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Analysis of Communication Networks among Farmers Group Markets in Benteng Village West Java Indonesia

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Abstract:

This study reviews analysis of communication networks among farmers groups by focusing on farmers group markets, which "keystones" for local marketing systems. Through which farmers can make their products more visible in public places, therefore, we find that farmers markets encourage the production of a greater diversity of agricultural products, which would be needed for a more food system for the local community. This study was conducted on Gapoktan Benteng in Benteng Village, West Java Indonesia. (Gapoktan) means combining of farmers groups is one of the government's programs to resolve the problems of production in farmers' groups. This study aimed to describe the role of communication networks among farmers group markets, and to analyze the relationship of communication networks among farmers. This study was conducted by utilizing qualitative and quantitative methods through semi-structured questionnaire and interviews for all farmers' groups members in Benteng Village (N=107). Furthermore, the data were analyzed through statistical analysis (SPSS), sociometric, and analysis of social networks (UCINET). At the end of this study, findings revealed that, Gapoktan members have been participating in all agricultural activities organized by Gapoktan, such as rice fields, vegetable farming, and fish farms, in addition, there are some restrictions on the farmers marketing to their products, such as compulsory sale of farmers products to crops collectors. The farmers do not have any communication with Customers, majority of them prefer to sell their products directly by themselves. But in general, farmers have a positive impression of marketing with crops collectors, because it is fast and available in time, and reduce the loss of perishable crops. There was also a consensus among all farmers' groups to improve market access which will stimulate them to increase the production, and thus improve their daily income. The results also were contradictory to that of some previous studies which emphasized that the distance variable was strong, affecting farmers' decisions to participate in the marketing process. Similarly, transport costs have had a negative impact, but not a barrier to farmers' participation in marketing channels. This is due to the fact that the groups of farmers in the Benteng village have relatively good marketing methods and appropriate public transportation, which makes it easier for farmers to contact the markets in Bogor city, including supermarkets.

Keywords: Agricultural marketing, communication networks, farmers' group, market efficiency

1. Introduction

The study reviews analysis of communication networks among farmers groups by focusing on farmers group markets, which "keystones" for local marketing systems. Through which farmers can make their products more visible in public places, therefore, we find that farmers markets encourage the production of a greater diversity of agricultural products, which would be needed for a more food system for the local community. This greater diversity attracts a greater of farmers to join to farmers group in Benteng Village as well as helping to strengthen local farm operations. Approximately 107 people are engaged in farmers group in Benteng Village represented by Gapoktan. In this research, the marketing was identified in farmers groups with a view to analysis the relationship of communication networks in the marketing of farmers products and

the relationship of farmers' networks to the agricultural marketing (Brown and Miller 2008). Also, the study was a focus on farmers interested in increasing their incomes through improving their market skills, regardless of the group's original focus.

The farmers' group market in this study is how farmers' products are marketed directly to consumers, supermarkets, and traditional markets, or sold to collectors of products from Gapoktan. The crop collectors are traders who buy or collect agricultural commodities from producers and then market them to the large markets, the collectors usually exist in each group, the main feature of collective marketing is that it creates a level playing field for negotiation between producers and buyers. Together, farmers work as one bloc and speak with one voice to negotiate a fair price for their products.

Farmers Group markets in Benteng Village are characterized by a myriad of constraints, among them, being very long chains of the transaction between the farmer and collectors of products; poor access to reliable and timely market information, and poorly structured and inefficient markets. This has resulted in wastage of produce and low prices to products of farmers Groups. Lack of appropriate and relevant markets information to all markets actors leads to distrust and therefore sometimes dishonesty between farmers and crop collectors. Under such circumstances, questionable intermediary actors have boomed and further damaged the trust relationships required for efficient and profitable marketing among farmers groups, on the level of marketing channels that including, poultry marketing, rice marketing, and fishing marketing.

The good cooperation supports agribusiness development and productivity improvement. On the contrast, the poor working relationship among farmers in Gapoktan it can be hindered the development of agriculture. The relationship of cooperation that exists among members of Gapoktan can be observed from the quality and quantity of communication that can be observed through communication networks analysis. A number of studies on communication networks have been done by previous researchers. One of them is the result of research conducted by (Demiryurek 2010), which was about the communication network of organic and conventional hazelnut producers in Samsun Province of Turkey, the communication networks in above study are used to see the strengths and weaknesses in a system comparing two groups of organic candlenut producers with conventional farmers. nevertheless, therefore, one of the objectives of this study was analyzes the role of communication networks in the development of farmers group market in Benteng village. Farmers group markets evidence shows, that combined market is weak and unprofitable, efforts should be concentrated on developing the traditional markets rather than the in-combined market. Therefore, it is better for farmers to sell their products in the market or supermarket and get a better return. a significant growth in farmers markets across Gapoktan and the development of trust is a very important relationship between the producer and the consumer. the farmers feel that sale direct in local markets to the consumers is based on the fact that, consumers buy the farmer products because they realize these products are better (cheap and fresh) and that will ensure a strong mutually beneficial relationship between each other (Zagata 2012). In contrast to the results of a number of previous studies in Benteng area, this study focused on the role of communication networks in the development of farmers group markets carried out by Gapoktan, which has been identified through a unit of individuals analysis. therefore, this study aims to (1). To describe communication networks among farmers groups markets in Benteng Village; (2). Analysis the relationship of communication networks to the marketing of farmer's products and the relationship of farmers' networks to the agricultural marketing; (3). Describe the communication network formed among farmer groups in Benteng village.

2. Methodology

The study was conducted in Benteng Village, Bogor Regency, West Java, Indonesia. the descriptive method was used in This study by combining two methods namely quantitative and qualitative methods. The mixed method that used in this study refers to a method of concurrent research by collecting quantitative data and qualitative data at the same a time, then combining both to can better understand the study problem (Landini et al. 2017). The purpose of this mixed method was to analyze the communication networks among farmers groups that affect the sustainable agriculture in Benteng Village. Based on the study objectives, in the first phase, the research hypothesis explains the relationship of variable characteristics of individual resources with communication networks at the individual level (interpersonal communication networks). Furthermore, in the second phase, describes the relationship of group characteristics with communication networks at the group level. In the next stage of the third stage, describes the effect of communication networks and its effects on farmer's group markets

2.1. Overview of Study Location

Benteng Village is one of Villages located in District Ciampea Bogor Regency Indonesia with 248,5 Ha area, Land 252.5 Ha, with total RT 40 RT (Rukun Tetangga) and 7 RW (Citizens Association). Borders of Benteng Village are: in Northside located Ranca Bungur Village, Eastside, Dramaga IPB Campus, Southside Bojong Rangkas and Cibanteng Village and Westside: Ciampea Village. the distance to Bogor City 40 km, while the distance to the Capital of West Java Province 133 km and to Jakarta 60 km. Geographically Benteng Village is located in the Agricultural area with average daily temperature 30-40 ° C, the climate as other villages in countryside of Indonesia, in the Tropics have drought and rainy climate, it has an influence directly to the existing cropping pattern in Benteng Village and the climate of area is very influential in its main life for the growth of crops and the survival of livestock. In addition, the geographical condition of Benteng Village is generally an agricultural area.

The farmers' groups in Benteng Village were formed in May 1998, it consists of three groups Sepakat group, Tani Asih group and Mekar Tani, each group has 35-37 members. The Sepakat groups are located in Kampung Gunung Leutik Semper, a distance to Benteng Village around 2 km, and 40 km from Bogor city. Tani Asih is located in Kampung Gunung Leutik, the distance from the field of farmers group to Benteng Village around 4 km, and 40 km from Bogor city. while Mekar Tani group located in kampung Pabuaran Sawah, it's distance to Benteng Village around 5 km, and 40 km to Bogor city. Each group has a total area of 57- 80 hectares. the farmers have utilized their land for various activities such as agriculture, poultry, and fishery. Agricultural activities are through the planting of rice, vegetables, and corn. Plantation activities include planting of tubers, crops, and fruits. Forestry activities include planting to marketing forest products through stands of sengon forest and a few mahogany trees. Other activities include livestock and fisheries which include breeding activities as well as fattening goats and cattle. In fishery activities, the types of fish that are kept are catfish, indigo, and mujair. Commodities in Benteng Village differentiated by type, namely: (1) food crops and horticulture, (2) plant commodity, (3) livestock commodity. Horticultural crops are the best in the Benteng compared to other crops. Superior horticulture are potatoes, beans, carrots, cabbage/lettuce, tomato, red pepper, and red onion. Livestock commodities consist of a dairy farm, chickens, sheep, goats, ducks. Several types of cultivated crops are rice, corn, cassava, sweet potatoes, peanuts, and red beans. The highest production of food crops is rice, while the second highest is paddy vegetables.

3. Results and Discussion

3.1. Individual Characteristics of Respondents

Referring to the characteristics of farmers, there is a significant difference in the individual characteristics among the members of farmers' groups in Benteng Village, where each member has different personal characteristics from the other. As referred to earlier research results such as those conducted by (Ghafoor et al. 2013), (Saleh 2006) (Landini et al. 2017), which mostly indicate the relationship between individual characteristics with marketing in communicating and forming the communication network. There are four characteristics of the variables discussed in this study include (1). Age; (2). The level of education of farmers; (3). working status; (4). business experience.

Based on the survey of farmers groups, it shows that there is no difference among members of farmers groups in Benteng Village in terms of individual resource characteristics, especially in terms of age and level of education. where aged 30 - 69, while the education level is mostly primary school graduates. In the work type, we find three groups are, Mekar Tani group, Sepakat group, Tani asih, where the study shows that the majority of members work (job) as farmers. As for the state of work, the study showed no differences among members of farmers groups. All respondents are members of Gapoktan and 80% of them had low income, construction workers, and domestic assistants.

The age measurement was done for respondents using their long lives up to the time of research. The composition age-group members are the majority of those classified as middle-aged (43-56 years) with a percentage of about 58%, while the percentage of members who are classified in young is 21% and old by 28%. The study showed that the age group (43-55) years, is the most effective and productive, having already gained experience in earlier years before to their 40s, they are at the stage where they can easy to recognize what works and what does not work. Due to their ability to do labour manually, farmers in this age head for to hire farm workers to perform tasks laborious farming (Torres et al. 2013).

Also, the study shows that the percentage of younger members is only 21%, This indicates that young people in Benteng Village prefer to work in sectors other than agriculture. In addition, the interested of young people in the agriculture is low, taking into consideration the location of Benteng Village in urban areas also to change the views of young people not to work in the agricultural sector, because the agriculture is laborious work and does not earn much of money, due to the narrow area of agricultural land in the village of Benteng. As expressed by a number of young farmers as well as heads of farmers' groups.

The education level of farmers Group in Benteng Village in this study was measured by formal education level based on received, including elementary, junior high, high school, and university/academy in addition to nonformal education such as training, courses, apprenticeship education, and etc. Based on the education level, more than half of Gapoktan members, which is about 55% of members, are whose education level is low. In other words, the majority of Gapoktan members are graduates of the elementary school, and some members are not educated. 28% of members are graduates of High School, while there are 17% of respondents have earned an undergraduate and master's degree. It appears that the education level in Benteng village is weak based on the views of the respondents, which are mostly concentrated in primary and secondary school. This is related to the fact that most members of farmers' groups belong to the category of poor families who are unable to access higher education.

Working status and business experience, which are often low, they seem to be related to the type of work of the majority members working as farmers, about 65% working as agricultural workers and construction workers, while the percentage of members working in the fishery by 25% and 10% of respondents in other occupations. In the researcher's view, Gapoktan members did not work in other Jobs than agriculture because of the low level of education among farmers groups in Benteng Village, as well as less of opportunities jobs and lack of skills of farmers.

The Farmers groups received of training courses to improve the production of rice and maize, through Agriculture Training Program an SLPTT 2011, UPSUS 2017, to gain hands-on experience in rice fields and field crops and most efficient

harvesting methods, to enhance the capacity of farmers in Benteng Village to communicate with the knowledge, and institutions necessary to improve their productivity. The study referred that Gapoktan farmers did not receive any training courses in the agricultural marketing, so the researcher suggests to the Gapoktan allow farmers to market their products and train them about agriculture marketing to develop the art of marketing and bargaining during direct marketing because it is biggest challenges for farmers Groups in Benteng Village. farmers would like to improve their output or the quality of their products, but they need a way to sell their products and to increase profits. The researcher also suggests establishing links for marketing and agricultural processing among farmers' groups in Benteng village, and local markets To avoid loss products which fast damage.

3.2. Characteristics of Farming

Describes the characteristics of farming business run by members of Gapoktan, which that include, (1) the period of the member in farmers group, the person's time period is calculated by when was joining to group and until time interview is conducted, (2) land ownership is area of land that owned by respondents which used for farming and land that tenant by the farmer, (3) a frequency of interaction is communication and interact the farmer with his group members and with members of others groups to exchange information about marketing and create cooperation to work together. The study of characteristics of farming business is important for farmers groups in Benteng Village because it's closely related to the development of small-scale productive works for farmers and poor farming families. In other words, the ownership of a business, especially an agribusiness is a prerequisite for getting the support fund of Gapoktan in relation to them, so, it's important to study the characteristics of farming to Gapoktan members in Benteng Village.

The Period of Members in Gapoktan: Viewed from the percentage as a whole, the period of the members running the farming business in farmers groups is divided into three categories which include: (1) Low, if the member runs the business 10 years to less than 15 years, (2) middle, if the Gapoktan members have run the business for 15 years, (3) is high, 20 years and above. Based on the field study of the farmers' groups, the study showed that all the Gapoktan members run the agricultural work and they have a good experience, where they run the farming business at farmers groups for 10 years and above to 20 years. where the period of members who have been running the farming business for more than 15 years about 67%, While the members who joined newly 10 years ago about 33% of the members of the farmers' groups of Benteng Village.

The survey results of all members Gapoktan showed that 55% of the allocation of Gapoktan funds has been well targeted in agricultural production such as capital for land leasing, fertilization, seeds and other production costs, The other 18% it's used for farming businesses such as processing of agricultural products, shops prepare and marketing products. on the other hand, there is still 27% of members who have not used Gapoktan funds for business, most of them use Gapoktan funds for daily needs.

The results of the study indicate the Gapoktan need to build the capacity of leadership among farmers groups and future leaders through educational programs aimed at improving management of farming business. the level of performance of farmer groups needs to be developed, as well as the monitoring of the funding needs to be given priority attention. Also, the results showed that the performance of the Gapoktan administration is much lower in terms of controlling the funding granted to farmers.

Farm Size and Frequency of Respondents: most of the farmers in Benteng Village have an area of a quarter to half hectares of arable (68% of respondents), while 24% have an area from 1/2 -1ha. Most of the farmer's groups (92%) with an area 0.5 -1 ha. The rest, 8% of the farmers own of area land more than a hectare. It shows most of the farmer's group in Benteng tend to have a wide area because the farmers already have a large enough consumer demand and their need to increase their daily income but the rent of land is expensive due to the lack of farm space in Benteng Village.

The study indicated the value of social interactions among farmer groups of gapoktan members in order to access knowledge and information related to the marketing of their products and farming business development. Better participation by members in all farm activities has changed the marketing and purchasing power of farmers' groups, thus, however, access to agricultural inputs such as fertilizers and improved seeds. Therefore, the study showed a positive relationship between the frequency of interaction among farmers' groups and Gapoktan members who have better access to markets and an opportunity to search for agricultural information to develop their farming business. This situation enabled farmers to share the new information among all farmers including those who have not an ability to obtain good marketing of their products. As the distance between the markets increased, the farmer's groups suffer transportation costs, therefore, the farmer's selling their products to the crop collectors Gapoktan.

4. Results and Discssion

4.1. Sociometry of Communication Network

Describes the communication networks that occur in the pattern of interaction among farmers groups that formed among individuals in a system. Through the analysis of communication networks can be identified communication structure that is formed and how individuals can communicate with other farmers, furthermore can be identified also the influence of connectedness of individual behaviour of farmers on the marketing their products. and thus, the analysis of communication networks was conducted in farmers groups markets in Benteng Village, further identified the structure of networks, and

communication structure that has been formed, and effect role of the communication network on the individuals and for the performance of Gapoktan members. As described earlier, the communication network analysis in this study was conducted on Gapoktan members in Benteng Village, which consists of 107 farmers spread into three groups, which in this study was identified as a click within a Gapoktan system. In other words, this click is formed because formally the individual is a member of farmer group. Before conducting a sociometric analysis, all individuals in the farmer's network are coded in numbers ranging from one to 107.

Analysis of communication networks among farmers' groups in Benteng Village aims in this paragraph to know how to manage direct community assistance funds (DCAF) that farmers got from the Gapoktan program of the Ministry of Agriculture. The DCAF Fund is a highly effective stimulating to Gapoktan members who were not enthusiastic to join of agricultural activities. also, the analysis of the communications network in this paper aims at determining the structure of communications formed among farmers and analyzing the effects of the network on the change in the individual behaviour of Gapoktan members and then its effect on the marketing of farmers' products.

Sociogram in the following figure 1 illustrates the pattern of interactions that occur among members of farmers Gapoktan Benteng. Based on the image of the sociogram, it is seen that the network structure that is formed is central because there are individuals who are in the center of the network. The centralized network structure is called DeVito (1997) as a wheel structure. this wheel network structure is a highly centralized pattern, superior to routine tasks that can accept a number of errors.

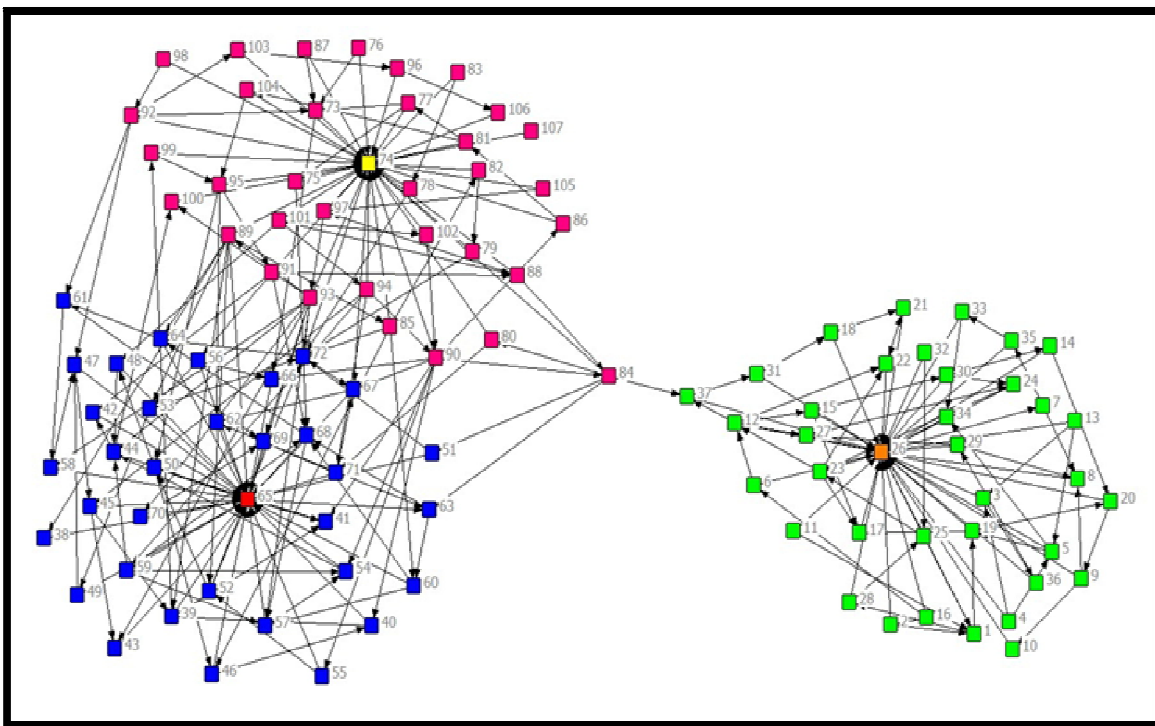


Figure 1: Sociogram Analysis of Communication Networks among Gapoktan Farmer in Benteng Village

Fig 1: Sociogram analysis of communication networks among Gapoktan farmer in Benteng Village. Referring to the sociogram shown above, it divided into six different colours to see the distribution of Gapoktan members based on farmer groups. it appears that the centralized communications network occurred in three groups, is Mekar Tani group, Sepakat group, Tani asih group and while three colours indicate to star of each group, while, the sociogram showed the members of Mekar Tani group communicate just with the members of their group and there member node 37 that communicates with members of others group as well as the head of the group and connected with node 84 from Tani Asih groups, in this case, the node 37 represents a bridge between Mekar Tani group and with members of other farmers groups. In sociogram of the Gapoktan communication network, can also be identified individuals who are in the core network and individuals who are on the periphery.

Individuals can be classified based on the status of the network structure to identify the members of the gaps who have a relatively dominant role in the communication network that is formed among farmers groups. In other words, members of the core network have more relations, because the initial doubts show that the members who are at the core of the network are individuals with a special status and a special role in Gapoktan network either as Gapoktan board or administration. Referring to Rogers and Kincaid (1981), that one function of analysis of communication networks can identify

individuals with special roles within the network. In this regard, the following will be described a number of special roles owned by farmers Gapoktan Benteng in the channel of the communication network and management of funds.

4.2. Opinion Leader

From the sociogram 1 above, it can be identified that individuals who have the greatest number of bonds are individuals at nodes 26, 65 and 74. These three individuals are the most bonded members in the network as they relate to their position and role in Gapoktan farmers in Benteng Village, among others, node 26 Mr. M. Ansar, who is the main actors in the distribution of funds and head of Mekar Tani group. The node 65 namely Mr. Adih who is the head of the group Sepakat as well as coordinator of Gapoktan for all farmers groups in Benteng Village. The node 74, Mr. Saifudin is the head of Tani Asih groups as well as the treasurer of funds. With regard to the position of these three nodes that have an important role in Gapoktan, these three nodes can be considered opinion leaders in the network Gapoktan especially with regard to the distribution and management of rural agricultural business fund development. The opinion leader function in the network Gapoktan, among others, as the first person, to receives information regarding the development of rural agribusiness then to submit to all members of farmers groups Gapoktan. In other words, both of Mr. M. Ansar, Mr. Adih, and Mr. Saufudin can be regarded as the main source of information, particularly in matters relating to funding.

4.3. Star

As with opinion leaders, the star is also identified through the number of nodes owned by individuals have in the network. In other words, the star is identified as an individual with the most frequent communication intensity. with regard to, the Gapoktan members nodes 26,65 and 74 are acts as stars in the network in farmers groups. These individuals are the most popular members of the Farmer groups because they are heads of groups. The most popular individual who acts as a star can also be identified through the degree of centrality he possesses. Relationship of Individual Resources Characteristics for Farmers and Communication Network)

This paragraph describes the results of the correlation test among variables that were made by SPSS 20. Previously, the data was presented in the crosstable. The purpose of the correlation test is intended to see the tendency of relationships among variables to be reinforced by statistical test results (Rank Spearman correlation test).

The characteristics of individual resources are thought to be related to the communication process, Therefore, the communication network formed among individuals influenced also by the characteristics possessed by each individual. The characteristics of individual resources as mentioned previously include age, education level, working status and business experience. The data was tested regarding the relationship of individual resource characteristics to the degree of centrality. Based on the results, can be seen that the age of gapoktan majority members is classified into medium category i.e. middle age with vulnerable age ranged from 40 to 55 years. The percentage of farmers Gapoktan included in this category that is equal to 65 percent. At the same time, various things appear in a central degree of the individual that most gapoktan members fall into the low category with 69%.

Statistically, the results showed that there was a significant correlation at the level 10% of the respondents with the communication networks and the value of -0.186, This shows that the older a person, the less he or she will be interested in communication networks. As for the value of engagement at the education level, the business experience also has a negative value. So, the higher education level or business experience is lower in a level of interest in communication networks. While in the case of working status, there is great value 0.107 where the value less than 0.10 so that it can be said that a different task state is not related to communication networks. The purpose of the presentation of the relationship test is intended to see the tendency of relationships among characteristics of individual resources and communication network. The characteristics of individual resources are thought to be related to the communication process.

The third hypothesis is that communications networks analysis is related to changes in individual behavior at the level of farmers' marketing channels (size, wide-marketing). Characteristics of farmers will greatly determine the level of knowledge and actions of farmers about agricultural information such as marketing information. Individual characteristics in question are age, education, working status, business experience in farming. The relationship of communication networks with marketing behavior can be seen in Table 1

Spearman's rho	Correlations		Y1	Y2
	Y1	Correlation Coefficient	1	0.035
		Sig. (2-tailed)	.	0.721
		N	107	107
	Y2	Correlation Coefficient	0.035	1
		Sig. (2-tailed)	0.721	.
		N	107	107

Table 1

The statistic result says that the correlation between communication network (Y1) and marketing (Y2) is not real because of the significant value. from $0.688 < 0.10$. But seen in the coefficient of 0.039 indicates that the higher the communication ratio among farmers the higher the marketing.

Therefore, the formal education of the person has a significant impact on the level of the person's understanding of something or problems, especially to agricultural information. the education level of respondents affects their understanding in terms of agricultural marketing. Respondents who are highly educated are relatively quick to receive information so that their knowledge is improved and relatively more responsive to act in accordance with the information they receive. Conversely, respondents who have less education are more difficult to take decisions because their knowledge is also low. This means that the higher of education, increase the knowledge of farmers because individuals who have higher levels of education will be more open and easy access to information or in other words, they are easier to receive good information in terms of price, quality, and buyers. The higher the education will be the better their actions in farming either in terms of cultivation or in marketing. Farmers are paying more attention to improving the selling price by striving to achieve quality production because the high quality will automatically improve the selling price. The business experience based on the farmer's groups have no connection with knowledge and action because farmers are less active in sharing information so, the level of knowledge in farmers not develop.

In the analysis of farmers group markets, we find the marketing of the products of farmers' groups in Benteng Village is done by identifying the marketing institutions that constitute the marketing channels, which play a role in the process of transferring agricultural products from farmers to consumers, the questionnaire and interview was done to better understand farmers' group markets and determined the problems facing the marketing of farmers' products until reaches the consume, Three general information collecting techniques included direct observation of farmers, distribution of questionnaire to farmers during working, and open-ended interviews, the researcher made multiple farmers visit, Semi-structured personal interviews loosely followed an interview script allowing respondents to comment on specific questions while providing the opportunity to openly remark on their experiences. Farmers were observed and interviewed with them about how to sales their production and local markets where marketing is done (Maspaitella et al. 2017).

Usually, the Gapoktan members sell their products to crops collectors, that is the method used by farmers to market their products. farmers perform of packaging the products using plastic bags. Each bag contains 50 kg of products. The function of a group member which joined to crops collectors to just coordinate with the Gapoktan administration to providing timely funding, and market information. The sorting is carried out by farmers and their workers directly in the harvest field. By the time the products are harvested, farmers have done separate the product that has low quality such as rotten, with small sizes, etc. the product is not sold in low-quality but its used for daily consumption and distribution to labour and neighbours. All aspects related to the marketing of farmers to their products showed little effect, because the distance to supermarkets and traditional markets are very close, indicating that farm sites were not an important factor for determining exclusive marketing for crop collectors, although some respondents expressed crossed the far distance of fields to large markets and the difficulty of transporting the product as a problem that limits the marketing of their products (Maspaitella et al. 2017).

The result was contradictory to (Maspaitella et al 2017), which emphasized that the distance variable was strong, affecting farmers' decisions to participate in the marketing process. Similarly, transport costs have had a negative impact, but not a barrier to farmers' participation in marketing channels. This is due to the fact that the groups of farmers in the Benteng village have relatively good marketing methods and appropriate public transportation, which makes it easier for farmers to contact the markets in Bogor city, including supermarkets because the farmer got the fund and inputs Production (seeds, fertilizers, etc.) from Gapoktan and the signing a contract obligates them to sell their products to Gapoktan. The average prices of vegetables received by farmers from the crop collectors had a positive effect compared to rice and fish, but not significant, on the farmers' general market. Access to credit has had effect on the farmers' groups market, which is unimportant. The accepted reason for this relationship was that most of the Gapoktan members in Benteng village were unable to access financial institutions such as banks. usually, the farmers borrow some money from the management of Gapoktan about 100 million per group for their own need and payback to be After harvest. The researcher believes that access to market information is very important for farmers' groups, as the availability of price information increases the ability of farmers to adapt themselves in marketing their products. The possible reason for not access of price information to farmers is lack markets information service that must be provided by the government of Benteng village. In some cases, farmers obtain information on new prices and markets by asking local traders or going to the local aggregation markets. The local government often publishes information on crop prices through radio and newspapers, such as rice, vegetables, etc.

5. Conclusions

Conclusion for the study on the analysis of communication network among farmers group in Benteng Village are as follows: 1) The characteristics of individual resources for farmers groups are related to the communication process, Therefore, the communication network which formed among individuals is influenced by the characteristics possessed by each individual. The findings of farmers' groups survey (Gapoktan) indicated that the farmers have considerable potential from productions, with very limited potential for marketing, for growth to occur in the marketing sector, farmers should be encouraged by increasing the selling prices to crop collectors and encourage farmers to production continue and identify new ways to determine prices such as official market prices and supermarkets. that access to market information is very important

for farmers' groups because the availability of price information increases the ability of farmers to adapt themselves in marketing their products., (2) Individuals can be classified based on the status of the network structure to identify the members of the gaps who have a relatively dominant role in the communication network that is formed among farmers groups. In other words, members of the core network have more relations, because the initial doubts show that the members who are at the core of the network are individuals with a special status and a special role in Gapoktan network either as Gapoktan board or administration, (3) The structure of communication networks formed in Gapoktan Benteng as form the structure of the wheel, the form of a centralized network becomes a central feature of structure of communication network in Benteng village. The network central focuses on all farmers' group, which found in Mekar Tani group, Sepakat group, and Tani Asih group, (4) Results of the survey have been confirming that according to farmer's assessment, the working in farmer groups is not bad and sufficiently consistent with the prevailed values in the farmers' environment in Benteng village, which is quite understandable and can be implemented, and quite profitable economically if the funding is used well in agriculture.

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