

Original Research Article

Influence of Human Resource Development Skills Towards Work Performance of Agriculture Extension Agents

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Abstract: Agriculture extension primarily deals with the human resource development (HRD) skills as well as knowledge. In the agriculture scope, all extension agents must have the knowledge, training, and skills to fulfil the requirement as a good agricultural extension agent. As the profession of extension agents continues to grow, it is important to know the human resource development (HRD) skills gained by the agriculture extension agent to measure their performance in the extension job. Thus, this study determines the influence of human resource development (HRD) skills factor with work performance among agriculture extension agent. This was descriptive and correlational research design. Using a quantitative survey methodology consists of 5 sections of questions (A, B, C, D and E). 182 respondents were selected using simple random sampling technique. Data has been gathered from the respondents using a self-administered questionnaire. Data has been analysed using IBM SPSS version 25. Results shows that the level of HRD skills and performance of agricultural extension agent was moderate. All HRD skills show a positive and high correlation with agriculture extension agent work performance. The highest factor contributing to work performance is social skills followed by decision-making skills. The two factors from HRD skills (social and decision making) accounted for 72% significantly to the performance of the agriculture extension agent job. The main purpose of this study is to provide beneficial information's for the extension agents, respondents and organizational framework in term of relationship between the work performance towards the agriculture sector in Malaysia. This study provides insights into the theory and practice of agriculture extension agents in Malaysia.

Keywords: Human resource development; leadership skill; Decision making skill; Social skill; Extension agent.

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1. Introduction

Agriculture extension is an ongoing process of acquiring information that is valuable to farmers and helping them to acquire knowledge, skills and attitudes to use these information and technology effectively to achieve high productivity and adapt to changing needs (Ortiz-Crespo *et al.*, 2020; Kuehne *et al.*, 2017; Shah *et al.*, 2013). The service of agriculture extension includes of complex and dynamic processes that modify what people know, how they act to the situations and what they can do. Most cases in developing countries, many of whom are members of the poor families and rural communities. This is the target group for extension agent to help them to improve their productivity. Agriculture extension is intended as a system in facilitates access to peasant for knowledge, information and technology that channeling them with education partner, farming business, research, markets and other things related with agriculture and helping them to growth their own organizational and management, practices and technical (Raidimi *et al.*, 2017).

The capability of extension agent who are eligible, very responsible in job and able in the extension process determine extension program success. A lot of extension methods and strategies depend on acceptance of peasant in transferring technology with comprehensive development (Axinn, 1988). The extension agent needs to create credibility with customers by demonstrating the level of competence that can inspire themselves (Oakley & Garforth, 1997). The need for competency in agriculture is most prominent now with the issue of poverty, food insecurity and climate change among others (Rivera *et al.*, 2002).

Delivering an effective connection service depends on efficiency extension agent on their various agricultural innovations handed over to farmers (Umar *et al.*, 2018). It also shows that the extension agent that are effective in disseminating information that can improve life, they need to know more to be able to meet the demands of customers who are increasingly sophisticated and diverse. The role of extension agent as channels connecting the various stakeholders confirmed the need for regular evaluation and analysis of the technical capacity and ability (Oakley & Garforth, 1997). The extension officers which are among an agriculture extension agent not only competence in agriculture knowledge only yet they must increase their technical competencies such as competencies in organization and social community (Shah *et al.*, 2013).

In addition, in responding to the five-way appeal set by the Ministry of Agriculture and Agro-based Industry which prioritise and strategize for 2019 to 2020, extension agents have to be competence in all aspect to ensure the agricultural industry becomes more competitive. One of these priorities is to strengthen the organizational structure of departments and agencies under the ministry to improve the delivery system and governance that has been stated by Datuk Salahuddin Ayub, former Minister of Agriculture and Agro-based Industry (Idris, 2019). This is to strengthen and improve the agricultural extension

program in Malaysia. The statement is closely related to the agent's extension in terms of HRD skills and job performance in agricultural extension activities.

Therefore, this study was attempted to determine the influence of human resource development (HRD) skills with work performance among agriculture extension agent.

2. Literature Review

2.1. Definition of Agriculture Extension

The 'extension education' term was first introduced by University of Cambridge in 1873, which is to explain something educational innovation (Maunder *et al.*, 1972). This brings the advantages of university education to ordinary people in their job. Initially, the term 'extension' was introduced in England instead of the familiar America. In the tradition of the American people, the extension of education as a term is encouraged to use extensional activities in teaching people to solve problems through the 'extending' information (Zwane *et al.*, 2012).

In agriculture perspective, knowledge and decision making in determining the factors of farm or crop production in terms of land, water, and cost are very important. Agriculture extension are focused on the formulation and dissemination of knowledge is central as well as where farmers teach to become competent decision makers. Emphasizing all three elements has been recognized as a 'triad' of instrumental policies that meet the coherent objectives of the somewhat informal agricultural community which is research, extension, education and utilization together make such a system (Roling, 1988).

Agriculture extension is a resource organization to ensure acceptance planned of change on farm (Shah *et al.*, 2013). However, extension is not marketing, but extension can be very efficiently performed by adopting marketing concepts. Extension also is not sociology, but the latter also has much to do with improving the extension officers understanding on the dynamics of communities and possibly their overall performances.

Agriculture extension is a part on a system in influence farmer's decisions actors which is includes among the others, such as researchers, political parties, peasant organizations, non-governmental organizations (NGO), peasants' training centres and the mass media. All these identities are considered functions of research, dissemination of information, and training, *etc.* (Van Crowder & Anderson, 1997). From this view was supported by Roling (1988) working on Zuurbier's work on the subject in 1984, and wrote all of the following common elements in various definitions of extension: (1) extension is

intervention, (2) extension of communication for change, (3) extension may be through voluntary change, (4) extension focuses on various processes and outcomes of other communication interventions and ultimately (5) extensions are developed by institutions.

2.2. Role of Extension Agent

Role is one of the key functions that important in the efficiency and output of a person who can perform it (McLagan, 1989). In everyday life, the person can play more than one role in a job. A role is played as a part by person in reaching their objective with working fully competent and flexible within the context of the organization goals, processes and structure (Armstrong & Taylor, 2014). From that, it is concern about how that person perform and how they execute. Roles can also be meant as a form of interaction that relate to the categories provided by each individual (Shah *et al.*, 2013). Because of that, an agricultural extension agent played big role in the most agriculture development projects (Van Crowder & Anderson, 1997).

The role of an extension agent is very important for agricultural development in the country. It has been implemented in every country on further job to ensure agricultural development of the country. Therefore, an extension agent as a change agent are referred to someone who on purpose to bring the changes and innovations (Shah *et al.*, 2013). By understanding the role of one's extension job can make it better in performance in job.

The role theory is used to know that the role is so important in the workplace, that it is more likely to be drafted (Shah *et al.*, 2013). Therefore, this role theory is very important for a person to carry out a job in order to drive change in a matter and to achieve the goals of the extension agents. All the process in extension is depend on the extension agent itself that very important in all extension activities. Therefore, the strength of an extension agent can determine the success or failure of an extension activity (Tiraieyari *et al.*, 2010a; Tiraieyari *et al.*, 2010b). There are various perspectives on the role of extension agents:

- i. Extension agent volunteer to try to get to know the public and care about their problems with the goal of solving them by teaching them how to solve them and to convince them and act as a teaching assistant to achieve success and pride in their target goals.
- ii. Extension agent are very important people to achieve change in social organization, behaviour and attitudes.
- iii. Extension agents are multi-purpose worker as a linker between the government and

farmers.

- iv. Extension agents are those people who make changes to their movements after realizing something has changed important to the countryside community.
- v. Extension agents are activists who play a key role in helping people from their own organizations ensure they can address their problems.
- vi. Extension agents are very professional and influential in the process of innovation and in making decisions on the expectations of change agencies (Oakley & Garforth, 1985).

The extension services success depends on the extension agent's role of technology transfer (ToT) and efficiency in developing technically farmers to increase farmers' productivity (Rahim, 2008). Agriculture extension services in our country are still considered inadequate in agricultural development as they focus only on the transfer of technology (ToT) and human resource development (HRD). Good delivery services do not reach satisfactory levels in agriculture extension by the extension agent (Rahim, 2008).

In extension services, an extension agent also known as a change agent. There are four important role of the change agents which are catalyst, link of resources, give of solution and process in help (Rahim, 2008; Shah *et al.*, 2013):

2.3. Human Resources Development (HRD) Skills

Human Resources Development (HRD) skills workforce optimally used for national development and very important in organizational management (Rivera, 1995). In the context of agricultural work, it is divided into several areas for agricultural extension such as development in services, informal agricultural extension work, advanced extension education and curriculum in teaching in schools. HRD skills also described in the organizational context where involved the ongoing work process continuously as planned within an organization (Toppo, 2012). One of the main purposes is to acquire and sharpen the capabilities of employees to perform various duties on their responsibilities. Among other goals is to build their own potential for development as well as for an organization. Finally, build a strong organizational culture with a high degree of cooperation with each part of the organization. Through the needs of the past and the future in skills and knowledge for the agricultural community, the government-sponsored advanced machinery plays an important role and equips itself with new skills in developing farmers as agro-entrepreneurs (Filomena, 2019). Within an organization, managers and subordinates should have an open attitude towards receiving and sharing information on agricultural extension job so that job can be carried out

easily and effectively as a result of good communication skills among the workers.

2.4. The Elements of Human Resources Development (HRD) Skills

In this study, the focused elements skills in the human resource development (HRD) skills is leadership, decision making and social ability. This is because HRD skills is a form of framework for helping employees improve their skills, self-esteem, organizational skills and knowledge of work (Motolani, 2017).

2.4.1. Leadership skills

The leaders must be brave in facing new complexities, uncertainties and regulations in the global market (Abbas & Asghar, 2010). Therefore, extension agents should have the same leadership skills as such in facing current agricultural challenges. The agricultural extension agent will be faced with the farmers in leading the direction of agriculture with the vision of the country's agriculture. In organizations, great leadership skills are essential in determining skills of a leader (Moore *et al.*, 2004). Among the well-known characteristics are technical skills, human skills and conceptual skills, which are important for a leader (Katz, 1991a; Katz, 1991b). These skills are essential to the success of a leader. However, there is a difference in the number of skills mentioned as it depends on the hierarchy of the organization. In lower level administration, technical skills are essential (Moore *et al.*, 2004). Leaders move within the organizational hierarchy, where one relies on a follower's technical skills beyond their own technical skills. At all levels, human skills are very important in the management. Whereas at the highest level of management, conceptual skills are useful in long-term planning, policy decisions and large-scale actions are needed (Moore *et al.*, 2005). There are new approaches used, but slightly different from technical, human and conceptual classifications in the leadership skills. Among the points outlined are mere technical skills, cognitive ability and ability to demonstrate emotional intelligence (Goleman, 1998).

2.4.2 Decision making skills

In agricultural development goals, transferring information from current research and data to farmers through extension agents enables them to consider deciding based on the information obtained for the best decision of desirable agriculture (Anderson & Feder, 2004). Therefore, an extension agent must convince the farmers in decision making process to help

them to solve problems for what they are facing. The extension agent is must be very knowledge in agriculture field because they act as the resource of information for the farmers. That is why the extension agent must very competitive in agriculture to help the farmers to solve problems by the accurate decision making. This is important to ensure that the farmers must be independent in decision making to achieve the target. Besides that, the extension agent must have assisted the farmers in decision making because the extension agent can provide the new latest information or resource for the farmers for solving their problem and to help the productivity of farmers in positive.

2.4.3 Social skills

The agricultural extension agent must skilled in social in order to tackle the culture, knowledge and behaviour among the targeted community of farmers. This is very essential element in an extension agent because they need to serve to the community by understanding the local culture on the region farmers' area. It is also can learn about the community culture for having the place on it to ensure the extension program can have conducted in well. Social capital connects in the structure of people's relationships and allows individuals to gain access not only to economic resources but also to human and cultural capital (Portes, 1998).

Therefore, the knowledge of the technology and information can be spread among the farmers in easily. Among the social capital listed are trust, network, and reciprocity norms between individuals in society. In the context of active reciprocity in a community facilitates activities and programs to be implemented effectively. This is because of the trust in each other and the cooperation in the community (Stolle *et al.*, 2002).

2.5 Work Performances among Agriculture Extension Agent

The process of assessing an employee's performance in improving the employee's potential is a performance measure. Rating scales are used as a way of measuring performance (Rosnita *et al.*, 2017). Performance of extension is examined by achievement of level based on the goals of agricultural extension organization as follows:

- i. Extension preparation performance:
Activity that being held are not random or incidental activities, but extension activities must be planned or well prepared. Activities or programs are conducted according to the farmer's needs. Farmer, social, economic and local conditions need to be known first for the preparation of activities. Information is fundamental

to the development of activities. Agriculture is not only focused on improving agricultural extension. In fact, agriculture emphasizes agricultural production as well as agricultural marketing.

ii. Performance in developing tasks:

Among the scope of development assignments should be able to perform tasks such as: 1) conducting the dissemination of new technologies to farmers, 2) applying the latest agricultural methods to farmers, 3) developing farmers in terms of infrastructure, technology, market information and financing, 4) enhancing quality and quantity values in peasant institutions, 5) develop the peasant economy as well as grow the peasant economy in quality and quality, 6) enhance the agricultural productivity of the farmers. To achieve the success of these tasks, extension agents are also known as educators to farmers in helping farmers improve the quality, quantity and productivity of their agriculture.

iii. Performance on ratings and reports:

An evaluation is conducted to evaluate the effectiveness of agricultural development activities. The objectives of the assessment are: 1) the collection of important data in program planning, 2) identifying aim, goals, objectives and activities achieved, 3) to achieve change as a result of the program's intervention, 4) identifying strengths and weaknesses in implementing programs. The benefit of this assessment is to know the level of change in the behaviour of the farmers after the program. Also, to improve the implementation of the next program.

iv. Performance evaluation of agricultural extension agents:

Farmers are key players in carrying out agricultural activities while the extension agent is expanding to assist farmers in the process of changing behaviour. The next program or activity will hopefully enable better farming activities, assist farmers in better business and improve farmers' lives. The success of the farmers depends on the extension agents in carrying out their duties as agricultural extension for the farmers.

3. Methodology

The study utilized a questionnaire that was divided into five parts: (A, B, C, D and E) where the first section (Section A) is constructed of closed-end or subjective questions, while

other 4 sections are composed in a Six Point scale type. The subjects were informed about their involvement in this study was on a voluntary basis. Specifically, the subjects were selected extension agent from agriculture organizations. The sample size of the study is 182. Data analysis were done using quantitative method. The quantitative data was analyzed using SPSS.

A survey was collected from the respondents via questionnaires. Responses to questions were rated in a 6-point scale, ranging from 1 (strongly disagree) to 6 (strongly agree). A brief calculation has been done according to respondents' answers in the range. The calculation is based on range of maximum and minimum scale then divided into three level ($6-1/3$). Hence, the respondents were also categorized into high level of HRD skills if the score range between 4.36–6.00, moderate level of HRD skills if the score fell between 2.68–4.35 and low level of HRD skills at 1.00–2.67.

4. Results and Discussions

4.1 Social demographic Profile of Respondent

The respondent's age is divided into 6 categories such as ages; i) 15–24, ii) 25–34, iii) 35–44, iv) 45–54, v) 55–64 and vi) 65 and above. Mean age respondent in the study is 40 years old. The highest percentage of farmers' age during the survey was from the age group of 25–34 with a frequency of 45 respondents representing 24.7% of the total respondents. Meanwhile, the lowest age category was from the above 65 years representing 7.1% with a frequency of 13 respondents (Table 1). Based on the study, it can be concluded that the middle-aged generations show great interest to involve themselves fully on paddy field works. Majority of the respondents was men with a high percentage of 97.3% representing a frequency of 177 people. While for women, was the lowest percentage which is only 2.7% with a frequency of 5 people. This study indicates that the majority involvements in paddy production are accomplished by male farmers as the pioneers.

Table 1. Respondents' age.

Age	Frequency	Percent (%)
15 – 24	15	8.2
25 – 34	45	24.7
35 – 44	44	24.1
45 – 54	43	23.6

55 – 64	22	12.1
≥265	13	7.1
Total	182	100

4.2 Level of Agriculture Extension Agents in Leadership Skills, Decision Making Skills and Social Skills Based on Human Resource Development (HRD) skills

4.2.1 Leadership skills

The level of agriculture extension agents in Human Resources Development (HRD) in leadership skills are based on the farmer's perspective where the farmers are evaluated the agriculture extension agents. There are have 3 categories of level which is low, moderate and high. In leadership skills, the moderate level is obtained in higher percentage which is 62.1%. While the lowest percentage is low level were obtained only 13.7%. The mean of level in leadership skills is 4.07, indicate a moderate level (Refer Table 2). The study show that agriculture extension agent are good leaders in the eyes of farmers.

Table 2. Level of Agriculture Extension Agent in Leadership Skills

Level	Frequency	Percent (%)	Mean	Standard Deviation
Low (1.00–2.67)	25	13.7		
Moderate (2.68–4.35)	113	62.1	4.07	0.61
High (4.36–6.00)	44	24.2		
Total	182	100		

* Note: 1-strongly disagree, 2-disagree, 3-not agree, 4.-quite agree, 5-agree, 6-strongly agree

4.2.2 Decision Making Skills

Table 3 shows the level of extension agents for Human Resource Development (HRD) in decision making skill based on farmer's perspective. The mean score for level in decision making skill is 3.86 which are considered as moderate. As the percentage for each level, the moderate level is the highest percentage with 59.9%. And the lowest percentage is 19.2% for the high level.

Table 3. Level of Agriculture Extension Agent in Decision Making Skills

Level	Frequency	Percent (%)	Mean	Standard Deviation
Low (1.00–2.67)	38	20.9		
Moderate (2.68–4.35)	109	59.9	3.86	0.63
High (4.36–6.00)	35	19.2		
Total	182	100		

* Note: 1-strongly disagree, 2-disagree, 3-not agree, 4.-quite agree, 5-agree, 6-strongly agree

4.2.3 Social Skill

The level of extension agents in agriculture for Human Resource Development (HRD) in social skills is shown in Table 4. The moderate level has the highest percentage which is 53.3% while the high level is ranked the second place which is 31.3%. The low level has the lowest percentage which is 15.4% as the frequency is 28. Mean for level in social skills is 4.09, indicating moderate level.

Table 4. Level of Agriculture Extension Agent in Social Skills

Level	Frequency	Percent (%)	Mean	Standard Deviation
Low (1.00–2.67)	28	15.4		
Moderate (2.68–4.35)	97	53.3	4.09	0.66
High (4.36–6.00)	57	31.3		
Total	182	100		

1.

4.2.4 Job Performance

Table 5 shows the job performance level of the agriculture extension agents. The mean score for job performance is 3.94 which are considered as moderate. As for the frequency of the respondents in each level, 114 respondents placed high frequency on the level of extension agents is moderate level followed by low level which has count of 35 respondents. For the high level, the frequency is 33 which is the lowest level over 182 respondents. The conclusion that can be obtained from the study, is that the farmers can adapt well with the human resource skills by agriculture extension agents thus increasing their level of confidence to continue with farming ventures.

Table 5. Level of Agriculture Extension Agent Job Performance

Level	Frequency	Percent (%)	Mean	Standard Deviation
Low (1.00 – 2.67)	35	19.2		
Moderate (2.68 – 4.35)	114	62.6	3.94	1.07
High (4.36 – 6.00)	33	18.1		
Total	182	100		

4.3 Regression Analysis

The regression analysis has been conducted to estimate the relationship among independent variables to determine the variables strongest influence towards the dependent variable which is job performance. Table 6 shows the estimated coefficient for extension agent performance model. The highest Beta value is 0.464 which is social skills followed by decision making skills with 0.461 Beta value. As can be seen, social and decision-making skills are significant with job performance as the *p*-value is 0.000 and 0.000 respectively. Leadership skills is not significant because it has *p*-value of 0.505 (which is more than 0.05).

Table 6. Estimated Coefficient (Performance)

Model	Coefficients				<i>t</i>	Sig.
	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta			
(Constant)	0.634	0.172		3.673	0.000	
Leadership skills (x_1)	-0.057	0.085	-0.056	-0.668	0.505	
Decision making skills (x_2)	0.443	0.098	0.461	4.523	0.000	
Social skills (x_3)	0.449	0.087	0.464	5.138	0.000	

$$Y = 0.634 + 0.443 (X_2) + 0.449 (X_3)$$

Table 7 below shows a model summary that shows the value of *R*, *R* square, Adjusted *R* square and also standard error of the estimate. The adjusted *R* square value 0.719 shows that social skills and decision-making skills explained 71.9% variance towards job performance while the balance 28.1% is explained by the other factors. It can be concluded that in KADA, Human Resource Development (HRD) in social skills and decision making skills by extension agents are the most important processes obtained by the farmers.

Table 7. Model Summary of HRD

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.851 ^a	0.724	0.719	0.56900

Therefore, it indicates that agriculture extension agents are very important in the development of the country, especially in the development of the rural community. The process of agriculture extension is carried out by the extension agent (Oakley & Garforth, 1997). Extension agents are indeed linking agencies to farmers for information and technology transfer purposes. Therefore, the extension agent is an essential human resource to carry out his work for the development of the local community. The success of the extension program or activity depends on the performance of the extension agent's work. Furthermore, the skills that each extension agent possesses are essential for carrying out their fieldwork for the extension work to be performed well.

The study indicates that the social skill is one of the influence factors towards work performance of agriculture extension. Influential or powerful individuals who have the highest values of the poor in the interior of the developing world are known as horizontal social networks. For vertical social networks, it is also known as formal where agent of extension with farmers is not the same in relation to the hierarchy or asymmetric dependence (Hoang *et al.*, 2006). Because "membership" allows them the privilege of accessing information and other economic resources. However, the delivery depends on the nature of the network that can be applied to the individual or community according to their environment by the extension agent. Therefore, extension agents play vital role in term of social skill to overcome the community problem. Indeed, the effectiveness of the extension agent determine the successful of extension services.

For developing countries, such as Malaysia, there is scanty research on Human Resource Development skills (leadership, decision making and social) towards job performance. In addition, knowledge of Human Resource Development (HRD) and job performance of extension agents have not yet been documented. Hence, to fill up this knowledge gap is one of the aims of this research.

5. Conclusion

The results show that the level of HRD skills and work performance of agricultural extension agent is at the moderate level. All HRD skills show a positive and high correlation with agriculture extension agent work performance. While, the highest factor contributing to work performance is social skills. One factor that does not contribute to work performance is leadership skills followed by decision making skills. The key element implied for HRD skill are social and decision-making, whereby significantly contribute to the performance of the agriculture extension agent job. Based on the findings, it can be concluded that agriculture extension agents need to put more effort not only in technology transfer skill (technical, delivery and evaluation) but should consider HRD skills aspect as the HRD skills portrays interrelation with job performance of agriculture extension agents.

Besides that, the management of extension services can come up with their own program set of courses per year for extension agents to strengthen their skills are par excellence. Consistent guidance and assessment should be carried out in order to make sure extension agents are not left out from their roles. In addition, communication is a principal task to extension agent's activities because it will develop a proper chain of work sequences. Extension agents should create good relationships and rapport between the people especially among farmers. The stronger the relationship and trust, it will influence the clients to adopt the recommended technology and practices.

Furthermore, the extension agents need to possess good personality and interpersonal skills to deal with the farmers. Through proper mentoring from senior extension agents, new agents could acquire these skills and master it. As for the field visit to farmers' area, they can follow the mentor to observe on how he/she communicate with the farmers and after gaining more confidence, the extension agents can practice their attained knowledge in technical, delivery and evaluation skill. To be effective extension agent, they must integrate the technical skills with human resource development skills. In this way, it would be great as all the extension agents will be competent in their work performance.

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