title and study area, number, name and demographic characteristics of both DAs and farmers and DAs performance scores were extracted from secondary sources. Primary data on service quality determinants and customer satisfaction survey (CSS) of clients, the agents' attribute and important determinants of their performance were collected from the respondents. Key informants, DAs, supervisors, extension personnel of the district and staff of KATVET College were parts of the data sources.

2.2.3. Data collection instruments and procedure

Four enumerators were trained and employed based on their proficiency in communicating to the farmers in their local language, educational background and prior-exposure to the area. The primary data collection was done mainly using questionnaire for the Development Agents and key informant interviews using checklist for customer satisfaction survey. Secondary data were collected from relevant sources such as the annual reports, records (personnel data base of DAs), documents of district Office of Agricultural and Kombolcha ATVET College. Content validity of the instrument was established by a panel of experts (judges) consisting district extension personnel, supervisors from BoA and college instructors. Thus, the item contents, clarity, wording, length of the instrument, overall appearance and the direction needed to conduct the study are adjusted and determined.

2.3. Method of Data Analysis

2.3.1. Descriptive statistics

Descriptive statistical tools like mean, standard deviation, percentage, frequency of occurrence, chi-square test and one way ANOVA F- test were used to determine DAs performance level and to analyze the mean difference of continuous and frequency difference of discrete variables.

2.3.2. Econometric method

2.3.2.1. Ordered logit regression

Sometimes response categories are ordered but do not form an interval scale. There is a clear ranking among the categories, but the difference among adjacent categories cannot be treated as the same. Responses like these with ordered categories cannot be easily modeled with classical regression. Ordinary linear regression is inappropriate because of the non-interval nature of the dependent variable-the spacing of the outcome choices cannot be assumed to be uniform. Ordinal logit and probit models have been widely used for analyzing such data (Liao, 1994).

Some polychotomous dependent variables are inherently ordered. Although the outcome is discrete, the multinomial logit or probit models would fail to account for the ordinal nature of the dependent variable (Green, 2000). The ordered probit and logit models have come into fairly wide use as a frame-work for analyzing such responses (Zavoina, and MacElvey, 1975). Hence, ordered logit model was used to assess determinants of job performance of DAs which have three categories of effects (low, medium, high).

2.3.2.2. Ordered logit model specification

According to Green (2000) and Liao (1994), the ordered logit model is specified as follows:

$$y^{*} = \sum_{k=1}^{k} \beta_k \chi_k + \varepsilon . \qquad (1)$$

y* = is the unobserved and thus can be thought of as the underlying tendency of an observed phenomenon.

ε = is the random term which is assumed to it follow a certain symmetric distribution with zero mean such as normal or logistic distribution. What we do observe is:

$y = 1$ if $y^* \leq \mu_1$ (=0)
$y = 2$ if $\mu_1 < y^* \leq \mu_2$
$y = 3$ if $\mu_2 < y^* \leq \mu_3$ (2)
$y = j$ if $\mu_{j-1} < y^*$

Where y is observed in j number of ordered categories, μs are unknown threshold parameters separating the adjacent categories to be estimated with βs. The general form for the probability that the observed y falls into category j and the μs and the βs are to be estimated with an ordinal logit model is given by

$$\text{Prob}(y = j) = 1 - L\left(\mu_{j-1} - \sum_{k=1}^{k} \beta_k \chi_k\right) \quad (3)$$

Where L (·) represents cumulative logistic distribution.

Marginal effects on the probabilities of each adoption status were calculated by:

$$\frac{\partial \text{Prob}(Y = j)}{\partial X_k} = \left[f\left(\mu_{j-1} - \sum_{k=1}^{k} \beta_k \chi_k\right) - f\left(\mu_j - \sum_{k=1}^{k} \beta_k \chi_k\right)\right]\beta_k \quad (4)$$

where f(·) represents the probability density function

2.3.2.3. Estimation Procedure

After the completion of the data collection the next step was data processing, which comprises editing, coding, classification and tabulation. Hence, the responses were coded and entered into Statistical Package for Social Science (SPSS) version 16 and LIMDEP Version 7 software was used for analysis. Before estimating the model, the explanatory variables were checked if multicollinearity exists among them to exclude the highly collinear independent variables Gujarati (1995) Indicated, multicollinearity refers to a situation where it becomes difficult to identify the separate effects of independent variables on the dependent variable because of existing strong relationships among them. Contingency coefficient was used to check multicollinearity among discrete variables. The value ranges between zero and one, with zero indicating no association between the row and column variables and value close to one indicating a high degree of association between the variables. The decision criterion is that variables with contingency coefficient closer to one would be avoided from further consideration in the multivariate analysis. The contingency coefficient is computed as follows:

$C = \sqrt{\frac{x^2}{n + x^2}}$ Where, c=coefficient of contingency, χ^2 = a chi-square random variable and n=total sample size.

It was, therefore, following Gujarati (1995), multicolinearity problems for continuous explanatory variables was assessed using a technique of variance inflation factor (VIF) and tolerance level (TOL) where each continuous explanatory variable is regressed on all other continuous explanatory variables and coefficient of determination for each auxiliary or subsidiary regression is computed. Thus a measure of multicollinearity associated with variance inflation factor is defined as VIF $(X_i) = (1\text{-}R_i^2)^{-1}$ Where, R^2 is the coefficient of determination when the variable X_j is regressed on the other explanatory variables. The larger the value of VIF, the more troublesome is the multicollinearity or collinear is the variable (X_i). If the VIF of a variable exceeds 10 (this would happen if R^2 exceeds 0.90) that variable is said to be highly collinear. Similarly, TOL_i approaches to one when the variable (X_i) is not correlated with other regressor.

2.4. Definition and Measurement of Variables

2.4.1. The dependant variable

The dependant variable was the job performance of DAs in the study area. It was a product of personal 'ability' and 'motivation' of an individual or it is the sum of ability and motivation (Silong *et al.*, 2008). The level of performance of DAs was described based on to criterions i.e. one from their Performance Evaluation Instrument (PEI) or Efficiency Evaluation Results (EER) which were collected by their concerned supervisors in the 2009 annual evaluation of each agent and submitted to the district agricultural office. The measuring items in the PEI encompassed quality of work, quantity of work, dependability, work schedule, work allocation, customer satisfaction, attendance at work, feed back on extension activities, leadership competencies, and organizational commitment. Each role and item was rated on a five point continuum likert-scale," very low,"'low', "medium," ' high" and "very high:" and this result was changed into one hundred percent. Then DAs' job performance level was categorized into low, medium and high based on their deviation of those values from the actual mean score distribution. Secondly, agent's performance level was described from costumer satisfaction points of view from the response of key informants. The job performance of DAs was estimated by ordered logit model in relation with the explanatory variables.

2.4.2. Definition of independent variables and hypothesis

2.4.2.1. Personal factors

1. Age of DAs (AGE): Refers to age of the respondent DAs in years. Younger DAs were expected to have high performance since they were free from different burdens related to family. Moreover as their age increased, diversified need becomes more apparent and they feel more discomfort to be at kebele level (Belaynesh, 2008; Yohannes, 2009); hence, it was expected to have negative relationship with job performance.

2. Sex of DAs (SEX): The sex of DAs was considered as dummy variable and took the value 1 if male, 0 otherwise. Since females were burdened with household works, it was expected to be positively related to performance in favor of men (Purcell, 2003).

3. Marital status of DAs (MRTST): Marital status of DAs could be categorized into Single, married, divorced, and widowed. But there was no response for divorced and widowed category and the variable was categorized into single, and married. It takes the value of 1 if married, 0 otherwise. Single DAs were expected to perform better than married DAs as they are free from work /life stress related to family (Kutilek, 2000). Hence, this variable was expected to have a negative relationship with DAs' job performance.

4. Work experience of DAs (WOEPR**):** It refers to the experience in years working as a DA. More experienced DAs appear to have often-full information, better knowledge and perform well. DAs who have served for more number of years had performed better (Purcell, 2003). Hence, the work experience was hypothesized to have positive relationship with DAs performance.

5. Agriculture background of DAs (AGBKG): It refers to whether the DA has agricultural background or not before joining this job. It takes the value 1 if the DA have agricultural background, 0 otherwise. If he / she had some agricultural background, he/she might not be new for his/her duty (Riggs, and Beus, 1993). Therefore, this variable was expected to have positive relationship with DAs' job performance.

6. Distance from home place to DAs' working area (DISTIN**)**: The variable was operationally considered as the perception of DAs about the distance of working place or sites from their living home. It was hypothesized to have positive relationship with DAs' performance level (Yohannes, 2009).

2.4.2.2. Organizational or institutional factors

1. Organizational administration (ORGAN): It was the events in which some or all aspects of the organization were related to job satisfaction like clearly defined rules, regulations, procedures, fairness and transparency especially those related to administrative decision and management. If the administration of an organization was transparent and motivated, DAs would remain on their jobs and perform well. Hence it was expected to have positive relation ship with DAs' job performance (Silong *et al.,* 2008).

2. Supervision (SPRBN): Operationally it could be defined as the supervisors accessibility, ability and willingness to guide, help and fairly treat subordinates. The variable was measured using the five-point likert-scale. If the supervisor is conformable to DAs in line with the above duties, they would be motivated and productive. Therefore, it was expected to have positive relationship with job performance of DAs (Chandler, 1980).

3. Interpersonal relationship (INRPRS): It was the relationship between DAs and their superiors, subordinates, colleagues and others which included quality of social life at work. The variable was measured using the five-point likert-scale. In this study it was expected to have positive relationship with DAs' performance (Kutilek, and Earnest, 2001; Kutilek, 2002)

4. Working condition (WRKCN): It was a physical working condition, facilities and quality of work related to job satisfaction. The variable was measured using the five-point likert-scale. It was hypothesized to have positive relationship with the dependant variable (Purcell, 2003).

2.4.2.3. Work related factors

1. Recognition (RCGN): It could be defined as acts of notice, praise, or blame supplied by one or more superior, peer, colleague, management person, client, and/or the general public. The variable was measured using the five-point likert-scale. If the organization could appreciate and consider their contributions and effort, DAs would be motivated and would attain high performance (Yohannes, 2009). Hence, this variable was expected to have positive relationship with DAs' job performance.

2. Advancement (ADVMT): It was the growth or changes which enhanced position or status of work. The variable was measured using the five-point likert-scale. It was hypothesized to have positive relation ship with the dependant variable (Yohannes, 2009).

3. Responsibility (RSPNS): It was satisfaction derived from being given control of personal work or the work of others and/or new job responsibilities. The variable was measured using the five-point likert-scale. DAs were expected to control their work and could make decision under their profession without any interference by others. If they did so, they derived high satisfaction and achieved more (Rezaei *et al.,* 2008). Therefore this variable was expected to have positive relationship with the dependant variable.

4. Work itself (WRKIS): It was concerned with the actual job performance related to job satisfaction. The variable was also measured using the five-point likert-scale. Extension organizations should have defined and

limited job descriptions for extension personnel; otherwise, they may become disinterested in their jobs which contributed for their low performance. Thus, this variable was hypothesized to have positive relationship with DAs' job performance (Castillo and Cano, 2004).

2.4.2.4. Psychological factors

1. Achievement (ACVMT): Accomplishment of endeavors including instances wherein failures incurred. Similarly, instances were included wherein neither success nor failures incurred. The variable was measured using the five-point likert-scale. If a DA observed or felt a successful accomplishment, got solution to problems, and got fruitful results of his/her work, he/she would perform better than others will. Hence, the variable was hypothesized to have positive relationship with DAs' job performance (Riggs and Beus, 1993)

2. Perception about salary (SALAR): It was psychological perception of DAs whether their salaries were adequate or not in relation to their work. The variable was measured using the five-point likert-scale. If they perceived that their salaries were equitable with their jobs, they would stay in the organization and perform well. Therefore, the variable was expected to have positive relationship with the level of performance (Rousan, 1995).

Except age, sex, marital status, job background and work experience, other independent variables were measured using the five-point likert-scale. The questionnaire consisted of four parts. The first part of the questionnaire was about the demographic characteristics of the respondent. The second part of the questionnaire was arranged to identify factors that influenced job performance in relation to job satisfaction and motivational factors in likert scale (1=highly discouraging, 2=discouraging, 3=neutral, 4=motivating, 5=highly motivating). The third part was arranged to identify factors that influenced job performance like part two but in the other way. The last part comprised general questions and check lists for customer satisfaction survey.

3. Results and Discussion

3.1. Job Performance Level of Development Agents

3.1.1. DAs' job performance level and efficiency evaluation results by BoA

The first objective of this study was to determine Development Agents' current job performance status. The Performance Evaluation Instrument (PEI) measures an agent's performance in different areas of his/her duties according to the goals of the extension organization. The result of the efficiency evaluation of the DAs carried out by Kombolcha woreda agricultural office in 2009) was taken as base for this study. The measuring items in the PEI encompassed quality of work, quantity of work, dependability, work schedule, work allocation, customer satisfaction, attendance at work, feed back on extension activities, leadership competencies, and organizational commitment. Each dimension contained several items which utilized a five point scale measurement and the values of the specific measurement sub items of performance dimension were summed up and changed to hundred percent.

The distribution on the Table below indicated overall job performance of DAs is in ascending order from low to high. The mean score was 61.95 and standard deviation was 8.05 and the performance score ranges from 50 to 80. The DAs job performance level was categorized into low, medium and high based on their deviation from the actual mean score distribution. Accordingly those who scored 50-54, 55-69, and > 70 were categorized into low, medium and high performance level respectively. This category was calculated on the basis of mean and standard deviation, which is almost the same with that of the agriculture office categorization value. The result of on Table 1 showed that 23.5% (n=12), 51% (n=26) and 25.5% (n=13) of DAs had low, medium and high performance respectively. Hence, the performance of most of the DAs fell in low and medium levels. This indicated that the level of performance of the DAs was not to the desired extent. There is low provision of extension service by DAs to farmers in the study area.

Table 1. Distribution of DAs by level of performance category

Performance category	Score	Frequency	Percentage	Mean	SD
Low performance	50-54	12	23.5		
Medium performance	55-69	26	51	61.95	8.05
High Performance	>70	13	25.5		
Total		51	100		

Source: BoA, 2010; own calculation, 2010

3.1.2. DAs' job performance level from customer satisfaction survey result

A questionnaire containing 16 questions, which was developed and modified based on related studies, the availability and advisory service of DAs, provision of inputs, quality, quantity and up to date extension service, the skill, attitude and knowledge of DAs to transform technologies, and total satisfaction level that the clients got from the extension service was administered. The responses from key informants' interview were measured using the five-point likert-scale and summed up into three categories (low, medium, and high) as follows.

As indicated in Table 2, 21.11, 56.84, and 22.11 percent of the respondents showed low, medium, and high level of satisfaction respectively from general advisory service given by extension agents. Farmer's participation on training was 27.37, 50.52, and 22.11 present at low, medium and high level respectively. 37.89,

41.05 and 21.05 percent of the respondents showed low, medium and high level of satisfaction on participatory soil conservation activities. Farmers were also asked to rate the frequency of DAs supervision of their production field and activities. Accordingly, 28.36, 44.21, and 28.42 percents of them said that it was low, medium and high respectively.

The key informants were also asked to rate the extent of DAs' knowledge and capacity to transfer the technology as well as the attitude of DAs to serve and advise farmers, Their response showed that 21.05, 49.47, and 29.47 ;and 20, 55.79 and 24.21 percents said that it was low, medium and high respectively. 24.2, 41.05 and 34.74 percent of the respondents showed low, medium and high level of satisfaction with participation on improved production packages. 18.95, 42.11 and 38.95 percent of the respondents were satisfied with DAs' periodic supervision and advice on animal health at low, medium and high level respectively. The provision of improved farm tools and other farm inputs was not satisfactory, 34.74, 47.37, and 17.89 percents of the respondents said that it was low, medium and highly respectively. Periodic pest assessment and DAs availability on demand was not also satisfactory. It was 18.95, 56.84 and 24.21; and 23.15, 54.73 and 22.11 low, medium and high level respectively.

The overall satisfaction level as expressed by farmers was 24.21, 48.42, and 27.37 percent at low, medium, and high level respectively and the DAs' performance level evaluation done by BoA (2009) was 23.5, 51.00 and 25.5 percent at low, medium and high respectively. Thus, both results were nearly close to each other. Therefore, it was important to identify the reasons or factors which hindered its effectiveness or performance of extension agents from reaching its desired level.

Table 2. The distribution of key informants by their level of satisfaction

Major activities of DAs	**Customer satisfaction level**						**Total**	
	Low		**Medium**		**High**			
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
General Advisory service	20	21.11	54	56.84	21	22.11	95	100
Training farmers	26	27.37	48	50.52	21	22.11	95	100
Participatory soil conservation activities	36	37.89	39	41.05	20	21.05	95	100
Visit farmers field usually	26	28.36	42	44.21	27	28.42	95	100
Extent of the information to be up to date and recent	29	30.52	43	45.26	23	24.21	95	100
The extent of the information to solve their problem	24	25.26	41	43.16	30	31.58	95	100
The degree of information relevancy	15	15.79	43	45.26	37	38.95	95	100
The quality of the information	27	28.42	45	47.37	23	24.21	95	100
The attitude of DAs to advise and serve in the PA	19	20	53	55.79	23	24.21	95	100
Participation on improved production packages	23	24.21	39	41.05	33	34.74	95	100
The extent of DAs capacity and skill to transfer technology	20	21.05	47	49.47	28	29.47	95	100
Periodic supervision and advice on animal health	18	18.95	40	42.11	37	38.95	95	100
Provision of farm in puts	33	34.74	45	47.37	17	17.89	95	100
Periodical pest assessment	18	18.95	54	56.84	23	24.21	95	100
DAs' availability on demand	22	23.15	52	54.73	21	22.11	95	100
Participation of farmers' field day and demonstration	21	22.11	49	51.58	25	26.3	95	100
The overall satisfaction level	23	24.21	46	48.42	26	27.37	95	100

Source: Own survey data, 2010

3.2. Descriptions and Relationship between Personal Factors and DAs' Performance Level.

3.2.1. Age and work experience

The minimum and maximum age of DAs was 21 and 32 years respectively. As indicated in Table 5 the mean age of low, medium and high performance category of DAs was 25.75, 25.42, and 25.85 with standard deviation of 2.34, 2.39 and 2.03 respectively. To check whether there is a significant mean difference between low, medium and high performance level of DAs interms of age, a one-way ANOVA procedure was used. The result from ANOVA showed that there was no statistically significant mean age difference between the three performance categories. This may be due to low age variation and there were no high aged DA from the respondents.

Table 3. Distribution of respondents by age, work experience and job performance level.

Variables		Job performance level			F
		Low	Medium	High	
Age	Mean	25.75	25.42	25.85	0.178
	SD	2.34	2.39	2.03	
Work	Mean	3.58	3.88	4.53	1.63
experience	SD	0.90	1.58	1.26	

Source: Own survey data, 2010

The minimum and maximum *work experience* of DAs was 1 and 6 years respectively with 3.98 years of average mean work experience. As indicated in Table 3 the mean work experience of low, medium and high performance category of DAs was 3.58, 3.88 and 4.53 with standard deviation of 0.90, 1.58, and 1.26 respectively. The mean difference in work experience between low, medium and high performance level of DAs was checked with One-Way ANOVA procedure. The result of the F-test in the ANOVA showed that there was no statistically significant mean work experience difference between the three performance categories.

3.2.2. Sex, agricultural background and marital status

The majority of respondents 94.1% (n=48) were male and only 5.9% (n=3) were female. The number of female DAs throughout the country is very small, as indicated in different related studies such as (Belaynesh, 2008). This may be due to the nature of the work, lack of transportation, lack of infrastructures and inadequate facilities in the rural areas of the country. There was no significant job performance difference between sex groups. The work motivational level of male DAs was not significantly different from that of female (Yohhanes, 2009).

The majority of DAs (82.4%) (n=42), had agricultural background. That means either they came from families who were engaged in agriculture or they had good experience in agricultural activities before their enrolment. Only 17.6% (n=9) of them had no agricultural background. The Chi-square test indicated that there was significant difference between the job performance categories in relation to agricultural background at 5% probability level. Those DAs having agricultural background had high level of performance than who had no agricultural background. The finding of this study was in line with other related studies such as Riggs and Beus (1993). Surprisingly the researcher have observed on the KATVETC training program that those students who had agricultural background were more interested and performed well in practical activities in their practical learning sessions and this seemed true to their working areas as well.

From the total respondents, 51% (n=26) and 49% (n=25) are single and married respectively. The Chi-square test indicated that there was significant difference between the job performance categories in relation to marital status at 5% probability level. Married DAs showed better performance than single DAs, which is in contrary to the hypothesis. This may be due to the fact that although they were married they might have no large families and not burdened with family management, as most of them are under low aged category.

Table 4. Distribution of respondents by sex, agricultural background, marital status and performance level

Personal factors		**Job performance level**						**Total**		χ^2 **value**
		Low		**Medium**		**High**				
		F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	
Sex	Male	11	21.56	24	47.05	13	25.48	48	94.1	1.097
	Female	1	1.96	1	1.96	1	1.96	3	5.9	
Total		12	23.52	25	49.01	14	27.44	51	100	
Agriculture	Agriculture	7	13.73	22	43.16	13	25.50	42	82.4	
background	Nonagricultural	5	9.77	4	7.82	0	0	9	17.6	7.641**
Total		12	32.5	26	50.98	13	25.50	51	100	
Marital	single	4	7.5	11	21.58	11	21.58	26	51	
Status	Married	8	15.68	15	27.4	2	3.92	25	49	8.163**
Total		12	23.53	26	50.98	13	25.5	51	100	

Note: ** = Significant at 5% level

Source: Own survey data, 2010

3.2.3. Distance from home place to working area

The results presented on Table 5 showed that the majorities (47.1%) of the respondents were discouraged with the distance of their working area from their home places, and others (41.2%) were neutral. The Chi-square test results showed that there was a significant difference in DAs' job performance based on their perception about the distance from home place to their work area at 5% probability level. This finding is the same with the result of other related studies such as Belaynesh (2008) and Yohanes (2009).

Table 5. Distribution of respondents by DAs' perception about the distance from home place to working area and job performance level

Distance from home place	Low		Medium		High		Total		χ^2
	N	%	N	%	N	%	N	%	
Highly discouraging	0	0	0	0	0	0	0		
Discouraging	8	15.7	16	31.4	0	0	24	47.1	
Neutral	4	7.85	8	15.69	9	17.66	21	41.2	17.37***
Motivating	0	0	2	3.93	4	7.866	6	11.8	
Highly motivating	0	0	0	0	0	0	0	0	
Total	12	23.55	28	51.02	13	25.52	51	100	

Note: *** = Significant at 1% level
Source: Own survey data, 2010

3.3. Description and Relationship between Other Independent Variables and DAs' Performance Level.

3.3.1. Organizational or institutional factors

3.3.1.1. Administration

The result suggested that organizational administration influenced the efficiency of DAs in their work. As indicated in Table 6 the majorities (58.9%) of the respondents were highly discouraged and discouraged with the administration and only 5.9% were motivated. The Chi-square test indicated that there was significant difference among performance categories based on DAs perception about organizational administration at 1% probability level. Thus, finding of this study agrees with Yohanes (2009) and Silong *et al*., (2008). According to the response of the participants, though the current administrative policies and strategies were put clearly on paper and in principle, it is not yet practically put in place.

Table 6. Distribution of respondents by their perception about organizational administration and job performance level

Administration	Job performance level								χ^2
	Low		Medium		High		Total		
	N	%	N	%	N	%	N	%	
Highly discouraging	1	2	0	0	0	0	1	2.0	
Discouraging	11	21.58	18	35.32	0	0	29	56.9	
Neutral	0	0	7	13.73	11	21.57	18	35.3	30.49***
Motivating	0	0	1	1.97	2	3.93	3	5.9	
Highly motivating	0	0	0	0	0	0	0	0	
Total	12	23.58	26	51.02	13	25.5	51	100	

Note: *** Significant at 1% level
Source: Own survey data, 2010

3.3.1.2. Supervision

Table 7. Distribution of respondents by their perception about the supervision and job performance level

Supervision	Job performance level								χ^2
	Low		Medium		High		Total		
	N	%	N	%	N	%	N	%	
Highly discouraging	2	3.9	0	0	0	0	2	3.9	
Discouraging	9	17.64	18	35.28	3	5.88	30	58.8	
Neutral	1	1.96	7	13.72	7	13.72	15	29.4	20.16***
Motivating	0	0	1	1.95	3	5.84	4	7.8	
Highly Motivating	0	0	0	0	0	0	0	0	
Total	12	23.5	26	50.95	13	25.44	51	100	

Note: *** Significant at 1% level
Source: Own survey data, 2010

As indicated in Table 7 more than half of the respondents (62.71.%) were highly discouraged and discouraged by their supervisors or lack of supervision and the remaining were neutral. The Chi-square test indicated that, there was significant difference among performance categories based on DAs perception about the supervision at 1% probability level. Similar results were reported from other related studies such as Belaynesh (2008) and Yohanes (2009) in this regard.

3.3.1.3. Inter- personal relationship

The Chi-square test indicated that, there was significant difference among performance categories in relation to DAs perception about the interpersonal relationship at 10% probability level. Only 3.9% are discouraged with

the existed interpersonal relationship and most of them were neutral and motivated (52.9% and 43.2%) respectively. This showed that DAs had good relationship with their co- workers especially better social interaction with their clients.

Table 8. Distribution of respondents by their perception about the interpersonal relationship and their performance level

Interpersonal Relationship	Job performance level								χ^2
	Low		Medium		High		Total		
	N	%	N	%	N	%	N	%	
Highly discouraging	0	0	0	0	0	0	0	0	
Discouraging	2	3.9	0	0	0	0	2	3.9	12.25*
Neutral	4	7.84	18	35.27	15	29.39	27	52.9	
Motivating	6	11.77	7	13.73	8	15.69	21	41.2	
Highly motivating	0	0	1	2	0	0	1	2.0	
Total	12	23.51	26	51	13	48.08	51	100	

Note: * Significant ay 10% level
Source: Own survey data, 2010

3.3.1.4. Working condition

As indicated in Table 9, 68.7% of the respondents were highly discouraged and discouraged and 31.4% ere neutral with working condition. The Chi-square test indicated that there was significant difference among performance categories in relation to DAs perception about the working condition at 1% probability level. The result is in line with the findings of Belaynesh (2009) and Purcell (2003) in this regard.

Table 9. Distribution of respondents by their perception about working condition and job performance level

Working condition	Job performance level						Total		χ^2
	Low		Medium		High				
	N	%	N	%	N	%	N	%	
Highly Discouraging	5	9.83	1	1.97	0	0	6	11.8	
Discouraging	7	13.73	19	37.28	3	5.89	29	56.9	
Neutral	0	0	6	11.78	10	19.62	16	31.4	28.78***
Motivating	0	0	0	0	0	0	0	0	
Highly Motivating	0	0	0	0	0	0	0	0	
Total	12	23.56	26	51.03	13	25.51	51	100	

Note: *** Significant at 1% level
Source: Own survey data, 2010

3.4.2. Work related factors

3.4.2.1. Recognition

The result in Table 10 indicated that more than half of the respondents (54.9%) were neutral and (21.6%) were discouraged and another (21.6%) were motivated with recognition. The Chi-square test indicated that, there was significant difference among performance categories in relation to DAs perception about the recognition at 10% probability level. Thus, this result agrees with Yohanes (2009) who reported that employees that received attention and recognition for their achievement were more likely to feel valued and motivated, and there was strong positive association and significant correlation between recognition and job performance.

Table 10. Distribution of respondents by their perception about the recognition and job performance level

Recognition	Job performance level						Total		χ^2
	Low		Medium		High				
	N	%	N	%	N	%	N	%	
Highly discouraging	0	0	0	0	0	0	0	0	
Discouraging	5	9.81	6	11.78	0	0	11	21.6	
Neutral	6	11.76	15	29.41	7	13.73	28	54.9	10.85*
Motivating	1	1.96	5	9.82	5	9.82	11	21.6	
Highly motivating	0	0	0	0	1	2	1	2.0	
Total	12	23.53	26	51	13	25.55	51	100	

Note: * Significant at 10% level
Source: Own survey data, 2010

3.4.2.2. Advancement

As indicated in Table 11, 58.8% of the respondents were highly discouraged and discouraged with their promotion or advancement, and 33.3% were neutral. Only 7.8% of them were motivated. The Chi-square test indicated that, there was significant difference among performance categories based on DAs' perception about

the advancement at 1% probability level. This result is in line with the finding of Yohanes (2009) who reported that the absence of learning opportunity in their career when compared to other government employees and limited chances of promotion for DAs make them discouraged with advancement.

Table 11. Distribution of respondents by their perception about advancement and job performance level

Advancement	Job performance level						Total		χ^2
	Low		Medium		High				
	N	%	N	%	N	%	N	%	
Highly discouraging	6	11.74	1	1.96	0	0	7	13.7	
Discouraging	6	11.76	16	31.37	1	1.96	23	45.1	
Neutral	0	0	9	17.83	8	15.67	17	33.3	19.60***
Motivating	0	0	0	0	4	7.8	4	7.8	
Highly Motivating	0	0	0	0	0	0	0	0	
Total	12	23.5	26	50.96	13	25.43	51	100	

Note: *** Significant at 1% level. Source: Own survey data, 2010

3.4.2.3. Responsibility

Development Agents were expected to control their work and make independent decision without any interference by others in order to develop responsibility.

Table 12. Distribution of respondents by their perception about responsibility and job performance level.

Responsibility	Job performance level						Total;		χ^2
	Low		Medium		High				
	N	%	N	%	N	%	N	%	
Highly discouraging	0	0	0	0	0	0	0	0	
Discouraging	5	9.6	2	2.1	0	0	7	13.7	
Neutral	7	13.7	16	17.85	6	25.35	29	56.9	17.22***
Motivating	0	0	7	13.75	7	13.75	14	27.5	
Highly motivating	0	0	1	2	0	0	1	2.0	
Total	12	26	26	50.98	13	39.10	51	100	

Note: *** significant at l% level

Source: Own survey data, 2010

The result in Table 12 indicated that the majority of the respondents (56.9%) are neutral and the discouraged (13.7%) smaller than the motivated (29.5%). The result of the analysis indicated that there was significant difference among performance categories in their perception about responsibility at 1% probability level. Thus, this result is in agreement with Rezaei *et al.* (2008) who reported that professionals performed effectively when they acted and decided independently.

3.4.2.4. The work itself

The result of the finding revealed that 47% of the respondents were highly discouraged and discouraged with the nature of their work, and 49% of them said that it was neutral and only 3.9% were satisfied with their job. The result of the analysis indicated that there was significant difference among performance categories in their perception about the work itself at 1% probability level. This finding was similar to the findings of Belaynesh (2005).Moreover, according to Belay and Degnet (2004), extension agents were often overloaded with different assignments, such as tax collection, collecting loan repayments, and agitating farmers to become members of cooperatives, which were in most cases, not related to their normal duties.

Table 13. Distribution of respondents by their perception about the work itself and job performance level.

The Work it self	Job performance level						Total		χ^2
	Low		Medium		High				
	N	%	N	%	N	%	N	%	
Highly Discouraging	5	9.8	0	0	0	0	5	9.8	
Discouraging	6	11.8	11	21.9	2	3.94	19	37.3	
Neutral	1	1.96	15	29.4	9	17.64	25	49	30***
Motivating	0	0	0	0	2	3.9	2	3.9	
Highly Motivating	0	0	0	0	0	0	0	0	
Total	12	25.8	26	51	13	25.48	51	100	

Note: *** Significant at 1% level

Source: Own survey data, 2010

3.4.3. Psychological factors

3.4.3.1. Achievement

As indicated in Table 14, the majority of respondents (72.6%) were motivated with their good work accomplishment or achievement. The rest (27.5%) were neutral. The result of the analysis indicated that there

was significant difference between groups in their perception about achievement at 1% probability level. The result indicated that most DAs were satisfied with their achievements. Although the farmers in the area felt otherwise, the DAs believed that they were doing a good job in assisting the farmers. Nevertheless, the author could observe better changes in the livelihood and cultural practices of the farmers in the study area.

Table 14. Distribution of respondents by their perception about achievement and job performance level

Achievement	Job performance level						Total		χ^2
	Low		Medium		High				
	N	%	N	%	N	%	N	%	
High discouraging	0	0	0	0	0	0	0	0	
Discouraging	0	0	0	0	0	0	0	0	
Neutral	8	15.71	6	11.78	0	0	14	27.5	30.06***
Motivating	4	7.84	16	31.37	3	5.89	23	45.1	
Highly Motivating	0	0	4	11.15	10	19.64	14	27.5	
Total	12	23.55	26	57.56	13	25.53	51	100	

Note: *** Significant at 1% level, Source: Own survey data, 2010

3.3.2. Perception about salary

It was physiological perception of DAs weather their salary was adequate or not in relation to their work. As indicated in Table 15, more than half of the respondents (62.7%) were discouraged by their salary, and 33.3% were neutral. Only 3.9% were motivated. The Chi-square test results show that there was a significant difference in DAs' job performance categories based on their perception about salary at 1% probability level. Thus, this result agreed with the findings of Rousan (1995) and Yohanes (2009).

Table 15. Distribution of respondents by their perception about salary and job performance level

Salary	Job Performance level						Total		χ^2
	Low		Medium		High				
	N	%	N	%	N	%	N	%	
Highly discouraging	6	11.76	4	7.84	0	0	10	19.6	
Discouraging	6	11.75	14	27.43	2	3.92	22	43.1	
Neutral	0	0	8	15.67	9	17.63	17	33.3	26.50***
Motivating	0	0	0	0	2	3.9	2	3.9	
Highly motivating	0	0	0	0	0	0	0	100	
Total	12	23.51	26	50.94	13	25.45	51	100	

Note: *** significant at 1% level

Source: Own survey data, 2010

3.5. Summary of Descriptive Statistics

The mean values of continuous variables in all performance categories were compared by F-test to indicate the mean difference among categories and Chi-square for frequency difference of discrete variables. Therefore the F-values of two continuous variables were computed and there was no significant job performance difference between sex groups and age groups as indicated in Table 16. The Chi-square test has revealed 6 discrete and 2 dummy variables were significantly different at 1% and 5% significant level respectively. Other 2 discrete variables are significant at 10% probability level and 1 dummy variable was not significant.

Table 16. Summary results of explanatory variables

Continuous variables	F- - value	Expected sign	Observed sign
Age of DAs	0.178	- ve	+ ve
Work experience of DAs	1.630	+ ve	+ ve
Discrete variable	**χ^2 value**	**Expected sign**	**Observed sign**
Sex of DAs	1.097	+ ve	+ ve
Marital status of DAs	8.163**	- ve	+ ve
Agricultural background	7.641**	+ ve	+ ve
Distance from home place	17.37***	+ ve	+ ve
Organizational administration	30.49***	+ ve	+ ve
Supervision	20.16***	+ ve	+ ve
Interpersonal relationship	12.25*	+ ve	+ ve
Working condition	28.78***	+ ve	+ ve
Recognition	10.85*	+ ve	+ ve
Advancement	19.60***	+ ve	+ ve
Responsibility	17.22***	+ ve	+ ve
Work itself	30.00***	+ ve	+ ve
Achievement	30.06***	+ ve	+ ve
Perception about salary	26.50***	+ ve	+ ve

Note: ***, ** and * represent significant at less than 1%, and 5%, and 10% probability level respectively

Source: Own survey data, 2010

3.6. Multicollinearity Test

Variance inflation factor (VIF) was used to check multicollinearity for continuous variable. The larger the value of VIF, the more "troublesome" or collinear the variable X_i. As a general rule, if the VIF of a variable exceeds 10, there is multicolinearity. According to Gujarati, 2003, to avoid serious problems of multicollinearity, it is quite essential to omit the variable with value 10 and more from the logit analysis. Thus, the variable inflation factor (VIF) was employed to test the degree of multicollinearity among the continuous variables. As shown on Table 17 the values of the VIF for continuous variables were found to be small (i.e. VIF values less than 10) indicating that the data have no serious problem of multicollinearity.

Table 17. Variance inflation factor for the continuous explanatory variables.

Variables	Tolerance (R^2_i)	Variance Inflation Factors (VIF)
Age of DAs	0.798	1.254
work experience of DAs	0.798	1.254

Source: Computed from the survey data

Table 18. Contingency coefficient for discrete independent variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IOBKG	1													
ACVMT	.204	1												
ADVMT	.382	.505	1											
RCGN	.258	.473	.749	1										
SALR	.390	.511	.535	.535	1									
SPRBN	.465	.495	.626	.751	.504	1								
RSPNS	.492	.435	.429	.429	.488	.581	1							
WRKIS	.418	.501	.444	.444	.582	.484	.753	1						
INRPRS	.186	.322	.426	.426	.320	.593	.392	.380	1					
ORGAM	.289	.499	.375	.375	.752	.453	.481	.591	.759	1				
WRKCM	.318	.526	.446	.446	.518	.432	.481	.495	.388	.555	1			
DISTIN	.283	.379	.342	.342	.441	.494	.466	.405	.433	.513	.43	1		
MRTST	.042	.323	.330	.276	.406	.261	.208	.276	.285	.365	.453	.336	1	
SEX	.115	.116	.154	.141	.27	.091	.213	.160	.133	.213	.208	..256	.780	1

Source: Computed from the survey data

As indicated in Table 18, the degree of association between each discrete variable is computed using coefficient contingency test, which has revealed that there is multicollinearity problem since the values of contingency coefficients of some variables fell near or above 0.75. From those variables those which have least importance for explaining the dependant variable or variables with high P-value which indicates highly insignificant level (sex, salary, interpersonal relationship, responsibility and recognition) were dropped from the model.

3.7. Econometric Model Analysis

3.7.1. Econometric results and discussions on the significant variables.

The results of this study confirmed a priori expectation in the decision to performance of DAs was influenced by the interaction of several personal, institutional, psychological and work related factors. Based on maximum likelihood estimate of Ordered logit model, the parameters of the variables that were expected to influence the job performance of DAs was used to estimate (Table 17). The output of Maximum Likelihood Estimation of Ordered logit model has displayed four variables namely, Working condition, job background, achievement and advancement, were found to significantly influence the job performance of DAs at 1% and 5% significant level .

The Likelihood Ratio (LR) test indicates that at least one of the predictors' coefficients is not equal to zero at less than 1 % probability level. Hence, the hypothesis that all the coefficients except the intercept are equal to zero was rejected.

This indicated the model was sufficient to explain the association between the independent variables and DAs' job performance. The number of sample observations were correctly predicted by the model. This was also indicated by the measure of goodness of fit i.e. the high prediction success result. The model correctly predicted 72.6% of the observed values. The marginal values provide the impact that a unit change in the individual independent variables has on different levels of job performance when all other variables are held constant.

3.7.2. Model interpretations

Working condition**:** It was the physical working condition and the facilities around the working area. The model output showed that working condition had positively and significantly affect the performance of DAs at less than 1% significance level. The model output indicated that with an increase of a unit of working condition, the

probability of job performance of being low category decrease by 3.2% whereas, the probability of job performance of medium and higher category increases by about 1.7 and 1.5% respectively given all other variables in the model constant.

Table 19 The Maximum Likelihood estimation of the ordered logit model

			Marginal effets		
Variables	Coefficient	P>z	Y=00	Y=01	Y=02
Constant	13.859	0.0024	0.0000	0.0000	0.0000
Marital status	-0.914	0.844	0.0002	-0.0001	0.0000
Agriculture background	3.294**	0.0124	-0.0253	0.0132	0.0121
Achievement	1.719**	0.0278	-0.0132	0.0069	0.0063
Advancement	2.191**	0.0433	-0.0168	0.0088	0.0080
Supervision	-0.182	0.8658	0.0014	-0.0007	-0.0007
Work itself	-0.199	0.8208	0.0015	-0.0008	-0.0007
Administration	0.516	0.6809	-0.0040	0.0021	0.0019
Working condition	4.169***	0.0001	-0.0320	0.0167	0.0153
Distance from home place	0.3884	0.6943	-0.0030	0.0016	0.0014
Threshold parameters for index					
Mu(1)	10.45***				
Log likelihood function	-16.34				
Restricted log likelihood	-56.17***				
Chi squared	79.66				
Predicted success	72.6 percent				

Note: ***, and ** represent significant at less than 1%, and 5%, probability level respectively
Source: Own survey data, 2010

Advancement: The variable had a positive and significant influence on DAs' performance at 5% level. The model result indicated that those Development Agents who got growth or change in position and status of work had higher probability of performing well. With one unit increase in advancement, the probability of job performance of low level of job performance category decrease by 1.68%, whereas the medium and high job performance level category increases by about 0.88% and 0.8% respectively given all of other variables in the model constant. The absence of learning opportunities in their career when compared to other government employee and limited chances of promotion for DAs makes them discouraged with advancement (Yohannes, 2009).

Achievement: The model output showed that the variable achievement had significant and positive influence at less than 5% level of significance on DAs' job performance. An increase of one unit in achievement, the probability of job performance of low job performance category reduces by about 1.3%, whereas the medium and high job performance categories level increases by about 0.7% and 0.6% respectively given all of other variables in the model are held constant This indicates that achievement was one of the important factors affecting performance of development agents. If DAs observed or felt successful accomplishment, got solution to problems, and got fruitful result of his/her work, he/she showed high job performance (Riggs, and Beus 1993).

Agricultural background: The variable had positive and significant influence on DAs' performance at 5% significance level. The model result indicated that those Development agents who had previous exposure to agricultural activities or agricultural background had higher probability of increasing their performance. With one unit increase in agriculture background, the probability of job performance of low level of job performance category decrease by 2.5% whereas the medium and high job performance level categories increases by about 1.3% and 1.2% respectively given all other variables in the model are constant. The result of this study is in line with the findings of Riggs and Beus (1993) who reported that those extension agents who had good exposure on agricultural activities showed high job satisfaction and motivation level.

4. Summary, Conclusion and Recommendations

4.1. Summary and Conclusion

Agricultural extension workers are responsible personnel for attaining the goal of extension system. This becomes true if there is a favorable working environment, which leads them attaining high satisfaction and

motivation in their jobs and make them perform their duties efficiently. Job satisfaction and motivation have significant relationship with job performance. If DAs are highly motivated, they perform well and good performance of the extension organization largely depends on the job performance of the Extension Agents. Hence, the objectives of the study were to assess the performance level of DAs and to identify the factors influencing their performance.

Both qualitative and quantitative data were collected using questionnaire, key informant interviews and group discussions. All DAs (N=51) were the respondents for the data and 95 key informants were also the respondents for customer satisfaction survey. Descriptive statistics and ordered logit model were used for data analysis. Customer satisfaction survey was done to measure the performance level of DAs, as it became an important performance tool to many organizations. Accordingly, 24.21, 48.42 and 27.37% of the key informants satisfaction level from the service given by DAs was low, medium, and high respectively. The performance of 38 DAs out of 51 fell in the categories of neutral and low. This indicated that their performance were not to the desired level of the clients.

The DAs' recent efficiency evaluation result (2009) was collected from office of agriculture and analyzed. From a total of DAs, more than half 51%, (N=26) were in the middle category of performance level and only 25.5% (N=13) of the respondents were under high performance level category. Besides 23.5% (N=12) were in low performance category. Thus, the assessment of office of agriculture (2009) and the farmers' evaluation of the DAs were similar.

Based on different literature and personal observation sixteen explanatory variables were hypothesized that they might influence the dependant variable. From those variables 13 independent variables could differentiate the three performance categories (low, medium and high) at 1% and 5% significant level. Considering this result variables namely: marital status, achievement, agricultural background, advancement, supervision, work it self, organizational management, working condition, and distance from home place were considered for ordered logit model and four of them were found to have significant influence on performance of DAs. They are advancement, achievement, agricultural background at 5% significant level and working condition at 1% significant level.

One of the important conclusions that can be drawn from the study result is that the non conducive working environment, poor facilities and infrastructures hindered them from high performance level. Even though DAs were satisfied with their work results and the change in farmer's life, better results could be achieved with good working condition and organizational administration. The other important factor was advancement which affected performance level of DAs. Low opportunities to learn grow and progress within the organization had high contribution for their low performance. Agricultural background was also found to be an important factor affecting DAs' job performance. So based on the findings of the study the following recommendations are made in view of the foregoing discussions.

4.2. Recommendations

To achieve a high level of performance of DAs there should be desired behavioral outcomes like the job satisfaction and work motivation. Hence, the following recommendations are for warded to extension organization to enhance the performance of the DAs to the highest level.

1. The model result concluded that the agricultural background of DAs was significant in their performance. Hence, the training institutions like ATVET colleges might give priority to those candidates with agricultural background for admission**.**
2. Achievement motivation was another variable that this study found significant. Hence, those DAs who are really appreciated by the farmers for a job well done and evaluated positively by BoA should be given Meritorious Awards in cash or kind in appreciation of their good performances. It will certainly be a moral booster to the DAs.
3. Advancement was another variable that this study found significant. Hence, extension organization should device plans for DAs career advancement such as providing opportunities for high education with pay. This will definitely motivate them.
4. Finally, the existing working condition for the DAs is to be improved. This study has found that working condition affected the DAs' performance. Hence, physical working conditions could be improved as follows:
   i. Provide reasonably good accommodation with basically required facilities.
   ii. Equip the office of the DAs with computers and needed furniture.
   iii. Provide DAs with vehicles like motorcycles and bicycles.
   iv. Provide security to DAs residence especially to the residence of female DAs.
   v. Provide office and training materials like cabinets, shelves, chair and table to DAs at FTCs.

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