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Agricultural Extension Performance Reviewed From the Perspective of Competence, Motivation and Work Environment

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Abstrak--*Indonesia is an agricultural country with agriculture as a source of income, therefore agriculture in Indonesia should be developed. To support agricultural progress, the role of agricultural extension is very important. The number of agricultural extension workers in the district of Bandung is 60 people, the number of which has not supported the progress of agriculture in Bandung district. Therefore it needs to be researched perspectives that support the performance of agricultural extension workers. This research uses a quantitative approach with 3 independent variables, namely competence, motivation and environment of extension worker and 1 dependent variable that is extension worker. Data analysis using Path Way method of analysis The results showed that the competence of agricultural extension in Bandung district was high with 4,612.00 value, motivation perspective value 2,722.00 with high category, work environment perspective with 2,088.00 value with high category and performance perspective with total value 4,067,00 with category high. Perspective competence and motivation have a positive effect on extension worker performance, while the work environment perspective does not affect farmer extension performance. The mathematical model obtained by using Path Way analysis is Y = 0.1771 X1 + 0,2168 X2 - 0,3661 X3 + 0,0977 (ε). The suggestion given is the need for research needs analysis of extension workers in order to improve extension performance.*

Keywords: Agriculture, Competence, Motivation, Environment

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I. INTRODUCTION

Agricultural Extension is an agricultural service officer whose main duty is to assist farmers in running their farm business. Based on Law No. 16 of 2006 on Agricultural Extension System, Fisheries and Forestry, mention among others that: i) Agricultural extension system, fishery and forestry which hereinafter called extension system is a series of ability development, knowledge, skill, and attitude of perpetrator (ii) the extension system is a learning process for the main actors and business actors so that they are willing and able to help and organise themselves in accessing market information, technology, capital and other resources in an effort to improve productivity, business efficiency, income and welfare, and raising awareness in the preservation of environmental functions; iii) Agriculture includes food crops, horticulture, plantations and livestock are all activities covering upstream business, farming, agroindustry, marketing and supporting services of natural resources management and lam appropriate and sustainable agroecosystem with the help of technology, capital, labor and management to get the most benefit for the welfare of society. Furthermore, agricultural extension is a learning process for the main actors as well as business actors so that they are willing and able to help and organise themselves in improving productivity, business efficiency, income and welfare.

An agricultural extension like a functional education, it must have the technical competence and managerial as an agricultural extension must have the technical ability relating to agriculture, and managerial capabilities include the ability to manage the job of carrying out the extension. According to Nataliningsih, 2009, the number of beginner farmer groups that reach 55% in West Java, can be reduced by applying participatory agricultural extension methods. The participatory farming education method is a method of counselling by involving farmer groups ranging from the analysis of extension needs to an evaluation of outreach results, thus required good cooperation between agricultural extension agents and farmer groups in the implementation of counselling.

The performance of extension workers is crucial to the success of extension, a well-performing counsellor who can prepare an extension plan, able to prepare an extension program, able to manage extension activities and able to evaluate the outreach results to prepare a follow-up plan so that the extension activities will be sustainable in achieving the main objectives of counselling namely changing the knowledge, attitude and behaviour of farmers and their families in achieving the welfare of their households. According to Veithzal Rivai, 2003, performance is the result or success rate of a person as a whole over a specified period. Cooperative learning or the learning of cooperation is one method of learning is done by dividing the responsibility to work together on the task in achieving its objectives. Cooperative learning informal learning activities are often implemented in study groups or lab, but in non-formal learning activities, especially agricultural extension has not been done, therefore it is necessary to study the implementation of cooperative learning in participatory agricultural extension. (Nataliningsih, 2016). Good cooperation between agricultural extension agents and farmers in conducting participatory education can have an impact on the increase of farmer group classes. The improvement of the farmer group class is an indication of the success of the extension system. The whole group of farmers divided into four: 1) the beginner farmer group class, 2) the further farmer group, 3) the middle farmer group, 4) the main farmer group class.

Based on field observations indicating that agricultural extension workers in the district of Bandung have not shown optimal performance indicated by extension attendance rate is less than 75%, there is no regular schedule for an extension, no strategic plan and steps to be taken in helping farmers face problems in the field. The total number of extension workers in the district of Bandung are 1) Agricultural Extension workers as many as 60 people, 2) Animal Husbandry instructor as many as 8 people, 3) Fisheries Extension 4 persons, 4) Forestry Extension as many as 8 people. This research is focused on the extension of agriculture as a research object. **The purpose of this research** is to evaluate the extension worker's performance from the perspective of competence, motivation and environment of extension worker in order to improve extension worker performance in Bandung district.

II. LITERATURE REVIEW

The performance of a person is influenced by several factors that, according to [11], there are 3 factors: (1) Individual factors include ability, skills, family background, work experience, social and demographic level. (2) Psychological factors, including perception, role, personality, motivation, and job satisfaction. (3) Organisational factors include organisational structure, job design, leadership, and reward system. Furthermore, it is said that several factors determine performance: role clarity, competence, environment, values, preferences and rewards formulated with P = (Rc, C, E, V, Pf, Rw).

Competence is the ability based on knowledge, skills, and supported by the attitude that is required in carrying out its duties in empowering farmers. competence includes Motives (motives), traits, self-concepts, knowledge, skill. While motivation is the process of influencing or encouraging the working group to want to implement something that has been determined. According to [10], motivation is a job that managers do in inspiring, encouraging and encouraging employees to get excited and achieve the desired results. According to Sedarmayanti (2009), work motivation is the whole of the function of motives, rewards, incentives, which can cause a force in the form of encouragement for a person so that organisational goals can be achieved.

The work environment affects a person's performance, and the working environment includes physical and non-physical. According to Vietriana Gustensia et al. (2012) harmonious work environment, both between superiors and subordinates, among fellow subordinates, organisations, government and support infrastructure that support each other will support the productivity of employees and organisations. The agricultural extension worker's environment covers the environment of the Agricultural Extension Office and the fieldwork environment, i.e. the farmers and the farmers.

Working environments in the field can be established through good cooperation with farmer groups so that they are willing and motivated to implement the results of extension activities, helping to develop farmer groups through participatory agricultural extension.

Public extension services in developing countries are characterised by poor incentive and reward systems, and Eas carry out only routine extension assignments as defined by senior-level managers [8]. Most agricultural extension services are run by government agencies and form part of the general public administration. This implies that using incentive instrument, such us rewarding superior performance, is often constrained by formal civil service rules and bureaucratic culture [2]. Instead, career development opportunities are based on seniority and length of service rather than qualification, payment is low, and general working conditions are reduced such that the morale of EAs remains low [8]. Since this is not only an organisational and institutional but also a cultural issue, changing the incentives for EAs in isolation from the rest of the bureaucracy is likely to be difficult [2].

Extension officers were found to face challenges of poor working environments including a lack of reliable means of transport to reach the farmers, limited financial support to carry out demonstrations and field experiments on new technologies, sub-optimal housing, lack of working facilities and low salaries. As a result, extension officers are not motivated to perform their duties well. Although farmers recognise the role and importance of having an extension officer in their areas, many have not yet to adopted new agricultural technologies disseminated. They also lack adequate knowledge on-farm management skills like correct land preparation, timely planting, pest and diseases and their control, timely weed control to bypass the critical period of weed competition, knowledge on nutrient deficiency symptoms and how to correct them and keeping farm records. Poverty was found to be the major obstacle hindering the farmers from investing in agriculture [2].

Incentives work both in a positive way to encourage performance and in a negative way to adversely affect performance (disincentives). Interestingly, the factors involved in encouraging performance are separate and distinct from those who discourage performance. In other words, the opposite of job motivation is not job demotivation, but rather *no* motivation. The opposite of job demotivation is not motivation, but merely *no* demotivation [1] Studies from various countries have identified the following Job performance and job satisfaction of extension officers were considered as dependent variables based on the objectives of the study. The independent variables, namely; age, education experience, income, information-seeking behaviour, training, job involvement, organisational climate, achievement motivation, job stress and organisational commitment, were selected [5]. The cooperative extension is one form of non-formal education. The follow up of cooperative extension is coaching that aims to cooperative boards and members apply the knowledge and skills acquired during extension. Learning from the experience (experience learning) of others combined with the concept of joint responsibility is expected to develop the participation of cooperative members as indicated by the repayment of loans on time [4].

Management of human resources involves several important and complex issues in the form of multidimensional reactions. Today the impact of modern behavioural sciences has new insights and approaches to the management of human resources. This new insight has highlighted the concept of motivating people in the organisation as an important strategy. The main concern is that the management of human resources is the improvement in the performance of the people working in the organisation with a view of increasing their efficiency through motivation. A large section of the farming community is still unaware of technological developments and failed to achieve/derive the benefit from the results of research findings. There is a wide gap between the research and extension. The benefits will indeed flow only when the scientific know-how reaches to its consumer, that is, the farmer. The grass root functionaries, extension workers, play an important role in the success or failure of any programme with which he is associated. If he has sincerity towards objectives, a sympathetic approach and confidence in the basic trends, we have to accept that he will try his best to make the programme a success [6]

The use of mentors will provide hands-on experience, counselling, moral support, and adaptation of information into practical recommendations. However, it will not replace the extension service but augment it. The PDAs will organise their mentorship programmes based on the need according to the existent policy /framework guidelines. The minimum requirements and standards for mentoring are that a mentor must:

- Be available to meet the mentee regularly;
- Have appropriate practical experience;
- Have good personal relations with farmers;
- Be willing to help the mentee;
- Maintain a record of the interactions showing the progress of the mentee;
- Be willing to undergo orientation on the mentoring programme;
- Accept that mentoring is not a business or full-time employment, but is offered on a negotiated fixed-term period;
- Be prepared to accept nominal compensation for travelling costs incurred.

Where experienced and/or successful black farmers exist, they should be encouraged to serve as mentors. The mentorship programme already in existence in government will be implemented for new employees in agricultural extension and advisory services. Similarly, all other role players must include mentorship in their programmes of agricultural extension and advisory services. All mentorship participants must meet the minimum norms and standards set by the Department of Agriculture for the sector [3].

III. DATA COLLECTION

Research on the performance of agriculture instructor performance from the perspective of competence, motivation and work environment is carried out with a quantitative approach through a survey of data sources or research objects, namely agricultural instructors. The research sample of 60 agricultural instructors using a questionnaire given to agricultural instructors. Data were analyzed using Path Analysis to find out the relationship between the independent variable X, namely X1 is extension competence, X2 is motivator extension, and X3 is extension work environment with dependent variable Y (extension performance).

IV. RESULTS AND DISCUSSION

Study of Agricultural Extension's competence perspective

Agricultural extension competence data obtained through the filling questionnaire closed with Likert scale conducted by 60 agricultural extension workers, the total question is 20 and has tested the validity of reliability. The result of data tabulation gets total value 4,612,00, which belongs to a high category (range value 1200-6000). This means that the competence of agricultural extension workers is high in the field of knowledge (including planning extension programs, managing information, building interpersonal relationships, organising counselling, managing the organisation, technical and technical service skills), skill areas (including administrative, managerial, technical and social skills) and areas of attitude (including implementing change, flexibility, authorisation, talent appropriateness, creativity, engagement in carrying out work and taking the initiative).

Thus viewed from the perspective of competence, indicating the agricultural extension of the district of Bandung is competent to carry out its duties as an agricultural extension. The overall description of the competence perspective of agricultural extension workers can be seen in the diagram below.

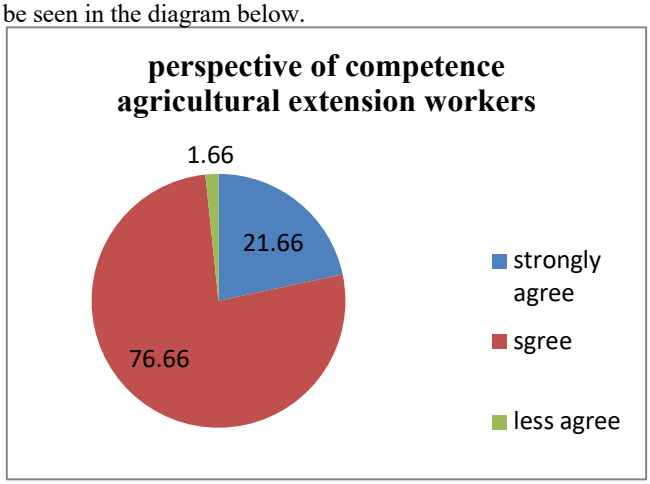


Figure 1. Extension Competency Diagram

From the diagram shows that 21.66% of extension workers have very good competence, 75.66% of extension have useful competence and 1.66% extension have less useful competence. This needs to be maintained by continuing to follow the development of agricultural knowledge and technology.

b. A study of Agricultural Extension motivation perspective

Motivation is the impetus to be able to achieve the purpose of counselling, in general, the motivation can be viewed from the self-extension and motivation from outside the extension counsellor. Motivation from within the counsellor is mainly related to the main tasks and functions that must be implemented that have an impact on the achievement of the performance of the extension worker, while the motivation from outside the extension counsellor is the spirit to develop the working area supported by good cooperation relationship with the farmer groups.

Assessment of motivation to extension workers includes the field of motives/needs (including basic needs fulfilment, security needs, social / affiliation needs, awards, self-realisation) areas of awards (including wage increases, promotion, awards or recognition, acceptance of co-workers, achievements), incentives (including wages/salaries and benefits and promotion).

The result of data analysis shows that based on competency perspective the total value obtained is 2722.00 including the high category means that agricultural extension workers have high motivation in performing their duties because of the output and the impact that will be achieved. Overall data analysis results presented in the diagram below

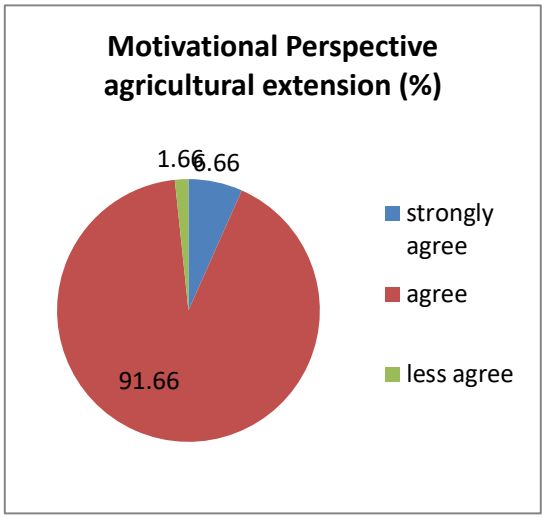


Figure 2. Motivation diagram of extension workers

From the diagram shows, 6.66% of extension workers have a very high motivation to perform the task, 91.66% have a good motivation, and 1.66% have a poor motivation in performing the task as an agricultural extension.

From the diagram shows that 91.66% of extension workers have good motivation in carrying out their duties. This is in accordance with the opinion Sedarmayanti (2009) work motivation is the whole of the function of motives, rewards, incentives, which can cause a force in the form of encouragement for a person so that organisational goals can be achieved. Encouragement or motivation of extension workers to carry out the task because of the drive from within themselves in order to improve the rank of functional position while the motivation from the outside because of the social needs associated with farmer groups.

c. Study of Agricultural Extension environmental perspective

The work environment according to [9] consist of physical and non-physical environment, in this study the physical environment observed includes facilities and pre-counselling facilities, while non-physical environment includes internal organisational relations, social relationships with farmer groups, place of work and government commitment. The result of data analysis related to work environment perspective gets value 2088,00 with a high category. This means that the agricultural extension work environment supports well the implementation of extension activities. The results of the overall data analysis are in the diagram below.

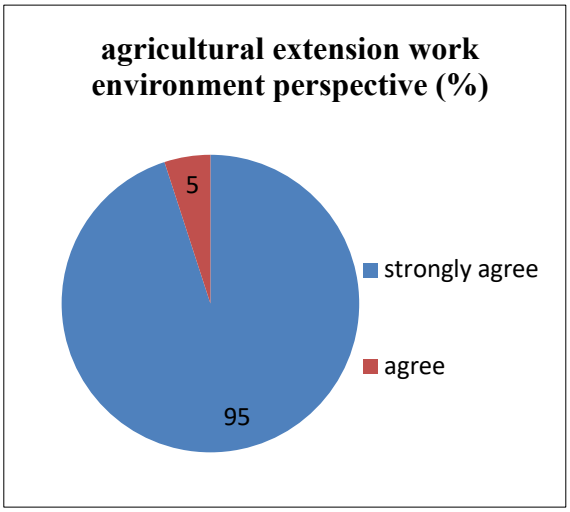


Figure 3. The environmental perspective of extension workers

The results of the analysis showed that 95% of the extension workers stated that the environment supported the extension activities very well, while 5% of the extension workers stated well.

From the diagram shows the excellent support from the agricultural extension worker is an external motivation so that the extension workers feel comfortable working in their environment, so it is expected that the extension program can be implemented.

c. Study of Agricultural Extension Performance Perspective

Performance is the overall picture of the results of one's actions, in this study, the performance of agricultural extension workers. According to Prawirosentono (1999) consisting of effectiveness and efficiency (including the ability to complete the task, ability to cooperate, punctuality in carrying out the task), responsibility authority field (covering delegation of task and responsibility and ability to complete a task), disciplines (including time limits for task execution, coordination with time and attendance), initiative areas (including finding alternatives, the ability to perform tasks without command, and responsibility). The result of tabulation of total data of extension performance value is 4067,00 with high category means agricultural extension performance which has been done, including the good, the overall result can be seen in the diagram below.

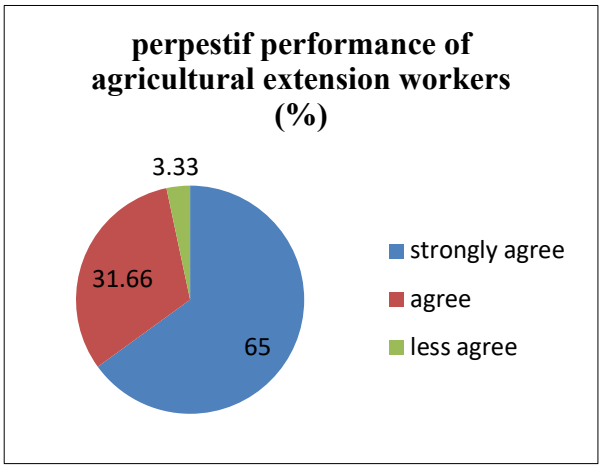
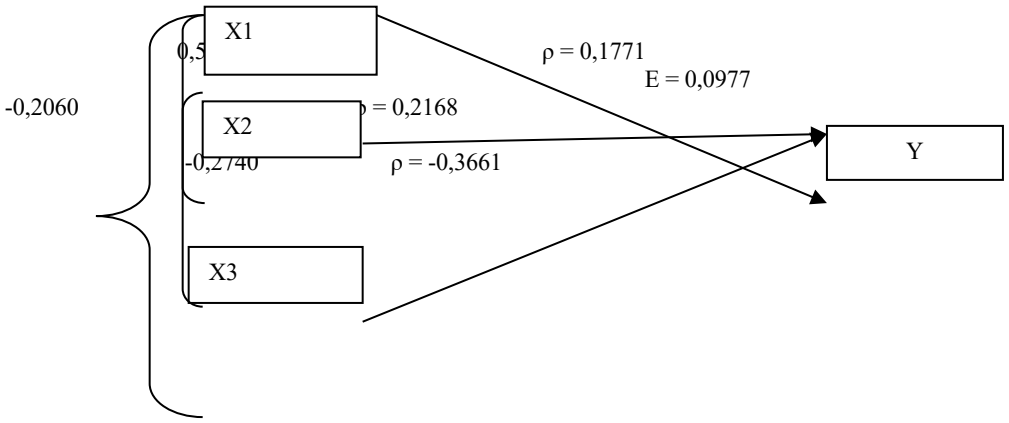


Figure 4. The perspective of extension worker performance

From the diagram shows that 65% of agricultural extension workers are performing very well, 31.66% of agricultural extension workers are performing well, and 3.33% of agricultural extension performs poorly.

The results of this performance analysis indicate a direct relationship of the impact of competence, motivation and the work environment of the extension workers. The result of high compensation, high motivation and good environment makes the counsellor feel comfortable so that it can perform well. To know more about the relationship between competence, motivation and environment with extension performance, then the data obtained is analysed by Path Way method as described below. Pathway correlation matrix



From the path diagram above can be written the mathematical model as follows,
$Y = 0{,}1771\ X_1 + 0{,}2168\ X_2 - 0{,}3661\ X_3 + 0{,}0977\ (\varepsilon)$

Based on the result of PathWay analysis show that perspective of agriculture extension competence has a positive effect to extension performance, perspectives of extension motivation have a positive effect, while environmental counsellor perspective does not affect extension performance.Other factors have a positive effect on the performance of extension workers who are less attention (i.e. less-considered intervening factors), among others are self-awareness, self-actualisation needs and fear of God the creator of the universe to keep performing tasks as well as possible for the results of blessing and sustainable.

The results of coefficient calculation through path analysis where the variables measured are the competence, motivation, and environmental variables on the performance of extension workers can be seen in the table below.

Table 1. Matrix correlation of variables of competence, motivation and work environment on the performance of agricultural extension workers

Correlation Matriks	Competence	Motivation	Work environment	Agricultural extension performance
Competence	1,000	0,519	-0,206	0,365
Motivation	0,519	1,00	-2,74	0,409
Work environment	-2,06	-0,274	1,000	-0,462
Extention worker performance	0,365	0,409	-0,462	1,000

Source: SPSS processing results 20

From the table above shows that the coefficient of competence correlation to the performance of agricultural extension is equal to r = 0.365, which means there is a low positive relationship, the higher the positive value, the greater the relationship. Motivation correlation coefficient shows r-value = 0,409, which means there is a low positive correlation to extension worker performance. In contrast, the coefficient of work environment correlation show r = -0.462, meaning there is no relation between the environment with agricultural extension performance.

Conclusions

Competency perspective has a positive effect on instructor performance. The results of the study stated that the perspective of good competence, knowledge and capabilities possessed an impact on the performance of extension workers so that they can motivate farmers. The better the competency, the better the performance of agricultural instructors will improve Motivation affects the performance of agricultural instructors. The challenges faced by agricultural extension workers will be even greater in providing counseling to farmers so that the need for good transportation, financial support, salary facilities so that the need for support from the government. The work environment perspective does not affect the instructor's performance. The results of the study stated that the existence of a bad working environment had an impact on the inconvenience of agricultural extension workers in conducting extension activities, developing and cooperating with farmer groups. This certainly becomes the government's attention to agricultural extension workers in order to provide a comfortable agricultural environment.

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