

STRENGTHENING THE ROLE OF PROGRESSIVE FARMERS IN DEVELOPING YOUNG FARMERS AT SUKABUMI, INDONESIA

Ait Maryani and Dedy Kusnadi

Lecturer of Bogor Agricultural Extension Collage - Ministry of Agriculture Indonesia

ABSTRACT

The aim of this research was to analyze the role of progressive farmers in developing young agricultural actors, to analyze the dominant factors that influence the role of progressive farmers in developing young farmers, and to formulate strategies for the role of progressive farmers in developing young farmers. The study was conducted in Sukabumi from June to October 2017. The design of this study was quantitative research with survey approach. The study sample was 65 people from a population of 184 progressive farmers fostered by the Food Security Office of Sukabumi Regency. Samples were obtained through proportional random sampling technique. Data collection was done using interview guidance. Research variables consist of the characteristics of progressive farmers, community social capital, the role of progressive farmers and the growth of young farmers. This research data consists of primary data and secondary data. Data processing techniques using descriptive statistical analysis and path analysis. The results of the study show the role of progressive farmers as a whole in the category of being able to grow young farmers. Factors that have a strong influence on the implementation of the role of progressive farmers in providing guidance to young farmers are the internal characteristics of the progressive farmers themselves, namely the position in the farmer community, education, communication skills, ability to motivate and own a business in agriculture. The strategy of strengthening the role of progressive farmers is done through optimizing the characteristics of progressive farmers to organize extension from farmers to farmers.

Keywords: progressive farmers, young farmer, extension

1. INTRODUCTION

The role of extension agents is recognized as one of the drivers of progress in rural areas, although government extension agents are currently seen as merely a disseminators of technology and information. Ideally, agricultural extension agents are required more towards as motivators, dynamics, facilitators and consultants for farmers (Tjitropranoto 2003; Subejo 2009). Lippitt *et al.* (1958) and Rogers (2003) added that agricultural extension agents should be able to

diagnose problems faced by clients (farmers), establish and maintain relationships with farmer systems, strengthen adoption, and prevent the cessation of adoption.

Progressive farmers have advantages over government extension agents. Indraningsih *et al.* (2013) states progressive farmers can act as agricultural technical advocate, community mobilizers in the development of farmer organizations, reformers by introducing new commodities and businesses, as well as business people. Progressive farmers are better able to carry out participatory education because they live with farmers, able to organize the community because they are directly involved in many farmer organizations, act as stronger change agents because they have social capital, can be potential business agents and are able to teach technology and farming skills more precisely because they have technical knowledge from direct experience as farmers in the field (Syahyuti 2014). The other advantage of progressive farmer agent is the existence of more beliefs of the community to guide and convey information (Lukuyu *et al.* 2012; Samuel *et al.* 2012; Kiptot and Steven 2015). Such advantages of progressive farmers and the current condition of government agricultural extension agents are limited, thus progressive farmers can be an alternative to complement and strengthen their role as change agents in rural areas.

Progressive farmers have the ability to regenerate farmers in agricultural field. Haryanto (2016) and Anwarudin and Haryanto (2016) reported that progressive farmers can be good examples and motivators for young people to work in agriculture. On the other side, regeneration of agricultural actors is very important because the data shows that the portion of young farmers is much more low compared to older farmers. The Agricultural Census of 2013 (BPS 2014) shows that the portion of agricultural households by age group of farmers ages over 54, 35-54 and less than 35 years are 32.76%, 54.37% and 12.87%, respectively. Comparing BPS data for 2004 with 2014, over the past 10 years there has been a decline of almost 15% of farming households in agriculture. Thus if not addressed wisely, the result of BPS data will have an impact on the decline of the portion of farmers in Indonesia.

The aim of this research was to analyze the role of progressive farmers in developing young agricultural actors, to analyze the dominant factors that influence the role of progressive farmers in developing young farmers, and to formulate strategies for the role of progressive farmers in developing young farmers.

2. METHOD

The study was conducted in Sukabumi District. Research site was based on consideration of the number of active category of progressive farmers (Pusluhtan-Kementan 2017 data). Study was carried out from June to October 2017. The design of this study was quantitative research with

survey approaches that take data on a number of individuals representing the population. Based on the objectives, this research was an explanatory research to answer the interrelationship between variables. Population in this research was progressive farmers that assisted by Department of Food Security of Sukabumi District. Population size was based on data obtained from results of observation that is 184 people. Sample size obtained through proportional random sampling technique was 65 people. Data collection was performed using interview guidance. Research variables consisted of the characteristics of progressive farmers (X1) with position indicators are farmer group, education, communication ability, motivation ability, and having business in agriculture. Social capital of society (X2) are in the form of social network, values, and beliefs that facilitate coordination and cooperation to gain mutual benefits. The role of progressive farmers (Y1) developed into four indicators includes the role as technical assistant, community organizers of farmers organizations, information technology, and farmer trainers. The growth of young farmers (Y2) is detailed in three subvariables namely Motivation of the younger generation, Interests of the younger generation who have business in agriculture and action of the younger generation who have business agriculture field.

Instrument in this study was questionnaires that contain a list of statements. Variation of statement responses were analyzed using ordinal scale. Research instrument is in the form of a rating scale with the answers of 1, 2, 3 and 4, and guidance for in-depth interviews. In addition, data recording or documentation process used logbooks. Research instruments have passed the validity and reliability test performed by progressive farmers in Bogor district that was 30 people.

This research data consisted of primary and secondary data. Data processing techniques used descriptive statistic analysis and path analysis. For path analysis purposes, the primary data that is ordinal data is transformed into interval data through the MSI (Method of Successive Intervals) method. The research data that have met the analysis requirement are as follows: (1) all variables are interval scale, (2) the relationship pattern between the variables is linear, (3) the residual variables are not correlated with the previous variables and not correlate with each other (no autocorrelation occurs) and (4) the model is only directional. Normal and homogeneous distributed data and have passed analysis requirement such as (1) normality test, (2) homogeneity test, (3) linearity test and (4) autocorrelation test.

3. RESULTS AND DISCUSSION

3.1 Research Respondents

In general, the main research respondents were progressive farmers amounting to 65 people who have age distribution ranged from 29-60 years, thus it can be classified that the respondents are

in the adult group (early adulthood) who aged 18-30 years and middle adulthood who aged between 30 - 60 years (Havigurst, 1974). At these ages, it is usually someone in a relatively productive condition at work and looking for opportunities or information that are profitable for activities related to the improvement of welfare and self-prestige seeking which then ends with a sense of self-satisfaction for the success he gets.

The average education of respondent was dominated at senior high school level with dominant position beside progressive farmers was the head of farmer group. Agricultural technical training that has been followed so far is the Field School and Technical Cultivation with a range of training hours ranging from 0 to 112 hours. The training given to progressive farmers was still less in terms of the application of competence because the training hours were relatively short with a long experience in the farming (5-20 years), thus progressive farmers have enough competence to provide examples and assistance to the surrounding farmers.

3.2 The Role of Progressive Farmers in Developing Young Farmers

Progressive farmers have several roles in this research, namely as technical assistants, community organizers of farmer organizations, trainers, and technology and information transfer. The four roles of progressive farmers is a routine activity carried out by progressive farmers in Sukabumi District because in addition to being progressive farmers, they also have a quite good business or farming in the agricultural sector. More detail related to the results of data analysis of respondents to the elaboration in carrying out its role as progressive farmers as presented in Table 1.

Table 1: The role of progressive farmers

No	Description	Modus	Category
1	Technical assistant	4.0	High
2	Community organizer of farmer organization community	3.0	Middle
3	Trainer	2.0	Low
4	Transfer of technology and information	3.0	Middle

The result of data analysis of respondents showed that the role of progressive farmers as technical assistant was in the high category in assisting farmers in applying innovation related to rice cultivation process. These results support the research of Indraningsih *et al.* (2013) which revealed that the role of progressive farmers had a high determination particularly on the technical assistant. Its success in conducting farming is one of their abilities to solve problem in

farming so as to become technical facilitator who can understand the condition of farmers and things that should be done by farmers to overcome the problems related to the farming.

Another factor that causes technical assistants that only have a role well is the characteristics of young farmers who are interested in the agricultural sector in Sukabumi District which is illustrated from the results of data analysis taken from young farmers as beneficiaries of the presence of progressive farmers which is more interested in innovation related to the farm compared with other information. The low interest of young farmers to seriously work in the agricultural sector also has obstacles to the efforts of progressive farmers in providing training related to the application of new technology in the farming sector.

It also has implications for the two roles of progressive farmers, those are community farmer organizations and technology/information transfer which are in the medium category in agricultural extension activities. Both roles of progressive farmers can be played quite well because they have the ability to communicate well to the young farmers in explaining about any information obtained from the government extension agents and the offices that provide various information about farming activities.

Another role is as a farmer trainer which was still in the low category. The low role of the farmers trainers is due to the low capacity of progressive farmers in performing improvisation from every innovation and information technology that has been obtained first from researchers, extension agents and other stakeholders. Another factor that led to the low role as a trainer is the absence of activities scheduled by progressive farmers in providing extension activities because progressive farmers only follow the instructions from governmentt agricultural extension agents. The absence of progressive institutions as the place for young farmers to practice is also one of the less functioning roles as progressive farmers's trainer.

The results of this study is different from the research of Lukuyu *et al.* (2012) which reported that progressive farmers are very well involved as farmers' trainer so that the success of extension activities is longer and not limited to government programs. A research conducted by Indraningsih *et al.* (2013) in three provinces has been informed that the capacity of extension agents is relatively diverse, yet the mastery of the technical aspects quite is sufficient. Some progressive farmers got it for training from the Agricultural Training Center - Ministry of Agriculture, and partly got it from self-study from decades of experience in the fields. This condition is similar to the existing progressive farmers in Sukabumi district because technically they have an average ability in farming compared to other farmers, thus it can be an example of success for young farmers to be interested in working in the agricultural sector.

However technically, those progressive farmers have not been able to spread it massively to farmers, particularly to young farmers so that the role of progressive farmers is not optimal. This is also triggered by the division of extension roles that are still not clear in the field between progressive farmers and government agricultural extension agents. Generally, the role of progressive farmers is still limited to the farmers within the farmer group or the furthest is to fellow farmers in a village.

Based on these conditions, progressive farmers could be given an opportunity by the local government by establishing a clear division of tasks that can be more established in the guidance of young farmers, because currently progressive farmers better understand the needs perceived by young farmers compared to government agricultural extension agents. This is also expressed by Syahyuti (2014) where the advantages of progressive farmers compared to the government extension agents are as follows: more able to create a participatory education. This is because progressive farmers live among the farmers, directly understand the feelings and problems faced by farmers, become part of the spirit of the farmers, and participatively involved in agricultural activities in the community. Progressive farmers are “insiders” who no longer need to study farmer’s psychology and the sociology of rural communities.

3.3 The dominant factors influencing the role of progressive farmers in decveloping young farmers

Progressive farmers are considered to be very strategic because they have many advantages, including knowledge and stronger technological skills because they are direct actors in the field because they live everyday in the community, then progressive farmers are better able to create participatory education, better able to organize the community (community-organizing role), capable of becoming a more powerful, an have more value on the ownership of social capital.

According to Permentan Number 61/2008, it is mentioned that progressive farmers are the main actors who succeed in their business and other citizens who with their own consciousness willing and able to become extension agents. The position of progressive farmers is an extension partner of civil servants in conducting extension activities, either individually or in an integrated cooperation in agriculture extension program. The facts in the field showed that although the progressive farmers are well known to the farmers, yet the perception of progressive farmers is quite diverse. Various perceptions arise because of lack of clarity of the position of progressive farmers in carrying out their duties and functions.

Result of factor analysis influencing the role of progressive farmers in developing young farmers as showed by data processing using SPSS to obtain the value of R^2 (R square) and ρ (Standardized Coefficient/Path Coefficient is presented in Table 2.

Table 2: The results of statistical analysis of factors influencing the role of progressive farmers in developing young farmers

Variable	Value	.p-value	Description
R square	0.604		Residu 0.62 atau 62%
Path coefficient X ₁ with Y ₁	0.461	0.022	p-value is smaller than α (0.05) thus the path coefficient is significant
Path coefficient X ₂ with Y ₁	0.096	0.036	p-value is smaller than α (0.05) so the path coefficient is significant

Description:

X₁ : Characteristics of progressive farmers

X₂ : Social capital

Y₁ : The role of of Progressive Farmers

Table 2 shows that Model $Y_1 = 0.461X_1 + 0.096X_2 + \epsilon$ is significant because p-value is smaller than α 0.05 which means that the hypothesis concerning the characteristics of progressive farmers and social capital has significant effect simultaneously on their role. This proves that in fact the role of progressive farmers in providing information, technical support and farmer group drivers for young farmers to be interested in working steadily in the agricultural sector has done well. Young farmers have been able to understand the differences in roles performed by a person who is a progressive farmer in carrying out his role as the head of farmer groups or community leaders or progressive farmers as reported by Anwarudin and Haryanto (2018a) and Anwarudin and Haryanto (2018b).

Results of this study is different from Riana *et al.* (2015) who considered the extension agents are only limited as the group leader who can provide solutions to problems faced by farmers as members of farmers group even though the role played at the time was as a progressive farmer. The head of farmer groups who become progressive farmer is often misinterpreted by members of his farmer group, particularly when the progressive farmers and government extension agents performing extension activities together.

Nevertheless, progressive farmers from the head of the farmer group are recognized to have the advantage of organizing and mobilizing their community members to apply innovation in their farming. This is in accordance with the results obtained by Indraningsih *et al.* (2010) where the head of farmer groups who are appointed as progressive farmers generally have higher education, higher social status in communities, have intensive interaction with their environment and be able to create new initiatives in their community.

The role of progressive farmers at the research sites was generally prominent in their role in assisting young farmers, while other roles were in the medium and low categories. The high role

in assisting the farming technique is due to long experience gained by progressive farmer in farming and a relatively higher social status compared to other farmers, while for other things was still low, particularly in terms of understanding of extension.

Therefore, effort to increase the capacity of progressive farmers is one of the alternative problem solvings so that other roles can be done optimally, thus young farmers can be well developed. This is reinforced by interviews to some respondents who indicated that if these progressive farmers are enhanced in terms of extension methodology and given greater role than government extension agent, then young farmers have companion and partners who understand the needs and problems faced. Furthermore, the influence of the characteristics of progressive farmers, social capital and their role on the growth of young farmers is presented in Table 3.

Table 3: Results of the analysis of the path of progressive farmers characteristics, social capital and the role of progressive farmers in developing young farmers

Variable	Value	.p-value	Description
R square	0.702	-	Residual of 0.54 or 54%
Path coefficient X ₁ with Y ₁	0.124	0.020	p-value is less than α (0.05), thus the path coefficient is significant
Path coefficient X ₂ with Y ₂	0.027	0.226	p-value is greater than α (0.05), thus the path coefficient is not significant
Path coefficient Y ₁ with Y ₂	0.458	0.032	p-value is smaller than α (0.05), thus the path coefficient is significant

Description:

X₁ : Characteristics of progressive farmers, X₂ : Social capital

Y₁ : The role of progressive farmers, Y₂ : The growth of progressive farmers

Table 3 shows that X₂ is significant because there is one variable which have a p-value greater than α . It shows that only social capital has no direct influence on the growth of young farmers. In order to develop the process, social capital can be established through the role of progressive farmers as a path of indirect effect. This indicates that to grow young farmers, it needs strong roles from progressive farmers. The main roles are by providing market information, broadening agribusiness insights and access that can not be obtained by young farmers in the study sites. Direct and indirect effects of each variable on the development of young farmers are illustrated in Figure 1.

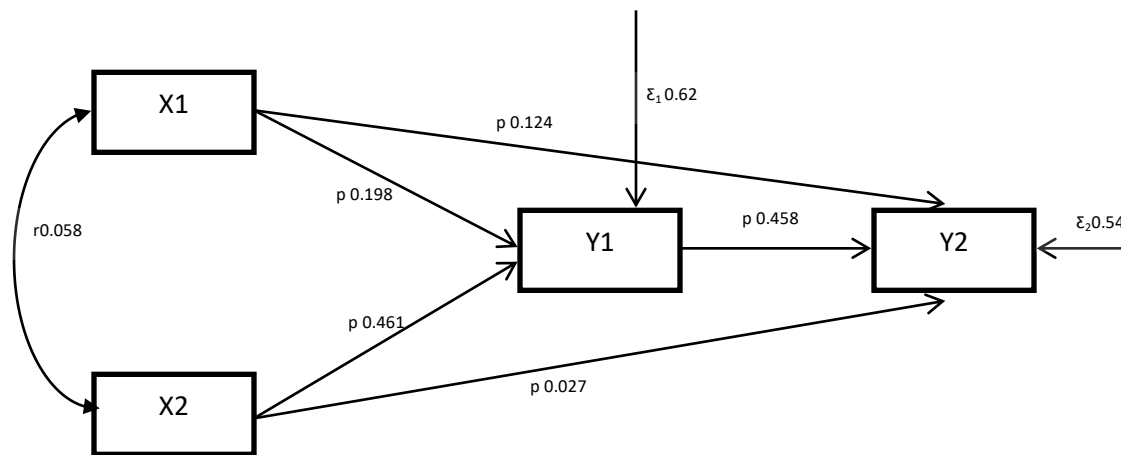


Figure 1: The path chart of statistical analysis

Figure 1 presents how great the influence of each variable on the development of young farmers as presented is Table 4.

Table 4: The value of direct and indirect effects of each variable

Description	Direct Effect	Indirect Effect	Total Effect
Effect from X ₁ to Y ₂	0.124	Through Y ₁ 0.198 + 0.458 = 0.656	0.780
Effect from X ₂ to Y ₂	-	Through Y ₁ 0.198 + 0.458 = 0.656	0.656
Effect from Y ₁ to Y ₂	0.458	-	0.458

The result of path analysis showed that social capital (X₂) has no direct effect on the development of young farmers (Y₂). While the other two variables influence and have a direct path on development of young farmers. This is in line with the results of the first study where the role of progressive farmers has a good strength in encouraging farmers to be independent because of the limited competitiveness of the farmers themselves.

Internal characteristics (X₁) of progressive farmers (positions in farmer groups, education, communication skills, motivating ability and business in agriculture) were strong enough to directly influence young farmers in this study. This reinforces the results of Lukuyu *et al.* (2012); Samuel *et al.* (2012); and Kiptot *et al.* (2014) which reported that the advantage of progressive farmers is more on the trust from the community due to the role as a community figure who

always imitated and respected for every attitude and decision; until the dissemination process of technological innovation and farmer learning system tend to be more smoothly and sustainably (Lukuyu *et al.*, 2012).

3.4 The Role of Progressive Farmers in Developing Young Farmers

The biggest challenge of extension activities currently is the effort to integrate extension managed by government based on the needs of the community itself. Extension based on the needs of the community can be managed by progressive farmers. The strong internal characteristics have been shown to have a positive influence on the interest of young people to work in the agricultural sector, particularly in the research sites. This is consistent with revealed by Syahyuti (2014) that farmers have more control to determine what kind of information they need and what kind of sources that have a similar perception with themselves so that extension is more like a demand-pull than science-push.

The sources of information that most understand young farmers themselves may come from progressive farmers. This is done because the results show that out of the four roles (technical assistants, community mobilizers, trainers and technology transfer), only one role has been good, while the other three roles still need to be trained both formally and informally, government institutions (education and training institutions) need to provide simultaneous training opportunities so that progressive farmers can better understand and improve their abilities and competencies.

In addition to extension agent's assistant, progressive farmers also become active actors in the concept of farmer to farmer learning. Conceptually, this approach is believed to be more effective. Interpersonal communication is expected to be more effective, because fellow farmers have similarity of language, perception to problem, and problem solving method. Empathy, as one of the requirements of communication, will be more assured. Based on the description, the model of strengthening the role of progressive farmers is presented as in Figure 2.

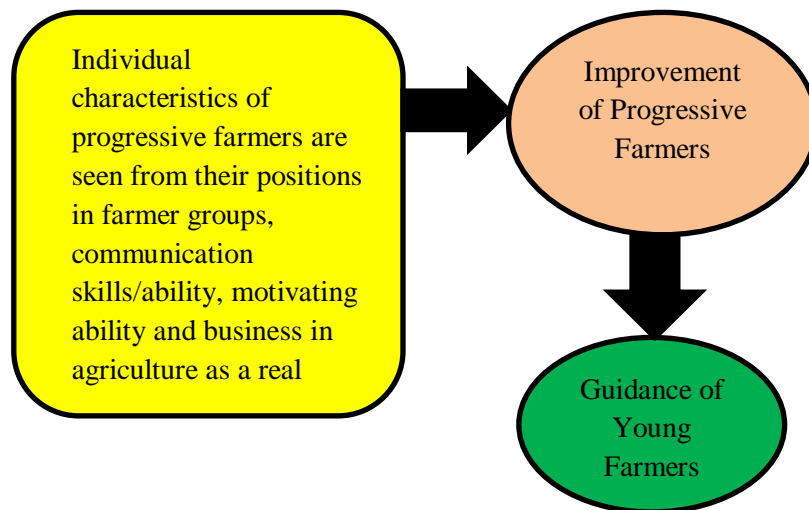


Figure 2: Model of strengthening the role of Progressive Farmers for Young Farmers Development

One side of the new paradigm of extension is participatory extension, not a same direction extension. Extension workers should be able to live among farmers and present in the spirit of farmers as well as involved in farmer activities. Thus, the extension agent not only gives cultivation theory as well as pest and plant diseases problem, but also must be able to open and strengthen farmers to work.

It in this context, the position of progressive farmers is appropriate as a member of his own long-known community, progressive farmers are better able to encourage participation of young farmers. Participation is a process of growing awareness of interconnectivity among different stakeholders in society, namely between social groups and communities with policy makers and other service institutions. Progressive farmers become actors in participatory development. In participation, progressive farmers can play an active role, have control over the lives of their own communities, play roles in society, and become more involved in development

The operational steps of strengthening the role of progressive farmers to be able to become young farmer trainers are as follows:

1. Preparing strategic learning location in the young farmer's environment, so that young farmers and progressive farmers can review and solve the problems faced together.
2. Improving the ability to motivate and mobilize farmer organizations through involvement of district extension institutions in the preparation of education planning and development, training of agricultural extension agents.

3. Providing allocation of financing for agricultural technology testing activities at farming sites so that progressive farmers and farmers can learn together independently with progressive farmers as facilitators.

4. CONCLUSION

1. Overall, the roles of progressive farmers are in the middle category to develop young farmers. The roles include four components: technical assistants, community organizers of farmers' organizations, and information technology transfers. Out of the four components, technical assistants show a high role in assisting young farmers in their farming.
2. Factors that have a strong influence on the implementation of the role of progressive farmers in conducting guidance to young farmers is internal characteristics of progressive farmers including the position in the farmer group, education, communication skills, motivating ability and having a business in agricultural sector.
3. Strategy of strengthening the role of progressive farmers is done through optimizing the characteristics of progressive farmers to conduct extension from farmers to farmers.

REFERENCES

1. Anwarudin O, Haryanto Y. 2016. Peran Penyuluh Pertanian Swadaya dalam Memotivasi Generasi Muda Pelaku Pertanian. [Laporan Penelitian]. Bogor (ID): Sekolah Tinggi Penyuluhan Pertanian (STPP) Bogor.
2. Anwarudin O, Haryanto Y. 2018a. The role of farmer to farmer extension as a motivator for the agriculture young generation. *International Journal of Social Science and Economic Research*. 03(1): 428-437.
3. Anwarudin O, Haryanto Y. 2018b. Strategi akselerasi regenerasi petani melalui peran penyuluh swadaya. *Jurnal Teknologi*. 2018(1):
4. [BPS] Badan Pusat Statistik. 2004. Hasil Sensus Pertanian 2003. Jakarta (ID): BPS.
5. [BPS] Badan Pusat Statistik. 2014. Hasil Sensus Pertanian 2013. Jakarta (ID): BPS.
6. Haryanto Y. 2016. Peran penyuluh swadaya dalam kemandirian petani padi di Kabupaten Bogor. [Laporan Penelitian]. Bogor: STPP Bogor.
7. Indraningsih KS, Ginting BS, Tjitropranoto P, Asngari P, Wijayanto H. 2010. Kinerja penyuluh dan perspektif petani dan eksistensi penyuluh swadaya sebagai pendamping penyuluh pertanian. *Jurnal Analisis Kebijakan Pertanian*. 8(4):303-321.
8. Indraningsih KS, Syahyuti, Sunarsih, Ar-Rozi AM, SriS, dan Sugiarto. 2013. Peran Penyuluh Swadaya Dalam Implementasi Undang–Undang Sistem Penyuluhan Pertanian. Laporan Penelitian Pusat Sosial Ekonomi dan Kebijakan Pertanian, Bogor (ID). Badan Litbang Pertanian.

9. Kiptot E and Steven F. 2014. Voluntarism as an investment in human, social and financial capital: Evidence from a farmer-to-farmer extension program in Kenya. *Journal Agriculture and Human Values*. 31(2):231-243.
10. Lippitt R, Watson J, Westley B. 1958. *Planned Change: A Comparative Study of Principles and Techniques*. New York (US): Harcourt, Brace & World, Inc.
11. Lukuyu BF, Place SF., Kiptot E. 2012. Disseminating improved practices: Are Volunteer Farmer Trainers Effective. *The Journal of Agricultural Education and Extension*. 18(5).525-540.
12. Pusluhtan Kementerian Pertanian. 2017. Simluhtan: Data Penyuluh. <https://app2.pertanian.go.id/simluh2014/> diakses tanggal 4 Maret 2016.
13. Riana, Purnaningsih N, Satria A. 2015. Peranan penyuluh swadaya dalam mendukung intensifikasi kakao di Kabupaten Sigi Provinsi Sulawesi Tengah. *Jurnal Penyuluhan IPB*. 11(2): 201-211.
14. Rogers EM. 2003. *Diffusion of Innovations*. Fifth Edition. New York (US): The Free Pr.
15. Samuel ZB, Alfred K and Jasaw GS. 2012. Promoting community-based extension agents as an alternative approach to formal agricultural extension service delivery in Northern Ghana. *Asian Journal of Agriculture and Rural Development*. 2(1): 76-95.
16. Subejo. 2009. *Revolusi Hijau dan Penyuluhan Pertanian*. Tokyo: Indonesian Agricultural Sciences Association. <http://www.iasa-pusat.org/artikel/revolusi-hijau-danpenyuluhan-pertanian.html> [14 Sept 2016].
17. Syahyuti. 2014. Peran Strategis Penyuluh Swadaya dalam Paradigma Baru Penyuluhan Pertanian Indonesia. *Forum Agro Ekonomi*. 32(1).43-58.
18. Tjitropranoto P. 2003. *Penyuluh Pertanian: Masa Kini dan Masa Depan*. Membentuk Pola Perilaku Manusia Pembangunan. Bogor (ID): IPB Press.