

Assessing Professional Competencies of Agricultural Extension Workers: A Case Study of Indonesian's Agribusiness Sector

Mohamad Ikbah Bahua

Faculty of Agricultural Sciences, State University of Gorontalo, Indonesia

Abstract – This paper describes the study result of a assessment of Professional Competencies of Agricultural Extension Workers (AEWs) in Province Gorontalo, Indonesia. The objectives of this study are as follows: (1) to identify competencies that can be applied to agricultural extension agents in agribusiness rice in the sub-district Kabila and sub-district Tilongkabila, Gorontalo, Indonesia, (2) to find out the factors that influence agricultural extension agents' competence in agribusiness rice in the sub-district Kabila and sub-district Tilongkabila. This type of research is descriptive statistics. The method used in this study is a survey method, where data collected through interviews and questionnaires. Based on the study, competency of agricultural extension agents in the Kabila and Tilongkabila sub-districts on rice agribusiness consisting: the ability to design educational programs, the ability to implement education programs and the ability to manage information dissemination. While the factors that influence agricultural extension agents' competence, namely: knowledge, skills and attitudes of educators in designing educational programs, counseling programs to implement and manage agricultural field officer information.

Keywords – Competence, Agricultural Extension, Agribusiness, Indonesia

I. INTRODUCTION

In Indonesia, agriculture is one sector, which absorbing about 35% of the labor force and accounts for 15% of GDP in 2013 [1]. Even though, the contribution of agricultural sector to GDP has grown much slower compare to the nonfarm economy with grew from 2001 to 2012 at only 3.4% per year, however, the agriculture sector is still as a main “pillar” in supports the livelihood of millions of Indonesians [2, 3, 4, 5].

Agriculture extension, lack of value added productivity and rice policy are some important agricultural issue in Indonesia. Agricultural extension is one strategy of the Government of Indonesia for improving agricultural practices to increase agricultural productivity. In order to support the agriculture extension program in Indonesia, without question is the professional competency of agricultural extension workers (AEWs) needed. Therefore, professionally competencies of AEWs play a significant role in increasing the agriculture production.

The issue of professional competencies is not a new or unusual one for professional fields, including in Agribusiness sector [6]. In line with the demands of today's high competitive organizations, professional competencies become the central of management job descriptions for a corpus of individuals or person.

Basically, AEWs Competencies are competencies of a field officer based on their knowledge, skill and attitude to implement their agricultural field activities that have been developed together with farmers and community [7, 8].

These competencies will be mostly helpful to yield good performance, due to competency is understood as combination of skill, attitude, and knowledge reflected in job behavior that are observable, measurable, and can be evaluated [8]. In some literature, competencies are often classified into two types, soft competency or competencies related to ability to manage the working prove, inter human relationship, and competencies to build interaction with others.

Agricultural elucidation is a non-formal community education, in which, its implementation should be based on efficiency and effectiveness of the field officer performance, hence, every elucidation programs introduced to the community can be wholly adopted and measurable by the community to prevent its social problems [9, 10].

Wet field rice agribusiness is a process of developing local business of agriculture supported by four sub-systems of agribusiness, namely: (1) upstream sub-system, through providing infrastructure for production (wet field rice seeds, fertilizer, and pesticide), (2) agribusiness sub-system such as rice field culture (soil management, planting, crops management, harvesting, and post-harvesting), (3) downstream sub-system such as processing and handling of the yield (diversification of rice products), and (4) supporting subsystem such as provision of agribusiness capital, either from the financing institutions (bank and *koperasi*) and marketing facilities and infrastructure.

Agricultural extension agents' competencies will tremendously help government in implementing agricultural development in programs in their respected areas based on the planned field activities [11]. Agricultural Extension agents in implementing the agribusiness extension of rice field, in addition to be supported by the technical competencies such as competencies to cultivate the rice field, the agents also need to have managerial competencies that are closely related with sustainable agribusiness management such as, marketing, and access toward working capital. Therefore, the farmers will feel that they are being assisted in developing and increasing the rice field agribusiness through agricultural development programs in order to increase the rice field productivity.

II. RESEARCH OBJECTIVE AND METHODOLOGY

The objective of this research is: (1) identify the competencies of agricultural extension agent that can be implemented in field rice agribusiness, and (2) to find out factors that influence the competencies of agricultural extension agents in field rice agribusiness.

This research was implemented in Kabila and Tilongkabila sub-districts of district Bone Bolango, Gorontalo, Indonesia. The research was carried out in February to April, 2015. This research uses descriptive research to describe several variables related to the object of the research.

This research used survey method, in which, data collection method was interview and administration of questionnaire [12]. Data were taken from samples in order to be able to make generalization of the observed phenomenon; hence data collection method should be done properly.

Data collected in this research consisted of primary and secondary data. Collected data are qualitative data. The smallest unit of observation in this research are agricultural extension agent and by involving the agents' supervisor and farmers that were guided by the agents in each of their respected area.

Number of agricultural extension agents in Kabila and Tilongkabila sub-districts is 10 people, hence the unit of analysis in this research were all the agricultural extension agents in both sub-districts. They were both population and samples in this research with data taken randomly and proportionately. All the data collected in this research were tabulated and analyzed statistically descript.

III. FINDINGS AND DISCUSSION

This research revealed that characteristics of agricultural extension agents in Kabila and Tilongkabila sub-districts of Bone Bolango districts consists of the age of the agent, their level of formal education, and trainings attended by the agents during their tenure as extension agents.

3 people or 30% of the agricultural extension agent aged 20-35 years old, 5 agents (50%) aged 36-45 years old, and 2 agents (20%) aged more than 45 years old. in relation to the retirement age of 60 years old, in the next ten years, Kabila and Tilongkabila sub-districts would lose 12% of its agricultural extension agents.

The characteristics of the agent are also influenced by their level of formal education. Most of the extension agents in Kabila and Tilongkabila sub-districts's education are Junior High School, Senior High School, and Diploma 3.

On level of education, 1 agent (10%) has junior high school diploma, 3 agents (30%) have high school diploma, and 6 people (60%) have diploma 3 of university degree. In relation to the level of education stipulated by the Indonesian Ministry of Agricultural [13], a pratama/first level extension agent has to have at least diploma 3 qualification, the agricultural agents in both these district has met the requirement by 60%. This indicates that the

agricultural extension agents in both sub-districts are able to design and plan their main duties in serving their mentees farmers.

In implementing their tasks, agricultural extension agents are not only relying on formal education, but also on the training that's to improve their knowledge and skill as agricultural extension agents in Tilongkabila and Kabila sub-districts. This is due to their formal education may not sufficient or related to their work, hence, they will need technical trainings such as, rice culture technique and training on agribusiness product marketing [14].

There are 5 extension agent that have participated in technical training for rice culture (50%), and 3 extension agents (30%) have participated in training for agricultural product marketing, and 2 extension agents (20%) have participated in agricultural extension management training.

The Indonesian Ministry of Agricultural [13] stipulated that an extension agent at least participated in 2 technical trainings during their tenure as first level extension agent, hence, it implies that the extension agent in Kabila and Tilongkabila sub-districts have met this requirements, with some improvement needed in management trainings.

This research is in line with Bahua [15] on "Model of Competencies development for Agricultural Extension Agent in Gorontalo Province," which revealed that 2.3% of extension agents' competencies was influenced by level of formal education; 10.7% was influenced by technical trainings that they have participated in; 32.1% was influenced by work tenure; and 34.9% was influenced by the age of the extension agent.

Theoretically, this research is similar with Ruky (2003) which stated that individual characteristics that correlate with performance is called person specifications, namely: (1) technical knowledge and skills, (2) trainings attended, either specialization trainings, comprehensive trainings, or complementary trainings, (3) work experience, (4) motivation, (5) values system an attitude as organizational core culture, (6) personality, (7) knowledge, (8) skill, (9) sex, (10) age, and (11) physical appearance such as: weight, height, hobbies, talent, and appearance.

Agribusiness is closely related with community capacity improvement in production mechanism. Basic competence of agricultural extension agent in wet field rice agribusiness is explained through extension activities planned together with farmers.

Several competencies of agricultural extension agent in wet rice field agribusiness at Kabila and Tilongkabila sub-districts

This research show that competencies of agricultural extension agent in Kabila and Tilongkabila sub-districts consists of: (1) ability to design the extension program, (2) ability to implement the extension program and (3) ability to manage the extension information.

Competencies of agricultural extension agents are reflected in their activity description that correlated with learning process in implementing rice field agribusiness in Kabila and Tilongkabila sub-districts as showed in the table below.

Table 1. Competencies of Agricultural Extension Agent in Rice Field Agribusiness

Components of Extension Agents Competencies	Activity Description	Number of agents (person)	%
Ability to design the extension program	Extension program is designed	10	100
ability to implement the extension program	Conduct learning process using method and media familiar to the farmers	10	100
ability to manage the extension information	Manage extension information through internet, such as: sending download, and store agricultural information	10	100

Based on table 1 above, the competencies of agricultural extension agent are 1) ability to design the extension program, (2) ability to implement the extension program and (3) ability to manage the extension information. Those three competencies are embedded in extension agents; hence in implementing duties and functions, they are always guided by their competencies based on their knowledge, skill and attitude of the agricultural extension agent in agricultural technology innovation.

This research is in line with Wijianto [16] on “Correlation of agricultural extension agents’ competencies and the members of farmer’s group participation in Banyudono sub-districts of Boyolali district,” which concludes that there was a significant correlation between extension agents’ competencies and members of farmer’s group participation in group activities. This means that every increase of value in extension agents’ competencies variable would be followed by the increase of value in member’s participation variable.

Theoretically, this research is also in line with Boyatzis [17] that, simply, competencies are characteristics or one’s ability to show or perform specific activities in a working environment that were conducted diligently, hence, the person can accomplished their role and duties given to them.

Factors that Influenced the Extension Agents’ Competencies

Competencies are basic characteristics of a person that influence their way of thinking and acting, making generalization on situations and it sustain for a long time in one. Factors that influenced agricultural extension agents in rice agribusiness at Tilonkabila and Kabila sub-districts are available in the following table 2.

Table 2. Factors Influencing the Competencies of Agricultural Extension Agents

Component of Agricultural Extension Agent Competencies	Influencing Factors	Number of Agents (Person)	%
Ability to Design the Extension Program	Knowledge	6	60
	Skill	8	80
	Attitude	4	40
Ability to Implement the extension program	Knowledge	8	80
	Skill	8	80
	Attitude	2	20

Ability to manage the extension program information	Knowledge	5	50
	Skill	3	30
	Attitude	4	40

Table 2 above shows that the factors that influenced the competencies of the agricultural extension agent in rice agribusiness are knowledge, skill, and attitude of the agricultural extension agent. This indicates that the extension agents who have knowledge, skill and good attitude will bring impact on the increase of the extension agent’s competencies in managing the rice agribusiness.

This research is in line with Damihartini and Amri Jahi [18] on “Correlation of Farmers’ Characteristics and Agribusiness Competencies in Vegetables Agribusiness in Kediri Sub-district of Jawa Timur, which concludes that the knowledge, attitude, and skill aspects are mutually independent in assessing the agribusiness aspects that have to be mastered by the farmers. Overall, the research output shows the influence of knowledge and skill factors on agricultural extension agent’s competencies in rice agribusiness. The knowledge on agricultural extension are mainly from formal education attended the agents, meanwhile their skill are more due to either technical trainings or functional attended by the extension agents during their tenure.

Theoretically, this research is also related to Deborah et al., [19] which describes that core competencies are a basic knowledge, skill, attitude and behavior that play a role in determining the success of an extension program. Wisconsin Cooperative Field officer states that a competency is a sufficient quantity of knowledge, skill, and responsibility to fulfill certain tasks or jobs. In addition, Missouri Cooperative Field officer argue that every professional extension officers should processed their personal strengths, ability as educators, and skill in information technology and as expert in his/her field.

IV. CONCLUSION

A conclusion section is not required. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

REFERENCES

- [1] Badan Pusat Statistik. (2014). *Statistik Indonesia Tahun 2013*. Badan Pusat Statistik. Jakarta.
- [2] Barichello, Richard and Patunru, Arianto. (2009). *Agriculture in Indonesia: Lagging Performance and Difficult Choices*. CHOICES 2nd Quarter 2009. 24(2)
- [3] Badan Pusat Statistik. (2013). *Statistik Indonesia Tahun 2012*. Badan Pusat Statistik. Jakarta
- [4] World Bank. (2013). *World Development Indicators* (Publication. Retrieved 27 November 2015.<http://data.worldbank.org/data-catalog/world-development-indicators>)
- [5] Asian Development Bank. (2009). *Operational plan for sustainable food security in Asia and the Pacific*. Mandaluyong City, Philippines: Asian Development Bank
- [6] Al-Odaibi, Abdullah Ibrahim. (2008). *Analysis of Educational Competency and Training Needs of Agricultural Extension*

- Workers in the Eastern District of Saudi Arabia.* The University of Wisconsin – Madison-1983-2008.
- [7] Chandra, Satish. (1988). *Communication Competency of Agricultural Assistants Working in Agricultural Extension Project Karnataka.* University of Agricultural Sciences, GKVK
- [8] Bin The, Saidin. (1980). *Professional Competencies Needed by Malaysian Agricultural Extension Supervisors.* Iowa State University of Science and Technology
- [9] Alston JM, Marra MC, Pardey PG, Wyatt TJ. (1998). *Research returns redux: A meta-analysis of the returns to agricultural R&D.* Discussion Paper No. 38, Environ. Prod. Technol. Div., Int. Food Policy Res. Inst., Washington, D.C.
- [10] Alam GM, Khalifa MTB (2009). *The impact of introducing a business marketing approach to education: a study on private HE in Bangladesh.* Afr. J. Bus. Manage. 3 (9): 463-474
- [11] Ison, Ray and Russell, David. (2000). *Agricultural Extension and Rural Development: Breaking Out of Knowledge Transfer Traditions.* Cambridge University.
- [12] Sahu, Pradip Kumar. (2013). *Research Methodology: A Guide for Researchers in Agricultural Science, Social Science and Other Related Fields.* Springer Science & Business Media
- [13] Departemen Pertanian RI. (2005). *Draf Revitalisasi Penyuluhan Pertanian. Badan Pengembangan Sumber Daya Manusia Pertanian.* Jakarta: Departemen Pertanian
- [14] Karbasioun, Mostafa, Martin Mulder, Harm Biemans. (2011). *Towards Competency Profile for the Role of Agricultural Instruction.* Lambert Academic Publishing GmbH KG.
- [15] Bahua, MI. (2013). *Model Pengembangan Kompetensi Penyuluh Pertanian di Provinsi Gorontalo.* Laporan Penelitian 2013. Lembaga Penelitian Universitas Negeri Gorontalo.
- [16] Wijianto, A. (2010). *Hubungan antara Kompetensi Penyuluh dengan Partisipasi Anggota dalam Kegiatan Kelompok Tani.* Jurnal Agritext. Nomor 2. Volume 3. September 2010.
- [17] Boyatzis, RE. (1982). *The Compotent Manager, A Model for Effective Performance.* New York. Chichester, Brisman, Toronto, Singapore: John Wiley and Sons.
- [18] Damihartini dan Amri Jahi. (2005). *Kompetensi Penyuluh pada Agribisnis Cabe di Kabupaten Kediri.* Jurnal Penyuluhan. Nomor 2. Volume 1. Maret 2005. Hal 17: 15 – 20
- [19] Deborah, JM, Keith N, Jim L, Ken B. (2002). *Core Competencies for the Cooperative System.* <http://www.idrc.ca/en/ev-30266-201-1-do.html>



Mohamad Ikbah Bahua is Assistant Professor of Agro Technology at Faculty of Agricultural Sciences, State University of Gorontalo, Indonesia. He received a B.S. degree in Agronomy from Sam Ratulangi University, Manado, Indonesia and MS in Agribusiness from Hasanuddin University, Makassar, Indonesia. He did his Ph.D. in Agricultural Extension at Bogor Institute of Agricultural, Indonesia. He has been active in the area of agricultural resource management and conservation for over 10 years. His research interest including Agro technology, agronomy and agricultural extension. Currently, he is Dean of Faculty of Agricultural Sciences, State University of Gorontalo, Indonesia