

**EXTENSION WORKER AS A LEADER TO FARMERS: INFLUENCE OF
EXTENSION LEADERSHIP COMPETENCIES AND ORGANISATIONAL
COMMITMENT ON EXTENSION WORKERS' PERFORMANCE
IN YEMEN**

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Abstract

Agriculture extension primarily deals with human resource development (HRD) and the transfer of technology and knowledge from agricultural research centres to farmers. Improving human resource development (HRD) within rural community is essential for agriculture and community development. Extension workers are professionals in the extension system responsible for developing individuals in the community. Hence, as the profession of extension work continues to expand, it is necessary to identify leadership skills possessed by the agricultural extension workers in order to gauge their performance in the extension system. Therefore, there is a need first to gauge performance of extension workers and a need to determine predictors of performance.

This article examined the relationship between leadership competencies and organizational commitment with performance as perceived by the agricultural extension workers and the predictors of performance. The leadership competencies variables and commitment are important attributes of a leader. Data were collected from 290 respondents who were selected based on stratified sampling technique. The stratification was based on highlands, coastal and desert regions. The findings showed that four variables were significantly contributed to the level of extension

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workers' performance. The variables are competencies in program implementation, program evaluation and program planning as well as organizational commitment. These predictor variables explain 45.3 % of the variance in the job performance of extension workers. The study suggests that relevant ministry such as the ministry of agriculture should take into account the leadership characteristics of extension workers and how to improve those competencies as well as organizational commitment in order to upgrade their performance in developing rural communities through extension services.

Key words: Agriculture extension, extension workers, leadership competencies, commitment, work performance, Yemen.

Introduction

In the Republic of Yemen the agricultural extension service is still largely the responsibility of the government through the ministry of agriculture. Over the last decade, extension service started experiencing some challenges due to socio-economic changes and agricultural sector reforms taking place in the country. Agricultural extension workers are personnel who are responsible for meeting the goals of extension system. However, there have been less data on the roles and performance of extension workers in the country, even though there are sporadic studies on criticism that extension was not being able to perform the necessary changes in the rural community (Sallam and Akram 2005). Realising this situation therefore it is very critical to know the leadership competencies of extension workers and how do these competencies influence their performance. Furthermore, in the contexts of agricultural extension; most international studies generally focus on evaluation of extension system and methodology rather than personnel. For example, economic evaluation of the performance extension system (Bindlish and Evenson 1993), economic impact of extension system of agriculture extension (Brikhaeuser 1991) and measuring performance indicators of paid-extension system (Dinar and Keynan 1998). However, it is rarely found a research that focusing on the aspects of extension workers' leadership competencies and their performance.

In this regards, Davis and Verma (1993) asserted that studies concerning job performance evaluation in extension organisation contexts are still limited. Since personnel performance is regarded as an important element of extension organisation behaviour. There is a strong necessity to determine further the relationships between the qualities of leader such as competencies in human development learning, leadership development, communication methods, extension

program planning, and extension program implementation extension program evaluation, as well as organizational commitment and extension workers' performance.

Globally, several studies in agricultural extension contexts focus on evaluating the effectiveness of extension organisations from economical prospective. For example Dinar et al. (2007) focused on assessing the impact of agriculture extension on farm production, farmers' adoption rate of the new technology disseminated by extension workers.

In the Yemeni agricultural extension organisations there is a lack of understanding the performance of extension personnel. An institutional analysis should assess the existing performance. There should be attention to performance of extension workers; mechanisms for improving work conditions; identification of competencies and the reinforcement of commitment towards extension profession and organisation. Investigating relationships of these variables with performance is useful in studying the phenomenon from 'being person-oriented to being behaviour oriented' (Welbourne et al. 1997, p 541). McCaslin and Mwangi (1994) further emphasised that continuous and accurate staff evaluation is essential in improving agricultural extension workers' performance and productivity. As a result, it was found that there is a necessity to investigate performance and factors that might contribute to the understanding of extension workers' performance.

Objectives of the Study

The general objective of this study is to determine the relationships between factors that are associated with the job performance of agricultural extension workers in Yemen. Specifically, this study is designed to:

1. Determine the level of job performance among extension workers.
2. Determine the relationship between performance of extension workers and the selected independent variables: leadership competencies and organisational commitment.
3. Determine the predictors of job performance of agricultural extension workers.

Agricultural Extension as a Service to Community

The term agricultural extension is a professional communication intervention deployed by organisations to disseminate agriculture 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 agriculture research and practice (Karbasioun et al., 2007).

According to Van den Ban and Hawkins (1996) agriculture extension is a public service for HRD of workers in agribusiness sector, including farmers. However, the function of agricultural extension is not only seen as vehicle for spreading scientific and technical progress and technology transfer. The agricultural extension, therefore, is a broader concept which emphasised implementation of projects, delivery of knowledge and information. The system is also an avenue for mutual interaction and opportunity that help people to develop solutions to their problems. Extension then is much related to a leadership function in the community. So, an extension worker is not simply seen as a technical innovation motivator, but is gone beyond a human resource development leader to help in institution building and mobilization of resources in the community.

Extension Worker as a Leader

Leadership is crucial in agricultural extension services. Interest in the concept of leadership has been steadily increasing among scholars, public and private organisations since late 20th century (Shriberg et al. 2005). There are as many definitions of the concept of leadership as there are authors on the subject of leadership. Bass (1990) indicated that there are almost as many different definitions of leadership as there are persons who have attempted to define the concept. Some of the authors have defined leadership as a position, a person, a behavioural act, a style, a relationship or a process. Thus, finding one specific definition of leadership is a very complex task as studies on the topic are wide and varied and there is no generally accepted definition (Bass, 1985).

Generally, leadership involves influencing other individuals to act towards the attainment of a goal or goals. In the 1950's, Stogdill, captured what is considered an accurate definition of leadership: "...the process of influencing the activities of an organised group in efforts towards goal setting and goal achievement" (Stogdill 1974, p.11). This is in line with Dubrin (2007) who defined leadership as a process whereby an individual influences a group of individuals to achieve a common goal.

In the field of agricultural extension, leadership has critical strategic importance since it deals with developing groups of farmers in the community. Agricultural extension worker in this sense serves as an administrative leader and coordinator for formulating, developing, implementing and evaluating agricultural extension programmes as well as develop farmers in managing resources in the rural areas. He guides the extension education activities for farmers as groups or individuals towards the purposeful pursuance of given objectives within a particular situation by means of extension communication methods.

Radhakrishna et al. (1994) emphasize that the leadership role of extension workers has become an increasingly critical element in the successful performance of extension programmes. Havelock (1973) identified four leadership functions of extension worker, namely, as a catalyst, solution giver, process helper and resource linker. This means extension workers as leaders should raise the awareness of farmers, form functional farmers groups and make decision for solution together with farmers. Extension workers, who possess the desire to lead, may enhance their skills and abilities required for the leadership role that might influence their performance and successes.

Furthermore, the importance of the leadership skills has become widely acknowledged as explanation of personnel and organisational performance in the various employment sectors. In the context of agricultural extension organisation, skilled extension workers are needed to coordinate human, capital and material resources required to accomplish the goals of agriculture extension services. So, leadership in extension contexts is indeed a social function which is necessary for the achievement of collective objectives. It can be said that the agricultural extension leadership within a rural community is not just a position in a hierarchy or a chain of commands in extension system, but it involves actions of the extension worker as a leader. It is a kind of mutual interaction between extension worker and farmers.

Conceptualization of Performance

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).

Meaning of Performance: Performance is generally discussed within the contexts of leader behaviour, motivation, task design, goal setting, and most other primary areas of organizational research. For example, the term performance is widely used in all fields of management using terms such as performance management measurement (Armstrong 2006) and evaluation or appraisal (Murphy and Cleveland 1995). One of the pioneer researchers who conceptualized the term "performance" was Vroom (1964) who suggested an equation to picture performance and he narrated that it is a product of personal 'ability' and 'motivation' of an individual or $performance = ability \times motivation$. Vroom's

model explains that an individual who is thought to be highly motivated would not be able to perform a job well if he does not possess relevant skills, knowledge and attitudes (KSAs). In other words, both ability and motivation are essential ingredients to good employee performance. The formula to determine performance as drawn above can be implemented at various fields such as a management, education, and organization behaviour. The present study used this conceptualization as a guide to investigate the relationships between the extension leadership competencies and extension worker's job performance.

Leadership and performance: 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 farmers 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). Furthermore, it is generally accepted that the effectiveness of any set of people is largely dependent on the quality of its leadership, effective leader behaviour, therefore, facilitates the attainment of the follower's desires, which then results in effective performance (Maritz, 1995).

Dimensions of Performance: K-State Cooperative Extension Service (2006) develops a performance appraisal model for extension workers. This model assumes that performance measurement of extension workers can be accomplished using the following dimensions: quality of work, quantity of work, dependability, work schedule, work allocation, poise and composure, organization and customer satisfaction. However, in order to establish the content dimensions of job performance, Viswesvaran (2001 p.113) suggests that a comprehensive specification of the content dimensions of the job performance constructs can be obtained by collating all the measures of job performance that have been used in the extant literature. In the light of the pervious performance measurement, models, roles, tasks and job descriptions of the Yemeni extension workers, therefore, for the purpose of measuring the perception of extension workers' performance, some of the above performance criteria were used in identifying the performance of extension workers and two dimensions were developed by researchers based on the Yemeni setting. Further descriptions, of these dimensions are as follows:

- **Quality of work:** Terziovski and Dean (1998) stated that improvement in work quality is likely to increase productivity, performance and profits; hence, quality of work is regarded as the most effective dimension affecting the employee's performance. The performance measures for the quality of extension workers assess their ability to perform the objectives of extension programs and outcomes set in the programs.
- **Quantity of work:** Quantity of work refers to completion of assigned work within the prescribed time limits.

- **Attendance at work:** Attendance at work refers to the extension workers' willingness to work on a timely basis, for example, no absence with out good excuse and or reports for work late, attendance in terms of participation in extension training sessions and regular staying on the daily job.
- **Dependability:** As indicated by K-State (2006), dependability emphasizes the completion of assignment on time and with full commitment.
- **Feedback of extension activities:** The feedback of extension activities as dimension of job performance can be operationally defined as the tasks that extension workers have to perform in order to accomplish successful feedback concerning strengths and weaknesses of carrying out extension activities.
- **Client's satisfaction:** Agricultural extension services, like other public sector services, have seen an increased emphasis on measuring quality of programs through client satisfaction surveys (Radhakrishna 2002). In agriculture extension contexts, however, client satisfaction refers to the way a customer feels about the agriculture extension program on scales that range from very satisfy to very dissatisfy.

Leadership Competencies: Today's agricultural extension organisations demand a challenging combination of individual talent and collective ability and effort. Extension workers as leaders to rural community must develop the right level of leadership competencies. Competencies have become a leading construct in human resource practices, Competencies have become a leading construct in human resource practices, such as recruitment and selection, career development, performance management, and the management of change (Heinsman et al. 2007).

The term competencies defined in the literature as behaviours that an individual needs to demonstrate. Boyatzis (1982) defines competency broadly as an underlying characteristics of a person. It could be motive, trait, and skill, aspect of one's self image or social role, or body of knowledge which he uses. Seevers et al. (1997) reported that in 1993, the Personnel and Organization Committee of the Extension identified 16 core competency areas that all extension agents should possess. The core competency areas include: applied research, change management, communication and human relations, computer operation and software, conflict resolution, cooperative extension system, educational programming (program development), evaluation and accountability, instructional development and learning, marketing and public relations, organizational development; personal organization and management; professional and career development; public policy education; human resource development and management; and strategic planning. These core competencies were found useful to shape the extension worker's behaviour as a leader.

Moreover, the linkage between competency and job performance is addressed by Boyatzis (1982, p.13) in "model of effective job performance". This model specifies that effective action, and therefore performance, will occur when all of the critical components namely organizational environment, job demands and an individual's competencies are consistent or fit. According to this model an individual's competencies represent capability that an employee brings to the job situation as required by the job tasks. These job requirements can be considered the job demands on an individual. In agricultural extension work contexts, competencies refer to extension workers' skills and knowledge (e.g. human development, leadership development, communication and program development skills), which are necessary to successfully performed extension tasks. Thus, an extension worker who is aware, for example, of his or her ability to communicate or interact well with people of the rural community; plans, implements and evaluates extension program, may use these skills in order to increase performance.

Nowadays, agricultural extension service is experiencing transition and rapid change. As a result, extension needs to address the necessary competencies that contribute to its performance of extension workers. Therefore, selecting leadership competencies as independent variables, therefore, help to understand the role performance of agriculture extension workers. Boone (1990) asserted that extension organisations are replacing the notion of jobs with consideration what competencies will be required for the 21st century. This trend has led to renewed interest in person. Since, the extension organisations is said to be an agency of change for problem solving, a catalyst for individual and group action (Havelock 1973). As Spencer and Spencer (1993) stated that competence "is an underling characteristic of an individual that is causally related to criterion-referenced effective or superior performance in a job situation". This means that competence components for effective extension leadership have included a leader's ability to encourage farmers, to provide support for subordinates, to plan well, to have knowledge of his organisation, to have personal communication skills to be able to solve the conflict among farmers. So, extension worker as a leader to farmers ought to be competent in certain skills and behaviours to be successful. Those skills and behaviours are termed essential behavioural leadership qualities (Oyinlade 2006), and the assessment of leader's performance should be based solely on these qualities.

Organisational Commitment

According to Stum (1999), employee commitment reflects the quality of the leadership in the organisation. Therefore it is logical to assume that leadership behaviour would have asignificant relationship with the development of organisational commitment. Previous research suggests a positive direct relationship between leadership behaviour and organisational commitment.

Transformational leadership is generally associated with desired organisational outcomes such as the willingness of followers to expend extra effort (Bass, 1985). A willingness to expend extra effort indicates some degree of commitment. Contingent reward behaviours that represent transactional leadership have been found to be reasonably associated with performance (Bass 1990; Bass and Avolio 1990).

The concept organisational commitment (OC) is useful in predicting employees' behaviour such as job performance. The importance of investigating OC seems to be recognised widely (Mathieu and Zajac 1990; Morrow 1993; Meyer and Allen 1997; Chen and Francesco 2003; Awamleh 1996). For example, Meyer and Allan (1997) emphasised that the important of studying organisational commitment. First organisations continue to exist in the world. Organisational commitment still plays a key role in an organisation's development (Hsieh, 2000). Second, organisational commitment is the reason why organisations can compete with each other. For example, with high organisational commitment, employees in an organisation perform their jobs well. This organisation can retain highly quality employees its wants to keep. This organisation will be able to enhance its ability to compete with other organisations. This is especially important when an organisation spent a mount of money to train its employees to learn new skills, knowledge and abilities. Those employees will become highly valuable. So, if these employees do not have enough organisational commitment to continue with the organisation, the organisation will not only lose the ability to compete with other organisations, but also its investment in employee training. Third, commitment develops naturally. Shaw et al. (2003) stated that the employee needs to commit to something. When employee feels a low level of organisational commitment, the employee may change the organisations. In agricultural extension contexts a more serious threat is that an extension worker may leave the extension services in order to pursue another career.

According to Mowday et al. (1979) people who have a strong commitment display the following behaviours: 1) they strongly believe in and accept the organisation's values and goals, 2) they are willing to exert effort on the organisation's behalf, and 3) they have a strong desire to keep membership in the organisation which they work. Moreover, Meyer et al. (1989) stated that employees' job performance is arguably as important as or more important than whether they ultimately stay or leave. Meyer et al. (1989) findings underscore the need for more research examining relationship between commitment and work related behaviour other than turnover. The current study makes a basic assumption that ability (Vroom 1964) which defined as leadership competencies and organisational commitment (Allan and Myer 1997) have joint effects on job performance of agricultural extension workers.

Research Procedure

Design: This study employed a quantitative survey research methodology using a correlational and descriptive design. Multiple regression analysis was also used to assess the contribution of each of the significant predictors towards variance in the performance of extension workers.

Sample: The required sample size was 300 determined by Cochran's formula (1977). These respondents were selected from throughout the three agriculture regions namely, highlands, coastal, and desert regions using stratified random sampling methods. The usable number of questionnaires for data analysis was 290.

Validity and Reliability: A team of extension experts from Yemen were appointed to judge the clarity of items of the questionnaire. Then the instrument was distributed to 20 respondents who were randomly selected for pre-testing. The Cronbach's α for the pre-test and actual study ranged from 8.77 to 9.33 and 9.71 to 0.798, respectively.

Data collection and analysis: The collection of data started from 19th of March to 13th of May 2007. The data obtained from the 290 respondents were analyzed using Statistical Package for Social Science SPSS (version 13).

Research Findings

Level of Job Performance: Findings indicate overall job performance of respondents in descending order from low to high. The mean score of (*M*) was 2.88 and standard deviations (*SD*) was 0.69, while more than a half (60.7 %) of the respondents experienced a moderate level of job performance, 23.8% of them indicated a low level of performance and 15.5% considered a high level of performance. The levels of extension workers' performance for each component are summarized as in Table 1.

Table 1. Level of Job Performance of Extension Workers.

Performance Dimensions	Mean Score	Level	Frequency n= 290	Percentage (%)	Mean	SD
Quality	(1.00-2.33)	Low	96	33.1	2.83	0.87
	(2.34-3.66)	Moderate	137	47.2		
	(3.67-5.00)	High	57	19.7		
Quantity	(1.00-2.33)	Low	170	58.6	2.39	0.95
	(2.34-3.66)	Moderate	80	27.6		
	(3.67-5.00)	High	40	13.8		

Dependability	(1.00-2.32)	Low	18	6.2	3.42	0.67
	(2.33-3.66)	Moderate	165	56.9		
	(3.67-5.00)	High	107	36.9		
Feedback	(1.00-2.33)	Low	66	22.8	3.10	0.86
	(2.35-3.68)	Moderate	152	52.4		
	(3.69-5.00)	High	72	24.8		
Attendance	(1.00-2.32)	Low	149	51.4	2.52	0.81
	(2.33-3.66)	Moderate	111	38.3		
	(3.67-5.00)	High	30	10.3		
Farmer	(1.00-2.33)	Low	57	19.7	2.97	0.72
Satisfaction	(2.34-3.67)	Moderate	185	63.8		
	(3.68-5.00)	High	48	16.6		
Overall	(1.00-2.33)	Low	69	23.8	2.88	0.69
	(2.34-3.67)	Moderate	176	60.7		
	(3.69-5.00)	High	45	15.5		

Minimum Mean = 1; Maximum Mean = 5

Relationship between Leadership Competencies and Job Performance

Leadership competencies is one of the important variables is seen to have a relationships with performance. This study is in tandem to seek its relationship with agriculture extension workers' performance. Extension work in this study comprises human development skills, leadership development skills, agriculture extension methods and communication skills, agriculture extension program planning skills, extension program implementation skills and extension program evaluation skills, as shown in Table 2.

The leadership competency variables are competencies in extension program implementation ($r = 0.591$; $p = 0.0001$, $p < 0.05$), program planning ($r = 0.561$; $p = 0.0001$, $p < 0.05$), program evaluation ($r = 0.549$; $p = 0.0001$, $p < 0.05$), leadership development ($r = 0.503$; $p = 0.0001$, $p < 0.05$), communication methods ($r = 0.501$; $p = 0.0001$, $p < 0.05$), and human development learning ($r = 0.440$; $p = 0.0001$, $p < 0.05$). This means that all the components have equal strengths in determining the relationship between performance and components of leadership competencies. Overall, leadership competencies ($r = 0.621$; $p < 0.05$) had a moderately positive and significant relationship with extension worker's performance. This results support the recent study by Ahlam (2001) in her study regarding competencies needed for effective extension workers in the Republic Arab of Egypt which confirmed that there is a relationship between performance of

agricultural extension workers and the competencies in developing programs at the community level.

Furthermore, Linder (2001) conducted a correlational study to examine the relationship between human resource competencies and performance in which the researcher found that the correlation between the competency and performance was strong and significant. New (1996) also pointed out that job competencies were aspects of activities in a particular role or positions which were associated with effective performance. This shows that competencies lead to confidence of the agriculture extension workers to control over their work and, hence, flexibility and creativity to achieve a remarkable performance. The findings indicate that extension workers are successful because they acquired competencies in one or more occupational fields that help them to perform their job tasks well.

In conclusion, the statement that can be drawn is competencies are a bunch of behaviour characters related to job performance. Therefore, extension competencies remain one of the important variables to use in order to explain the performance of agriculture extension workers. The highly significant r value emphasized that there is a strong positive relationship between extension competencies and job performance. Consequently, competencies could potentially be used to integrate and link an organisation's main human resource process such as extension performance management, training and development sessions' workshop, extension and rural career development, succession planning and rewards to the agriculture extension and rural development strategy.

From the above discussion, it concludes that competencies are tools that can help extension organisation to focus on developing the human capital. Absolutely, when competencies are used within an organisation they can serve as a road map to human resource practices and encourage organisation to identify these competencies gap in order to improve extension workers' job performance.

Relationship between Organisational Commitment and Job Performance

The results show a highly significant with little and positive strength of relationship of organisational commitment ($r = 0.196$, $p = 0.001$, $p < 0.05$) to performance of agriculture extension workers. Empirically, this result supported the study of Subramaniam (2000) who found a positive relationship between commitment and job performance in Japanese multinational company in Malaysia. In their classic study regarding measurement of organisational commitment, Mowday, et al. (1979) identified a low and significant relationship between organisational commitment and performance. The findings were also consistent with past studies that have been conducted by Shaw, et al. (2003); Chen and Francesco, (2003); Yousef, (2000); and Suliman and Iles (2000). The results

suggested that organisational commitment and job performance are positively correlated.

Despite of the low relationship between commitment and performance among extension workers in this study, these findings, however, is still logical to infer that organisational commitment was significantly related to the performance of extension workers in the country. Extension workers seemed to demonstrate higher performance to the agriculture extension profession when encouraged with organisational commitment.

Table2. Correlation Coefficients Matrix of the Independent Variables and Job Performance (n=290)

Variables	Y	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉
Y	1.000									
X ₁	0.440	1.000								
X ₂	0.503	0.643	1.000							
X ₃	0.501	0.599	0.637	1.000						
X ₄	0.561	0.623	0.626	0.747	1.000					
X ₅	0.591	0.585	0.673	0.697	0.659	1.000				
X ₆	0.594	0.608	0.579	0.661	0.750	0.632	1.000			
Overall	0.621	0.791	0.824	0.883	0.872	0.843	0.825	1.000		
X ₇	0.196	0.030	0.037	0.006	0.008	0.053	0.001	0.023	1.000	
M	2.880	3.070	2.990	3.200	2.840	3.090	2.38	2.970	3.19	2.730
SD	0.692	0.725	0.847	0.760	0.888	0.817	0.872	0.684	0.574	0.474
Items	55	10	10	15	9	10	8	62	18	28

*Significant at 0.05 level.

Predictors of Extension Workers' Job Performance

Multiple regression analysis was used to determine the contribution of the independent variables towards variance of job performance of agricultural extension workers. In addition, the partial regression coefficient (B) and Standardized regression coefficients called weights beta were used to examine the linear relationship between certain independent variables. Likewise, the explanation of significance of each independent variable was provided based on the dependent variable value obtained.

The analysis showed that the four predictor variables were found to be of significance in explaining performance. The four predictors are program planning competencies X₄, program implementation X₅, program evaluation X₆ and organisational commitment X₇. The equation of the proposed multiple linear regressions model is as following:

$$Y (\text{Job Performance}) = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + b_7 X_7 + e.$$

Where:

- Y = Extension worker performance
- X₁ = Human development competencies
- X₂ = Leadership development competencies
- X₃ = communication competencies
- X₄ = Extension program planning competencies
- X₅ = program implementation competencies
- X₆ = program evaluation competencies
- X₇ = Organisational commitment
- e = Error

Table 3 shows that the first statistics *R* is the multiple correlation coefficients between all of the predictor variables and the job performance. In this model, the value is = 0.673, which indicates that there is quite high deal of variance shared by the leadership competencies variables and organisational commitment and the extension workers' performance. The next value, *R*² = 0.453 which indicates that 45.3% of the variance in the job performance is explained by the independent predictor variables in the model.

As can be seen from Table 3 the four independent predictor variables that were found to be of significance in explaining performance of extension workers are: programme planning competencies X₄, program implementation competencies X₅, program evaluation competencies X₆, and organisational commitment. Human development learning competencies X₁, leadership development competencies X₂, extension methods and communication competencies X₃ were found not significant (*t* = -0.560, *p* = 0.576; *t* = 1.711, *p* = 0.088; *t* = -0.416, *p* = 0.678) respectively to the variation of the dependent variable. As depicted in the Table 3, the estimates of the model coefficients for (*β*) are: b₀ is 0.521, b₁ is -0.035, b₂ is 0.113, b₃ is -0.028, b₄ is 0.147, b₅ is 0.250, b₆ is 0.147 and b₇ is 0.214. Therefore, the estimated model in the Equation is as below:

$$Y (\text{Job Performance}) = 0.521 + - 0.035X_1 + 0.113X_2 + -0.028X_3 + 0.147X_4 + 0.250X_5 + 0.147X_6 + 0.214X_7 + e.$$

Table 3. Multiple Linear Regressions between the Independent Variables and Extension Workers' Performance

Predictors of Extension Workers' Performance	B Unstandardized Coefficients	Std. Error	Beta (Standardized Coefficients)	t	p-value
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(Constant)	0.521	0.224		2.322	0.021
X ₁	0.035	0.062	-0.036	-0.560	0.576
X ₂	0.113	0.066	0.126	1.711	0.088
X ₃	-0.028	0.068	-0.031	-0.416	0.678
X ₄	0.147	0.063	0.189	2.350	0.019
X ₅	0.250	0.059	0.295	4.211	0.0001
X ₆	0.147	0.057	0.185	2.594	0.010
X ₇	0.214	0.053	0.178	4.015	0.0001

Notes: R = .673; R² = .453; Adjusted R² = .439; F = 33.342; p = 0.0001; Durbin-Watson = 1.630

The summarised results presented above the model of this study explain 45.3% of the variance in the performance of agriculture extension workers. In other words, result indicated that the regression model fit the data and explanatory power of the model is significant.

Discussion

The “*b*” values are called regression weights and are computed in a way that minimizes the sum of squared deviations. As the major interests of this study is the prediction of job performance among the agriculture extension workers the analysis shows that the largest Beta Coefficient is 0.295 ($p < 0.05$) which is for program implementation competencies. This means that this variable makes the strongest contribution to explaining extension workers’ performance, when the variance explained by all other predictor variables in the model is controlled for. It suggests that one standard deviation increase in program implementation competencies is followed by 0.295 standard deviation increase in job performance. The Beta value for extension programme planning competencies is the second highest 0.189 ($p < 0.05$), followed by extension programme evaluation competencies in the third level 0.185 ($p < 0.05$).

The following Beta value for organisational commitment is the fourth level 0.178 ($p < 0.05$).

This findings support the positive contribution of leadership competencies and organisational commitment to job performance. Past research supports this finding for example, a study by Steel and Scotter (2003) and Ashton (1996) who found that competencies were effective predictors of job performance. The finding was also consistent with study of Nikolaou (2003) who found work competencies seems to have a strong impact on job performance.

Regarding organisational commitment variable, Meyer et al. (1989) found that the organisational commitment dimensions namely affective and continuance were contributed significantly to the prediction of job performance. The result of the current study indicates that the value of commitment to the agricultural

extension organisations, therefore, may depend on the nature of commitment. When commitment reflects an identification with and involvement in extension organisation may benefit both in terms of reduced intention to leave the agricultural extension profession and increase performance. However, when commitment is primarily on the basis of recognition of the costs associated with leaving, as Becker, (1960 cited in Allen and Meyer, 1990) describes it, the benefits of minimising intention to leave the job may be obtained at the price of relatively poor performance. As a result, the findings of this study emphasises that it is important for agricultural extension organisations to examine the policies they implement to improve extension workers' commitment towards their job and extension organisations.

Conclusion and Recommendations

The conclusion can be drawn is that leadership competencies and organizational commitment are a bunch of behaviour characters related to job performance. These competencies remain one of the important variables to use in order to explain the performance of agriculture extension worker as leader to farmers. Consequently, competencies could potentially be used to integrate and link an organization's main human resource process such as extension performance management, training and leadership development, succession planning and rewards to the agriculture extension and rural development strategy.

The conceptual framework used for this study emerged to be reasonable considering that the predictor variables in the model could explain 45.3% of the variance in the performance of agriculture development workers. This study has important implications for extension managers. Not only does it derive empirical evidence on the contributions of leadership competencies to extension workers' performance, the study provides knowledge that could motivate managers in their extension supervision and evaluation as well as provides justification to invest in any HRD initiatives for the workers.

A good performance can be achieved through appropriate agriculture extension policies and strategies. It is recommended that in order to improve the performance of agricultural extension workers, the ministry of agriculture should take into account the status of extension workers specifically on their competencies skills and job commitment to work with the rural communities.

The results of this research were limited to the accessible samples in the agricultural extension services only. In order to make generalisation and comparison, it is recommended that further research covering other organisations in public and private organizations, including community development organizations should be conducted.

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