

The Role of Private Extension Agents in Broiler Farmer Business Capacity Building using a SEM

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Reni Suryanti, Sumardjo, Syahyuti, Prabowo Tjitropranoto

Abstract: *The low business capacity of broiler farmers is the reason behind the failure to achieve a sustainable farming business. Efforts for capacity building could be conducted by private extension agents who are the technical personnel of core companies in the broiler partnership pattern. The purpose of this study was to analyze the private extension agents' strategies in strengthening the farmers' capacity. The study was conducted in Bogor Regency and Sukabumi Regency, West Java Province using a survey approach on 247 farmers who run poultry-raising businesses using the partnership pattern based on Slovin's equation out of the partner farmer population of 646 people. The sample selection used cluster random sampling with farmer clusters from the two regencies. Data were collected through questionnaires completed by farmers and in-depth interviews of key informants. Data were collected from July to October 2018. The data were analyzed using descriptive analysis and inferential analysis with SEM. The study results revealed that the farmers' capacity and private extension agents' competence and role were weak. The farmers' low capacity was influenced by the private extension agents' weak role. The weak private extension agents' role was influenced by the private extension agents' competence which was also weak. Strategies to increase the role of private extension agents are by strengthening their competence through strong collaborations between the government and partner companies so that they may, in turn, strengthen the farmers' capacity.*

Keywords: *business capacity, poultry farmer, private extension agents' role.*

I. INTRODUCTION

The broiler farmers' weak business capacity has caused farmers to be unable to play their role in achieving their business goals. Efforts for capacity building can be conducted through extension activities in the broiler business partnerships run by the private sector.

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Farmers are familiar with company extension agents or private extension agents who ideally are expected to play a role in improving the farmers' capacity.

The presence of private extension agents could overcome issues that emerge in the livestock business which were identified, namely the lack of skills in animal husbandry, inefficient use of livestock-raising production facilities [1], the poor knowledge of diseases, the lack of innovations in running the agribusiness [2], the lack of comprehension of the partnership contract [3], the farmers' poor entrepreneurial abilities [4], and the possibility of conflict with the community [5].

Private extension agents are one of the extension agents acknowledged by Law number 16 Year 2006 pertaining to the Extension Activity System. This law explains that private extension agents are extension agents from the corporate world and or institutions that are competent in the extension activity field. To date, there has not been any strong recognition from the government of the private extension agents as with government extension agents (government employee and freelance extension agents) and non-governmental extension agents.

The presence of private extension agents amidst the farmers is expected to improve the farmers' capacity in running their business. The extension activities conducted by the private sector should strongly adhere to the philosophy and purposes of the extension activities. Private extension agents must play their role and fulfill their common function in accordance with the purpose of extension activities. Extension activities are basically nonformal education activities which aim to empower the target community, improve welfare independently, and build a civil society [6]. Extension activities will become a vehicle for capacity improvement which aims to build human capital and social capital to achieve welfare.

Partnerships require the core company to provide guidance to the farmers through supervision and extension activities. These extension activities are expected to improve the farmers' capacity in running their broiler farming business. Based on the situation mentioned above, there needs to be an identification of the role of private extension agents in strengthening the farmers' business capacity. The purpose of this study was to analyze the private extension agents role strengthening strategies in order to improve farmers' capacity.

II. METHODOLOGY

The current study was conducted in Bogor and Sukabumi Regencies from July to October 2018. The study was designed using a quantitative approach enriched with qualitative data. The population in this study was broiler farmers who conducted their business pattern in the two regencies, numbering 646 people. The samples numbered 247 farmers which were determined using the Slovin equation and had an error limit of 5 percent. The sampling technique employed as cluster random sampling with farmer clusters in the two regencies. The number of samples from each regency was determined using proportional sampling, resulting in 110 samples from Bogor Regency and 137 samples from Sukabumi Regency.

The independent variables observed were X1 farmer characteristics (farmer age, farmer formal education, farmer income, farming experience in years, livestock population, and cosmopolitan level), X2 private extension agents competence (technical, managerial, educational, social interaction, social entrepreneurial, partnership, and marketing competence), X3 social environment characteristics (socio-cultural values, family involvement, community elder role, farmer organization role, economic assets, and access to experts and the market), X4 information sources (government extension agents, non-governmental extension agents, conventional and cyber media), whereas the dependent variables were Y1 private extension agents' role (role as an educator, communicator, consultant, facilitator, motivator, dynamizator, and organizer) and Y2 farmers' capacity (technical, managerial, entrepreneurial, partnership, and problem-solving capability). The data were collected in the Linkert scale which was modified into four levels which were the answers to stance and response to phenomena statements. The respondents' answers were in the form of transformed ordinal data.

Descriptive analysis was used to discover the level of the private extension agents' role and the farmers' capacity in running the broiler farming business. The inferential analysis using SEM as used to describe the factors that influenced the role of private extension agents.

III. RESULTS AND DISCUSSION

1. Farmers' capacity level and private extension agents' role and competence

The farmers' capacity and the role and competence of private extension agents level were in a poor condition (Table 1) except for the technical competence which as classified as high. The extension agents' role was very low as a motivator, while the other roles were dominantly low. A similar phenomenon was revealed in the private extension agents' role; most were classified as intermediate and had a tendency of being low.

Table 1: The average score of farmers' capacity level and the role and competence of private extension agents

	Average score	Category
Farmers' capacity	60,5	
Technical competence	81,56	High
Managerial competence	48,18	Low
Entrepreneurial competence	63,48	Intermediate
Partnership competence	48,80	Low
Problem-solving competence	60,27	
Private extension agents' role	60,5	
Educator	54,0	Low
Communicator	57,1	Low
Consultant	65,1	Intermediate
Facilitator	57,3	Low
Motivator	25,0	Very low
Dynamizator	41,2	Low
Organizer	60,6	intermediate
Private extension agents competence	53,3	Intermediate
Technical capability	52,3	Intermediate
Managerial capability	55,2	Intermediate
Learning capability	64,5	Intermediate
Social interaction capability	51,7	Intermediate
Social entrepreneurial capability	38,6	Low
Partnership capability	57,2	Intermediate
Marketing capability	54,3	Intermediate

Notes: very low: 0 -25, low: 26-50, intermediate: 51-75, high:76-100

The farmers' weak capacity indicated that they were still unable to manage and develop their business well. Their livestock population tended to remain stagnant and there were no business interventions conducted in the past three years. Some farmers had even experienced setbacks in their business judging from the declined livestock population. Farmer with a small population tended to be passive in regarding opportunities and were still unable to handle risks which indicated weak entrepreneurial capacity. The low managerial competence showed that the farmers were still unable to play their role as a manager [7]; they were not able to motivate others to perform well [8]. In relation to the entrepreneurial capability, [9] stated that a person having a high entrepreneurial capacity is capable of facing life challenges and to grab opportunities with the various risks, achieve value through innovations and expansion of economic activities by identifying new products, processes, and markets [10]. The farmers' high technical competence indicated that the farmers had good husbandry capabilities. The technical competence mastered by the farmers included the capability in the housing, feeding, equipment use, and farm environment management aspects. The private extension agents interviewed explained that the husbandry technical knowledge possessed by the farmers was adequate even though they had not yet fully embraced the most recent technology.

Regarding the poultry-housing aspect, the farmers generally used the elevated poultry house system even though the recently recommended system was the closed-housing system. The same assessment was given by the Animal Husbandry Extension Agent Coordinator of the Bogor Regency Animal Husbandry Agency.

The role of private extension agents in broiler farming tended to be weak. The extension activities conducted by the private extension agents were not yet suitable for the role they should play as extension agents. The private sector extension agents also had low competence; all their competence levels were in the intermediate level with a tendency of being low.

Factors that Influenced the Private Extension Agents Role and Farmers' Capacity

The SEM analysis results revealed that the private extension agents competence dominantly influenced the private extension agents' role and farmers' capacity and was directly influenced by the private extension agents' role (Figure 1). Farmers' capacity was reflected by the managerial, entrepreneurial, and problem-solving capabilities, and role of private extension agents was reflected by their role as a communicator, consultant, and organizer. The structural SEM model is:

Extension agents' role = $0.99 \times$ extension agents' competence, $R^2 = 0.98$

Farmers' capacity = $0.81 \times$ extension agents' role, $R^2 = 0.66$

The private extension agents' weak competence in technical, managerial, and farmer education (intermediate category) and social entrepreneurship (low category), had an effect on the extension agents' weak role as a communicator, consultant, and organizer (Figure 1). The competencies are needed by extension agents to improve their role in strengthening the farmers' business capacity. This condition has caused the role played by extension agents to still be weak and thus unable to strengthen the farmers' capacity. The capability of extension agents in playing their role in extension activities was influenced by the competence they had [11]. The competence of extension agents is an ingrained part of their personality and is inherent to an extension agent and is predictable behavior in various situations and job responsibilities.

The technical capability of private extension agents is related to the technology they master and refers to the technical matters determined by the company. In general, the extension agents mastered the technical matters outlined by the company but this was still judged to be inadequate by the farmers. Basically, the farmers required a more sophisticated technical capability than that offered by the extension agents. A lot of technical capability learned by and applied by the farmers were not from private extension agents. A number of farmers conveyed that they could run their businesses without any technical coaching from private extension agents. In addition to their adequate personal farming experience, they also had support from the information they learned from fellow farmers such as the use of herbal concoctions to improve the broilers' performance. This information applied by the farmers in their businesses was not learned from the extension activities conducted by the private sector but was through learning from other farmers.

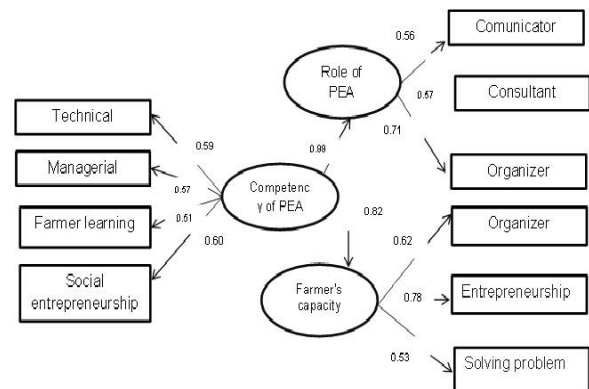


Figure 1: The result of the SEM of the role of private extension agents in strengthening the capacity of broiler farmers

The farmers' capacity was categorized as weak (Table 1.) Their weaknesses in their managerial, entrepreneurial, and problem-solving capacity were directly influenced by the weak role of extension agents as a communicator, consultant, and organizer (Figure 1.). Private extension agents regularly visited the farmers to fulfill their duty as company employees to supervise and accompany farmers. These visits were used to explain to the farmers the matters that the farmer must do according to the standard procedures of the core company. In addition, the private extension agents try to come up with solutions for the issues faced by the farmers. The role of a consultant was not limited to visits but was also conducted through communication via cellphone. Extension agents conveyed to the farmers about how to manage available resources. However, this particular role has not fulfilled the ideal as extension agents.

The role played by private extension agents has not yet met the expectations of the farmers, causing the level of the private extension agents' role to be judged as low. This condition indicated that the private extension agents have not yet played the role that is expected to be played by extension agents. The efforts of private extension agents were not yet aligned to the concept of extension agents' role in extension activities. The extension agents' communication showed that extension agents were capable of communicating with the farmers but the extension agents were not yet able to build a similar perception with the farmers. Their role as a communicator is their role in understanding the farmers and offering solutions to the farmers in both husbandry and marketing. The role as a communicator can be said to be successful when the message carried by the private extension agents is comprehended well by the farmers and when the private extension agents and the farmers have the same perception. Some farmers thought that the private extension agents simply conveyed information to farmers but did not build their comprehension. Their role as a consultant had been fulfilled by giving suggestions and input to the farmers but these suggestions and input did not solve the existing issues. A number of issues faced by the farmers could not be solved by the extension agents, causing dissatisfaction in the farmers who then judged the role as a consultant to be weak. Their role as an organizer is the role where extension agents mobilize resources, direct and guide activities, and develop an effective institution to instigate change.

2. The improvement of private extension agents' role for strengthening the farmers' capacity

The private extension agents' low competence and role have caused a weak role in strengthening the farmers' capacity. Private extension agents carry the message given by the company which aims to improve farming so that production increases and both the farmers and the company receive maximum results. The farmers' need for knowledge, information, and technology exceeded those brought by the private extension agents, causing a lot of the farmers needs to be unfulfilled by the private extension agents. The farmers did not rely on private extension agents to fulfill their need for information and technology in running their business, instead, they learned them from various sources, mainly from fellow farmers. Farmers joined the partnership not for the guidance provided by the private extension agents but for the production facility credit and marketing access.

The private extension agents' limited role needs to be overcome in order to optimize their role in building the farmers' capacity. Based on the results of the SEM analysis and qualitative data, there are at least three aspects that require attention in improving the role of private extension agents, namely (1) strengthening the private extension agents' comprehension of extension activities, (2) improving the core companies' awareness of the importance of the extension activities conducted by their technical personnel (private extension agents), (3) increasing the role of the government, especially the regional government as the regulator and facilitator of regional development. A summary of the strategies can be seen in Figure 2.

Problems in the field have shown that private extension agents did not yet comprehend the essence of extension activities, either the philosophy or the principles and role as extension agents. They generally only understand that they are the core company's personnel whose job is to supervise, accompany, and monitor the business run by the plasma farmers. Even if there were those who understood their role as extension agents for the farmers they are responsible for, the provisions they have is not adequate to play the role of extension agents expected.

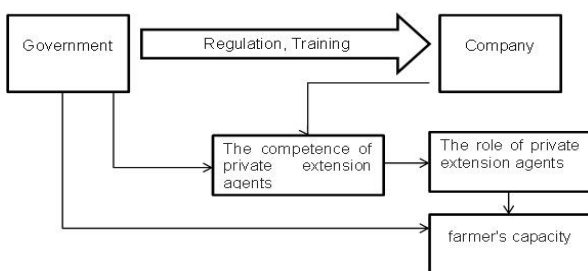


Figure 2: Strategies to improve the role of private extension agents

The private extension agents did not understand the problems faced by the farmers or the farmers' needs. The private extension agents conducted supervision on the farmers with the focus of conveying information, knowledge, and technology according to the company's recommendations. These efforts were conducted to achieve high production to fulfill the company targets. Supervision by the private extension agents was more of a medium for controlling the farmers' business so that they complied with the standards set

by the company and for controlling the use of production facilities by the farmers.

This condition indicates that the supervision and extension activities conducted by the private extension agents have not fulfilled the principles and philosophy of extension activities. A comprehensive understanding of the principles and philosophy of extension activities will alter their approach to extension activities. Therefore, there needs to be an effort to strengthen the private extension agents' principles and philosophy of extension activities.

The philosophy of extension activities dictates that extension activities are educational activities that prioritize individuals, uphold democracy, build collaboration, assist the extension activity target to help themselves, are an ongoing process, develop the learning while working process, and aim to improve welfare and increase happiness [12]. As a process of transforming human behavior through an educational approach, the extension activities conducted must also consider the interests and needs of the targets and at the same time involve community organizations, consider the diversity of culture, promote learning while working, use suitable methods, build collaboration with clients, and develop leadership.

The private extension agents need to understand that extension activities are not limited to technology transfer but more than that, extension activities are nonformal education for farmers. The education in extension activities is education for adults which focuses on the understanding that they are rich in experience, have needs that must be fulfilled, and that the learning process is developed according to the targets' situation and condition. There are a number of characteristics of adult education: their learning motivation is internal [13], adults learn only if they believe it is useful for themselves [14], adults learn if their opinion is respected, there needs to be trust between the advisor and the students [15], (5) a fun and challenging learning atmosphere is a requirement, (6) it should be real-life oriented, and (7) learning is a result of experiencing something [16].

As an adult going through the learning process, farmers are not students that can be dictated by the private extension agents to go through a number of determined procedures. It must be understood that as adults, farmers have a lot of experience that can be used in the broiler farming business. Farmers also have needs in running their business, which is why private extension agents must bring information and technology that can accommodate the farmers' needs. Private extension agents must accommodate experience in the learning process so that the farmers' need for knowledge and technology could be fulfilled and could be utilized to build their capability in running their business. In addition, it needs to be considered that education through extension activities must build the students' motivation, and focus on the needs of the extension activities' targets [17].

The farmers' needs these days are not limited to technical issues in farming but have expanded to other aspects such as the managerial, entrepreneurial, marketing, partnership, and problem-solving aspects. The coaching provided by private extension agents by focusing on technology transfer alone will be abandoned by the farmers and will not be interesting for them.

Therefore, extension activities for the farmers must carry contents more than just technology. The Extension Activity System Law (Law number 16 Year 2006) states that extension activities do not only give access to technology but also access to information sources and resources so that the targets may develop their businesses.

An approach to extension activities that could accommodate the farmers' aspirations and needs is the participatory approach. Participatory extension activities create an opportunity for involving the extension activity targets in the planning, execution, monitoring, and evaluation (Law number 16 Year 2016). The participatory approach makes it possible to explore the problems faced by the farmers and learn the farmers' needs in farming. The implementation of participatory extension activities requires extension agents with the following characteristics: (1) can become a close partner for the farmer; (2) can facilitate and build the farmers' cognitive process; (3) are always available for the farmers; (4) respect the farmers by 'humanizing' them; (5) do not assert themselves; (6) always collaborate with the farmers; (7) always develop horizontal dialogs with the farmers (dialogical communication) instead of one-way communication as subordinates and superiors or as teachers and students (monologic communication); and do not patronize the farmers [18].

The creation of an ideal private extension agent who understands the essence of extension activities, has adequate competence, and plays his/her role as an extension agent well will only be possible if the companies where they work have a good comprehension of extension activities and extension agents. The companies must understand that the presence of competent private extension who play their role well and can strengthen the farmers' capacity and enable the sustainability of the business will have a positive impact on the companies' profit.

The coaching conducted by the companies for their partner farmers is a responsibility which refers to the Government Regulation number 44 Year 1997 pertaining to Partnerships. This regulation states that the company is required to provide guidance in one or more aspects of the following aspects: marketing, capital and technology, farmer human resources and management. The coaching in human resources is the core of the extension activities for improving the farmers' business capacity.

So far, private extension agents work in the field based on the orders and recommendations from the core company. Core companies have interest in the work of private extension agents in at least three things (1) as the company's control over the flow of production facilities to the farmers, (2) as control over the production targets and (3) as a fulfillment of the company's responsibility to provide coaching for the farmers. The companies have invested sizable capital in the partnerships through loaning farming production facilities to the farmers. These farming production facilities must be monitored in their use so that they are used appropriately and can result in maximum profit for the company. In addition to being companions and a source of information for the farmers in running their business, private extension agents also control the use of farming production facilities. The companies require that the private extension agents visit the farmers, control the use of feed by recording the use of feed by the farmers and controlling the feeding efficiency using weight gain as the indicator. The companies set production targets for

each private extension agent. Private extension agents usually work in a designated area with a clear population and production target. This situation is a requirement for private extension agents to coach the farmers in running their business well, bringing in maximum results and achieving the targets that have been set.

Based on these facts, companies have their own interests in farmers who have adequate business capabilities, which in the context of this study was reflected in the farmers' business capacity. If the farmers have adequate business capacity, have technical, managerial, entrepreneurial, partnership, and problem-solving capabilities, their business performance will also be good. This condition highlights that it is important for the companies to coach the farmers using an appropriate approach, which is the approach where extension activities are an adult education to achieve capacity-building goals. This awareness will motivate the companies to conduct intensive coaching of their extension agents so that they could conduct the extension activities well. In the past, the companies had provided their extension agents with technical knowledge in farming, expecting that this knowledge will strengthen the farmers' capacity. However, the companies have yet to realize that they need to improve the farmers quality as important human resources in the company business chain. The core companies have an interest in maintaining the farmers' high production top fulfill the company's production target.

A healthy partnership between the farmers and the companies requires the involvement of the government as the regulator and development facilitator. The Ministry of Agriculture's Regulation number 13 Year 2017 clearly states that the role of the government in partnerships is as the instructor and supervisor. The role as an instructor means that the government has a duty to provide instruction for the parties involved in the partnership so that an equal, reciprocal, strengthening, profitable, mutually respecting, responsible, and positively dependent partnership is created in the development of the livestock business.

The partnerships currently existing show that government involvement is low. According to the Head of the Animal Husbandry Unit of the Fishery and Animal Husbandry Agency of Bogor Regency, the broiler farming business tends to be exclusively a plasma farmer and core company relationship. Regulations pertaining to partnerships clearly regulate the regional government's position; however, in reality, regional government involvement is relatively low. The presence of the government tends to be felt during conflicts between farmers and the community or in relation to permits or livestock farming area mapping. The same fact was also stated by the Sukabumi Regency Animal Husbandry Agency.

The efforts that could be done by the government to improve the role of private extension agents is by enforcing the existing regulations and encouraging the companies to provide training about extension activities for their private extension agents [19]. This could be done by the regional government through the authorized regional government official unit.

The regional government could establish regulations or recommendations regarding related steps that should be taken by companies in the effort to improve the extension activities conducted by private extension agents. In reference to the regulations in effect, the regional government could also directly conduct coaching for private extension agents in the effort to improve the competence of extension agents. In certain aspects, the government could also conduct training and extension activities for farmers.

IV. CONCLUSION

The farmers' capacity level and the role and competence of private extension agents were weak. The private extension agents' weak role in their role as a communicator, consultant, and organizer were influenced by the private extension agents' low competence in the technical, managerial, and farmer education aspects. The poor condition of these roles influenced the farmers' capacity in their managerial, entrepreneurial, and problem-solving capabilities. Efforts that could be made to improve the role of private extension agents are (1) improving the private extension agents' comprehension of extension activities, (2) increasing the companies' support for extension activities conducted by the private extension agents, (3) increasing the regional government's role in the implementation of partnerships, especially in the execution of extension activities by private extension agents.

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