

Communication Network in Narrow Land Agricultural Modernization

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Abstract. Population density and property expansion in Serang City have resulted in the narrowing of agricultural land. This has triggered the formation of narrow land agriculture for food security in Serang City, Banten Province, Indonesia. The Women Farmers Group is one way to strengthen food security, especially when the Covid-19 pandemic hit since the beginning of 2020. This study seeks to find out how KWT is formed and the process through communication actions. 1) How is KWT Annisa able to change traditional lifestyles into modern ones during the Covid-19 pandemic?, 2) What is the role of this individual vocal in forming a group of women farmers in the Serang Hijau housing complex, Serang City, Banten Indonesia during the Covid-19 pandemic?, 3) How can the communication network formed by the KWT be a means of spreading the dream of a clean and healthy life by adding the value of a modern cultural mentality during the Covid-19 pandemic? The theory of communication networks is the basis for knowing the act of communication. This study uses a case study method with a qualitative descriptive approach to analyze and present the research results. Data were obtained from interviews, observations, and agricultural land data from the Central Statistics Agency of Banten Province. The results showed that the communication network in KWT tends to be centred on vocal opinion leaders who are able to motivate achievement in the use of narrow land agriculture.

Keywords: Communication Network; Food security; Achievement Motivation; Women Farmer Group

1 Introduction

One of the measures to deal with Covid-19 is implementation in the informal sector sub-economy which has experienced many economic difficulties, not counting since the announcement of measures to contain the spread of the pandemic. As in research conducted by (Nwanmereni, 2021) the Federal Government of Nigeria in March 2020 announced a food palliative provision to ease the economic hardship regulated by Covid-19 containment measures, although it is still far from what families need in terms of groceries. Even the government recognizes palliative food shortages. The condition, the Covid-19 pandemic and the handling measures taken by the Nigerian government are still lacking. Safitri (2019) suggests that economic welfare will increase per capita income and indicators of the Human

Development Index (IPM). Agriculture is a top priority of sustainable development goals that are directly related to the elimination of poverty and hunger through agriculture.

The entry of new ideas into the social system of society is one of the communication processes. At first new ideas are raised and then communicated directly or indirectly. The more often the idea is raised, the longer it will take to enter and be accepted by the community, so that they can understand the various levels of implementation of the idea. There are many possibilities with the ideas that enter the community. It is very possible to be accepted immediately by some members of the social system, there is also the possibility of direct rejection, and some are accepted through a slow process. The emergence of new ideas in society is done to create this change is a communication process. This activity is not only carried out in developing cities, but also in developed cities. The existence of new ideas is expected to be able to improve knowledge, people's attitudes so that changes occur in accordance with the emergence of these new ideas. Basically, social change in society is needed to improve conditions for the better. Indah Sulistiani, Sumardjo, Ninuk Purnaningsih, (2017) suggests the individual in society as a part of the social community has the potential which can be developed to support development success. Local wisdom, diversity of cultures, customs, beliefs, values, and norms that are believed by community is one of the potential to tackle the problem of poverty. Effort government to improve welfare people often fail because it ignores aspects of local potential public.

As is the case with the Women Farmers Group (KWT) in the Serang Hijau housing complex, Serang City, Banten Province, Indonesia. The community through KWT strives for food security by utilizing the narrow land around the house yard. Especially with the global Covid-19 pandemic and limiting people's space for movement. This KWT is an alternative in terms of household food security and can also help a little to support and ease the burden of living costs. The idea of using narrow land is one of the best ideas during the Covid-19 pandemic. Serang City as the city center of the Banten Province government, its community activities are very complex resulting in very rapid ecological changes that have an impact on environmental problems, one of the environmental problems that must be addressed immediately is the problem of narrowing rice field (Sigit Surahman, 2017). Serang City, Banten Province, Indonesia itself is experiencing limited agricultural land, which is being eroded by housing developments. Agricultural land has been displaced by residential buildings. Based on data from the Central Bureau of Statistics of Banten Province, Indonesia, regarding the area of Banten Province in Indonesia and the area of agricultural land in Banten Province, Indonesia, it shows:

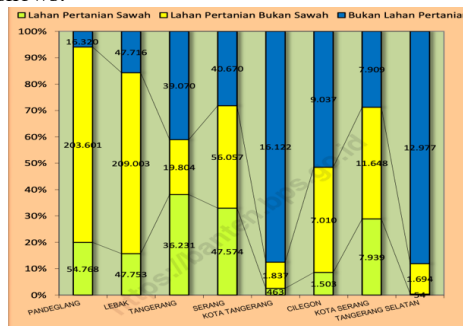


Fig. 1. Use of Rice Field Agricultural Land, Non-Paddy Agricultural Land and Non-Agricultural Land in Banten Province in 2018
Source: (BPSTATISTIK, 2018)

Seen from the data above, Serang City has 47.574% of rice fields, 56.057% of non-rice fields, and 40.670% of non-agricultural land (residential land). This data shows that non-rice field agricultural land is larger than rice field agricultural land.

Table 1. Area of Paddy and Non-Paddy Land in Cipocok, Serang City, Banten Province in 2019

Land Type	Land area (Ha)	Percentage (%)
(1)	(2)	(3)
1. Rice Field	625	19,77
a. Irrigation	317	10,03
b. Rainfed (Pompanization)	308	9,74
c. Tidal Swamp	0	-
d. Lebak Swamp	0	-
2. Agricultural Land Not Rice Fields	1220	38,60
3. Non-Agricultural Land	1316	41,63
Cipocok Jaya	3161	100,00

Source: (BPSTATISTIK, 2019)

Data from the Central Bureau of Statistics shows that paddy fields in Cipocok, Serang City, Banten, Indonesia, show 19.77%, while non-rice fields show 38.60%, based on these data, it is clear that paddy fields are much smaller than non-rice fields. It is not an easy thing to start a narrow land use program. Problems arise when the owner of the idea or idea is not the person being portrayed. This is because the community culture of Serang is still strong by following *opinion leaders*. Then also efforts to change the traditional system into a more modern system. Knowledge of traditional planting methods is still attached to the community, and they are reluctant to adopt modern farming systems. Through the communication network of housewives, it is slowly being accepted by the community in the Serang Hijau housing environment. Instilling people's mentality not to be consumptive, but how to use land to reduce consumptive behavior in terms of food. Society is not an inanimate object, meaning that efforts to incorporate new ideas into society need to pay attention to the novelty of ideas. The newer an idea is introduced to society, the more likely it is that the idea will be accepted. In addition to new ideas, of course, people also see the usefulness of these ideas. The higher the benefits of new ideas to be able to solve problems that exist in society, the easier it is to accept and the easier the communication process.

Through the integrative model of organizational trust, it is shown that when organizational members trust each other with circulating information. Give high trust to others, their interaction and development can be further enhanced. Meanwhile, the interaction and development of members in a community are possible will be affected by trust among community members; "The disposition of community members' trust in the information society shows the disposition and trust of community members for public information" (Surahman, 2018a). Communication is not only important for connecting the process of modernization of change for society. But communication becomes the main force in spreading new ideas in a better and more advanced direction. Modernization is one of the communication processes, so modernization is important to be used as a research subject. In reality, not all ideas or ideas can be accepted by the community, some accept and some reject these new things. According to Rogers in modernization, there are three main problems, namely; 1) From expectations to people's dissatisfaction, 2) The assumption that modernization is the same as westernization, 3) *Neotraditionalization* conditions (Rogers, 2017).

Networks are social structures created by communication between individuals and groups. Individuals who communicate with each other are connected to each other in groups which are then connected to each other into the whole network. It can also be called a personal network because the relationships of individuals who are intertwined with other people in the organization will look a little different from other individuals. Humans tend to communicate more often with other members of the organization, forming a group network (Littlejohn, 2011). Group communication means communication that takes place between a communicator and a group of more than two people. If the number of people in the group is small, it means that the group is a small group, if there are many, it means that the group is large. Theoretically, to distinguish small group communication from large group communication, it is not based on the number of communicants in mathematical calculations, but on the quality of the communication process (Hapsari, 2016).

In principle, group communication is almost similar to interpersonal communication, namely, messages sent to other individuals are also responded to with a message that has been interpreted by the recipient of the message before being delivered in response to the message sent. The difference between group communication and interpersonal communication is the intensity of the individuals meeting (Tutiasri, 2016). The communication network that is formed is carried out both internally and externally. The internal communication network carried out includes vertical communication and horizontal communication (Siska Mardiana, Annisarizki Annisarizki, Liza D.P., 2021). Vertical communication is carried out between the KWT chairman and members and the community. On the other hand, horizontal communication is carried out between the community and the Annisa KWT management team who handles the narrow land use program.

The importance of participatory communication in development was also conveyed by (Masrur Alam Khan, 2019) who stated that community-based participatory communication and receiving full community support are fair partners in overcoming inequality. Participatory communication creates a participatory space and signals a “community voice” centered on collective roles, shared interests, and views on the conditions at hand. This culture-centered approach examines the expression of people's wishes and voices that produce positive values including: a) the rationale of the community; b) the role of community partners; c) outcomes of community-centred partnership; d) participatory process elements. Development communication has an important role in development. Everett M. Rogers states that, in simple terms, development is a useful change towards a social and economic system that is decided as the will of a nation. Therefore, the role of communication in development must be related to the direction of these changes, meaning that communication activities must be able to anticipate development movements.

When viewed from the perspective of communication science, namely the process of delivering one's message to others to change attitudes, opinions and behavior. Basically the development process involves at least three very important components, namely; 1) communicator, 2) message, and 3) communicant. This is in harmony with everything related in a group or network, it should reveal how social relations are created from communication and vice versa. Likewise in communication in a group, so that forms, issues and talks will determine and be determined by social relations (Guntoro, 2020). Thus, development must be pragmatic, namely with patterns that generate new patterns for the present and the future. In this case, of course, the function of communication and network becomes an important factor to change the attitudes and behavior of the traditional society into a modern society. According to McClelland (2017) the notion of achievement motivation is defined as an effort to achieve success or succeed in competition with a measure of excellence that can be in the

form of other people's achievements or their own achievements. Achievement motivation is the desire to get something done to achieve a standard of success and to make an effort with the aim of achieving success.

The novelty value of this research is to examine achievement motivation as an alternative approach to modernization studies of message delivery patterns and also innovative ideas in the use of narrow land. The advantage of the modernization approach through achievement motivation is that complex residents can do it independently. Residents of the complex can take advantage of limited land resources to achieve their desire to become an independent and modern society. Theoretically, this approach adds insight that there are modernization variables that can be operated in addition to the diffusion of innovations that have been more widely introduced. The study was guided by the following questions: 1) How is KWT Annisa able to change traditional lifestyles into modern ones during the Covid-19 pandemic?, 2) What is the role of this individual vocal in forming a group of women farmers in the Serang Hijau housing complex, Serang City, Banten Indonesia during the Covid-19 pandemic?, 3) How can the communication network formed by the KWT be a means of spreading the dream of a clean and healthy life by adding the value of a modern cultural mentality during the Covid-19 pandemic?

2 Methodology

This study uses qualitative research, describing the arrangement of perspectives from a problem. This type of research is a case study that involves the systematic acquisition of information about people, the social cohesion of events or groups that allows the researcher to effectively understand how the subject behaves, the analysis is dynamic and not rigid (Kriyantono, 2021). This is done by observing, documenting, and interviewing to get the information needed in the research. Intense researchers conducted visits and data searches with the help of a data search team. Types of data used in the study 1) Primary data, in the form of everything that is directly related to the existence of KWT Annisa in Serang Hijau Housing, Cipocok District, Serang City, Banten Province, Indonesia. 2) Secondary Data, Literature research by studying and reviewing literature related to the problem under study to support assumptions as a theoretical basis. Data collection was carried out by direct research at the research location, namely KWT Anisa. In addition to field research, the researcher also conducted interviews with several sources who were the initiators of the establishment of KWT, managers, and members of KWT Annisa. Data analysis starts from the analysis of data collected during observations, interviews, and documents. Then the researcher interprets the meaning or interpretation associated with the theory as a basis for analysis and explains the research results in a social and cultural context.

Table 2. Research Informant Data

No.	Name	Position in KWT
1	Annisa	Head of KWT
2	Hanum	KWT Manager
3	Susi	KWT Member

Source: (Processed by Researchers, 2021)

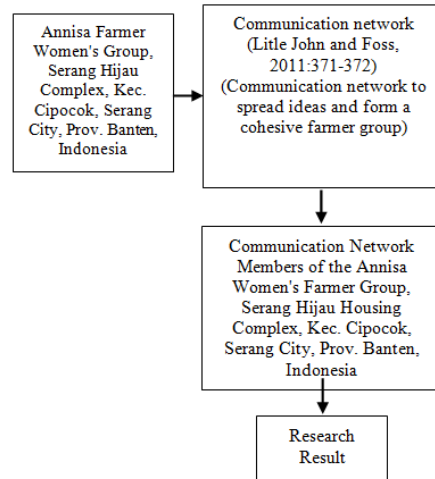


Fig. 2. The following is the research design
Source: (Processed by Researchers, 2021)

3 Result and Discussion

The discussion is based on the research questions. Traditional agriculture has existed since humans farmed in a fixed location. This agriculture is referred to as a simple agricultural model, which is extensive and does not maximize the use of technological inputs and chemical fertilizers. The results obtained depend on soil fertility, water availability, climate, and land topography. This condition encourages the development of modern agricultural systems. Manda (2021) suggests that there are many advantages to using narrow land conservation agriculture, such as reduced labor costs and reducing land clearing and weeding time, he did not hear much about the serious problems for his farmers.

Modern agriculture during the Covid-19 pandemic is a way of survival. Farming in the narrow area of KWT Annisa is not only an economic activity, but has become a living culture with local social and cultural values. Based on the findings and results of interviews with the head of KWT Annisa to change traditional lifestyles and agriculture to modern ones during the Covid-19 pandemic to realize this agricultural program with the use of narrow land through: 1) All administrators and members of KWT Annisa improve their knowledge, attitudes, behavior, and skills towards new innovations, introduced narrow land uses; 2) KWT Annisa provides assistance for agricultural production facilities in the form of fertilizer seeds and planting media; 3) KWT Annisa provides farming capital support through savings and loan cooperatives, members of the Women Farmers Group; 4) KWT Annisa has improved the institutions of women's farmer groups. The role of the group members in a communication network can be divided into several levels, among others: *the level of opinion leaders*, *the level of isolated*, *level bridge*, and *the level of liaison*. In this Annisa KWT, in the context of efforts to shape and educate the community, the influence of community leaders is needed as role models to be able to move.

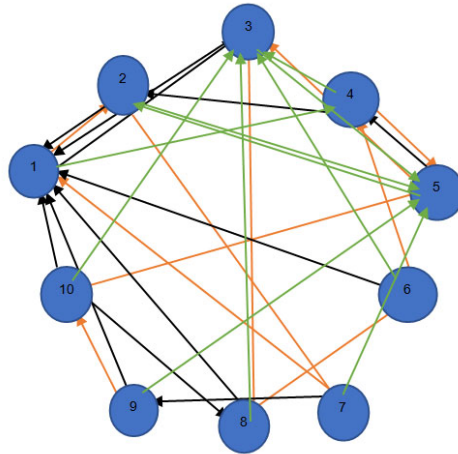






Fig. 3. Sociogram Graph of Individual Opinion Leader at KWT Annisa
Source: (Processed by Researchers, 2021)

Information :

-  : Chosen person
-  : Choice of Vocal Opinion Leader 1st most influential
-  : Choice of Vocal Opinion Leader 2nd most influential
-  : Choice of Vocal Opinion Leader 3rd most influential

After knowing the vocal sociogram graph of individual opinion leaders in the communication network at this KWT, then it is analyzed and described the function of individual vocals in the communication network at Annisa KWT. From the sociogram graph, it is clear that number 1 is the first most influential individual vocal. There are 9 out of 10 members of KWT Annisa who chose number 1 as many as 6 voters as the most influential vocal. While the second most 9 out of 10 members of KWT Annisa there are 2 people who each get 4 choices, namely numbers 3 and 5. Then the third most visible person is number 5 by getting 2 voters. The sociogram image shows the communication interactions that occur between KWT members depicted by arrows connecting each member. This sociogram also shows how the direction and intensity of the tendency of the member chosen as the vocal opinion leader is to focus on member number 1, which is indicated by the direction of the most arrows. Communication interactions carried out by each member have formed a communication network with a pattern that tends to rely on one opinion leader as an influential leader.

KWT members as individuals certainly have differences from one another in terms of influence and involvement in the communication network. Internal and external factors are associated with the communication network consisting of the degree of connectedness, the degree of integration of the vocal opinion leader, and the degree of influence of the vocal opinion leader. Figure 2 presents the results of the correlation analysis between internal factors

based on the ranking analysis of the number of voters with the results of the communication network analysis. A communication bridge is a person who acts as a liaison between one member and another in a communication network. Mutual trust between community members, showing the disposition and trust of community members for community information, Individuals in the community or group can exchange information and coordinate members in the group (Surahman, 2018b). The communication network provides motivation for its members where the communication network formed at KWT Annisa tends to depend on vocal opinion leaders as the main driving actor in the effort to lead a clean and healthy life with a modern cultural mentality. It can be seen from the sociogram that 12 out of 20 members stated that the communication network formed in KWT provides motivation for achievement and builds a modern cultural mentality.

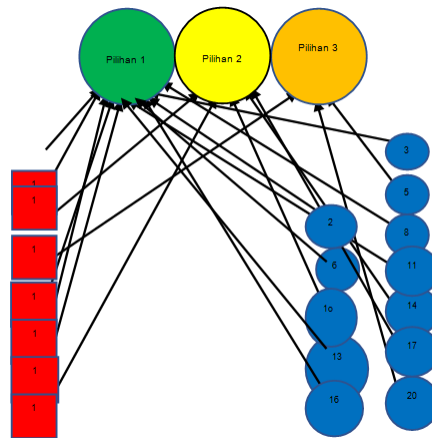







Fig. 4. Annisa KWT Sociogram Graph as a means of clean and healthy living with a modern cultural mentality.
Source: (Processed by Researchers, 2021)

Information :

-  : Female Voter
-  : Male Voter
-  : Choice of 1 KWT Annisa as a means live clean and healty with modern culture mentality level 1
-  : Choice of 1 KWT Annisa as a means live clean and healty with modern culture mentality level 2
-  : Choice of 1 KWT Annisa as a means live clean and healty with modern culture mentality level 3

The implications of this research are as follows: (1) the key characteristics of success lie in the vocal opinion leader as the main actor in the development of narrow land agriculture; (2) individual and group decisions in implementing innovations are influenced by the characteristics of narrow land agricultural innovation (Dyah Gandasari, Dayat, Diena Dwidienawati, 2020).

4 Conclusion

Farming in the narrow area of KWT Annisa is not only an economic activity, but has become a living culture with social and cultural values of the local community. Modern agriculture during the Covid-19 pandemic has become a way of survival, but it has changed modern life, especially in terms of agriculture. The structure of the communication network that is formed describes the network pattern that occurs between individuals in the system, which is a centralized locking personal network. This means that the network pattern consists of individuals who are homophilous but are less open to the environment and tend to rely on one vocal opinion leader in the KWT. From the identification of clicks, the click pattern is wheel or *star*. This pattern shows that the speed with which information arrives in a click is fast and that information arrives carefully and the chance of information being generated is high with more members who tend to rely on one figure who is used as a role model as a KWT driver. The special role of individual vocals that occur in the system is the presence of a *star*. The index of the communication structure at all levels in the system is classified as low because it tends to be centralized. The communication network established at KWT provides power and increases achievement motivation and builds a modern cultural mentality in terms of narrow land farming in Serang City, Banten, Indonesia.

Limitation And Study Forward

The limitation of this research is that it is only limited to reviewing the communication network of the Women Farmers Group as the initiator of narrow land agriculture in Serang City. It is hoped that this research will be able to provide motivation for other women farmer groups that already exist in Serang City but still have not touched the narrow land use program for agriculture. Future research is expected to be able to reach more broadly throughout Banten Province, Indonesia.

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