

SOCIAL SYSTEM ENGINEERING ON HORTICULTURAL AGRIBUSINESS DEVELOPMENT IN BATU

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ABSTRACT

Agriculture is one of the development priorities in Indonesia as more than 92,910,219 people are involved. Government support the effort to advance agriculture, however, distributing help through farmer groups causes the dependence. Hopefully, farmer groups have the characteristic of independence to stand on their own feet that will materialize when social system is formed. To achieve the intact independence requires social system engineering involving government institutions, technical services, and private sectors. The engineering occurred due to the synergy among institutions so that independence is established. The social system engineering is also created to prepare farmers to face ASEAN Economic Community (AEC).

This research aimed at: (1) identifying groups' independence as models of social system engineering, (2) analysing the influence of group dynamics, motivation, capacity, and environment on groups' independence, (3) organizing and analysing social system engineering models in developing horticultural agribusiness, namely the synergy among farmer groups, village government, Agricultural Extension Center, and private sectors in producing groups' independence as the base of horticultural agribusiness development. Assessment used in this research was mixed method, quantitative and qualitative. Samples were selected using random sampling and data were analysed with path analysis. Groups' independence would motivate the village government, Agricultural Economic Center, and private institutions to create the synergy among them. The synergy models among institutions extremely affected the group visions accomplishment such as production facilities, agricultural technology information, and the products marketing.

Keywords: social engineering, groups' independence, institutions, synergy

INTRODUCTION

Agriculture is one of national development priorities as large number of community are involved in this sector. Based on BPS 2013, there are 31.705.337 farmers in Indonesia. Meanwhile, farmers work in agricultural sector (horticulture, crop, plantation, and livestock) is 92.910.219 people. Community development plays vital role to advance the large amount of agricultural communities. Ranjabar (2015) stated that development is a process created to bring about the improvement of socio-economics condition.

There should be a synergic and hand in hand socio-economics development so that the results can be perceived by all people. Additionally, many stakeholders are involved on agricultural commodity development including not only farmers but also common society. The dense population

impacts on how to meet their needs especially on agricultural sector. Government has created a lot of programs to enhance farmers' capacity to develop the agricultural sector.

Government recently tends to involve farmer groups in agricultural development. Human resource development will be more effective if it is implemented through the group development activities to get success easily for a short time.

Based on the regulation of Minister of Agriculture no. 82 2013, group approach on extension aims at improving the effectivity and efficiency of extension implementation. It is also used to support farmers' organizations (for example farmer groups and the associations of farmer groups). Therefore, many programs are conducted through those groups to simplify the mobilization of helps. Nevertheless, it causes negative impacts on farmers and their organisations because they will be more dependent on government as the potential donor for community development, whereas aids become stimulus for them to implement the agricultural activities and hopefully can alternately given to other farmer groups.

With group independence, farmer group is hoped to be able to grow without other's help. Furthermore, independence makes groups own their authority to develop and run themselves and it will facilitate them to reach their visions. Independence is one of mechanisms on social system development, especially farmers in Batu.

Engineering is identical to the change leading to destruction. However, It is essentially an effort to assist community to achieve prosperity. The principal social system engineering among farmers is farmer organization. Therefore, the synergy among organizations can be used to create the competitive groups, moreover, they have to face AEC so that empowerment of organizational system is extremely important.

Methods

Approach

Based on problems formulation and research objectives, this research used qualitative approach. Qualitative analysis is also used to reveal the phenomena and meaning on farmer groups.

Informants

In this research, informants were selected purposively based on the social system engineering research in Batu. Data were collected from Minister of Agriculture, field agricultural extension workers, farmer groups' leaders, and farmer groups' members. They were selected and interviewed based on the possibility of transferring data process thoroughly and deeply. Researchers conducted in-depth interview to the informants chosen selectively.

Collecting Data Technique

There were several techniques applied in this research:

1. In-depth interview
Semi-structured interview was implemented in this research that the topics order was not too tight and more flexible.
2. Participant observation

- Observation was done directly on research objects while interviewing and observing the condition around carefully.
3. Documents review
Documents review was collecting data technique by examining substantial records related to research objects or photos.
 4. Focus Group Discussion (FGD)
In this step, researchers met with key informants to clarify the highlight issues of the research.

Analysis Data Technique

The qualitative data analysis technique was interactive model like what was stated by Miles and Huberman (1992). This model consisted of three main points: data reduction, data presentation, and conclusion. They were correlated during and after the data collecting so that as if it formed the interactive cycle.

Vallidity of Qualitative Data

According to Moleong (2000), this qualitative reserch used three kinds of validity data:

1. Creadibility
Data creadibility was used to prove that the collected data corresponded to the reality. There are some techniques to obtain the creadibility such as the technique of triangulation, source, members check, the extension of researchers presence in the field, peers discussion, and reference check.
2. Dependibility
This aimed at maintaining the prudence of possibility of errors on data collecting and interpretation so that they can be justified scientifically.
3. Confermability
This criterion is proposed to measure the research results by checking the data, informations, and data interpretation supported by materials on audit trail.

RESULT AND DISCUSSION

The Independence of Farmer Groups on Agribusiness Development

a. Business environment

Group is a media of communication of horticultural farmers. Johnson (2012) defined group as a number of people assemble for particular purpose. It can give advantages to its members through the gained purpose. In addition, it is also used as social learning media among farmers to run horticultural business.

Group can enhance business development by facilitating products marketing coordinated by the group, improving farmers' business ability through training, developing products variety, and motivating farmers to develop their business. The conducive business environment development makes the members comfortable to be in group.

Group always coordinates with extension workers to anticipate unprofitable business. Nevertheless, there are many factors affecting the business condition which can diminish the conducive business environment. Hopefully, government policies can help local farmers to make their products become the priority of business entrepreneurs in Batu. However,

those policies had not been being implemented optimally until this research was done even though there had been cooperation.

b. Business products

Some groups can give assistance to their members to implement the agricultural business. Group meeting is used as the media of discussion with the intention of sharing information about business opportunity obtained from traders and Department of Trade in Batu.

Groups can anticipate the problems faced by farmers. As an example apple farmers in Punten Village have a problem of climate and the price of fertilizer and pesticide, whereas the price of apple is sometimes cheap that is 5,000 rupiahs per kilogram. According to farmers, apple is in good price when at least, it reaches 8,000 per kilogram. To anticipate the problem of climate and infrastructure, they should be in cooperation with other farmers. Using varieties which are resistant to pests attack and substituting chemical pesticide with the organic one will enhance the product of fruits and raise the sale value. That is one of the ways to maintain the products quality.

The other groups have their own techniques to succeed their farm enterprise. They have implemented various ways through farmer groups to solve the problems by discussion or from suggestion from others. In addition, motivation from other group members will support farmers to be more creative in developing horticulture. Robbins and Judge (2015) said that effort to reach visions is related to motivation. Therefore, farmers will limit the focus into organization's vision towards behavior, related to their work. Group motivation supports members to gain their success in producing the good quality of agricultural products.

c. Marketing

Marketing usually becomes obstacle obstructing the success of farm enterprise. Although Batu is well-known with its tourism, farmers still find difficulty to have the opportunity to sell their products. The products competition from outside makes market is authorized by the comers. The existence of group should be able to help farmers to find solution of marketing. Some groups perform good marketing by inviting sellers to the field or selling their products to another market outside the city even outside the island. It is aimed at receiving the fast transaction without many rules of selling products. Most of the products are vegetables, apples, oranges, and others which is sought after by the middlemen or intermediaries. On the other hand, paprika, decorative plants, strawberries, and some other fruits are often sold in market outside the city, such as Surabaya, Kalimantan, and others.

Several farmer group of apple commodity is getting creative. They create agrotourism of apple pick tourism directly in the field. This tourism trend is developed by farmer groups cooperated with teenagers selling the entry tickets to consumers. Besides, the agrotourism of decorated plants also attract tourists to visit the farm. The existence of groups significantly help the marketing process although the distribution of that action is felt by not all the community and there are still groups involved in middlemen role.

In AEC, the market role may not be charged to the groups only. Government should have regulation to protect farmers because the strict market competition does not protect local farmers but it threatens them.

d. Innovation and business development

Most of farmer groups have not implemented innovation in developing their farm business. Farmers cultivating horticulture plants tend to rely on information from extension workers. They often do the agricultural activities based on their knowledge and skill, and also the simplicity of marketing. In selecting the commodity, farmers will pay attention to the seasonality of marketing. Vegetables marketing in Karangploso market causes many farmers planting water spinach, welsh onion, tomato, and marketable other plants. Vegetables are commonly planted in Junrejo and Bumiaji Subdistrict.

The technology and innovation development are generally applied in processing business. Most of the processing still depend on the types of chips such as apple, jackfruit, watermelon, and other fruit. Meanwhile, the other processing needs more attractive innovation for consumers so that the products are easily sold in the market.

A lot of efforts stimulate the group members to be innovative. One of the groups held a competition to create the innovative *rengginang* product in vegetables and fruit flavor. Hopefully, it will stimulate the members to find new idea in processed products. The innovation is necessary for the different market penetration to attract more consumers.

In fact, a competition evidently various innovations of products in shape, flavor, and type. The products can be developed to increase the selling points and promoted on the market. In addition to competition, innovation development is able to obtain through the experiment by mixing some ingredients. The skill to evolve new product is extremely necessary in creating a new sustainable market business.

There are still many groups which hesitate to innovate a product because they fear of loss. As an example, they are afraid if their horticulture products are not accepted in market. All this time, they are still product quantity oriented and not lead to the quality and product competitiveness. On the other hand, some groups have thought creatively to face AEC by using internet to access the market.

The independence of farmer groups to develop themselves

a. Farmer group structure

Group capacity on management also help them to reach success. The group members will be loyal if they receive advantages and feel that they play the same role on group. Most of farmer groups have been able to implement the good farmer group structure.

Job description is already given equally to the members. Furthermore, all members also know the group activities. The transparency among members through discussion can be seen in every fortnightly meetings.

Each member has opportunity to share their problem which will be discussed by all members in group. Opinion and suggestion are followed on joint activities and evaluation on following meeting. Group leader has important role in supporting the members to be involved in continued action. Moreover, they are also accustomed to help each other.

b. Function farmer group role

Group members who feel the group existence will stay in group and participate in every activities. Group as media of study, production, and cooperation has walked as its function. There are routine meeting to provide space for them to interact each others. Furthermore, group is also used to develop products and share information of horticulture business implementation.

Group are successfl in planning the business implemetation through the discussion with local extension workers. They help farmers to solve the unfinished problem by consulting it with others. Additionally, group also develop the human resources through training and visitation to the successful farmers.

The independence of farmer groups to take risks

Farmer group belongs to be independent when it is courageous to take risks and their anticipation to maintain the uncontrolled situation. Most farmer groups in Batu have anticipate the risks happen in their business. As an example, apple farmers take risk to plant apple in erratic climate with the expensive production facilities and materials and also the decrease marketability of fruit. They try to manipulate the climate so that it will be convenient to the plants. In addition, they also use the high-quality seedlings. After that, they sell the product in market which is willing to buy them in appropriate price.

Farmers in processing also take risks when the product commended to them are not sold out. They will try to fix the packing, flavor, or shape. In this case, farmer group can solve the problems except capital. There are still many groups which are afraid to take capital to develop their business due to the difficult requirements and price fluctuation as well.

The independence of farmer groups on social system engineering

The independence of behavior is the condition that groups can develop themselves with their own decision. Cordery, Mueller, and Smith (1991) stated that group independence affects members' attitude. Maintaning the independence influences the goal achievement as well. Besides, it also create the groups freedom to explore their potential. Without any independence give an effect of expectation of government aid.

Groups have important role in social system, especially on farmers commuity. Social system is a set of social elements interacted each others. Human beings are basically creatures who need others to live socially with because they can not live alone. The socil system includes behavior, norm, communication, organizaton, and culture. It works when a unity of community achieve the life goal together.

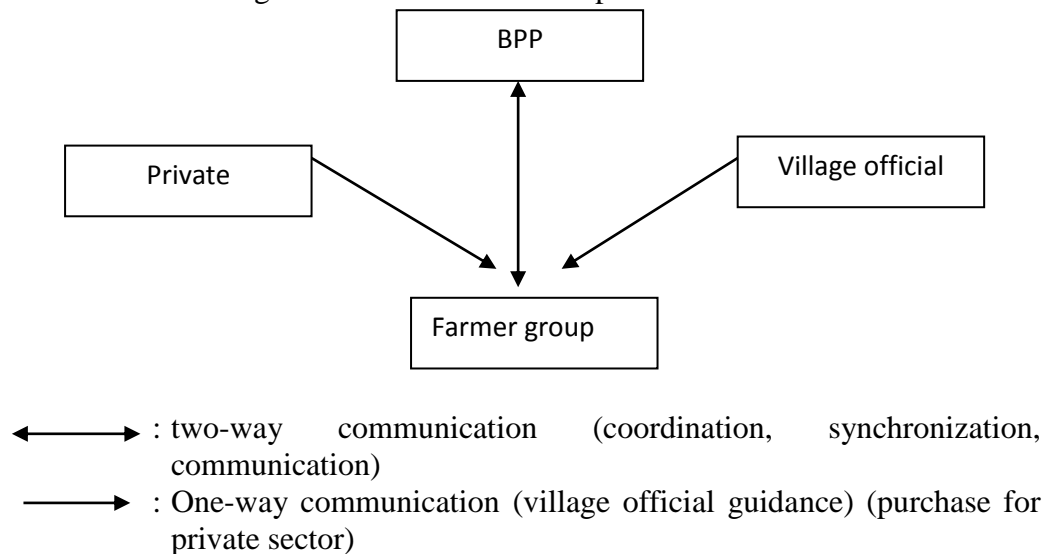
Group independence can creates a dinamic social order in maintaining horticulture business. Group as a collective interaction plays vital role on social system development. Therefore, farmers are more prosperous. Langfred, C.W (2000) satated on his research result that group independence had correlation with group cohesiveness. Group members can solve their problem and also gain their goal easily when there is togetherness in group.

Sistem sosial kelembagaan yang terjadi

Social system occurs when every value system of every organisation related each others. Agricultural Extension Center (BPP), as an technical implementation unit of Ministry of Agriculture in Batu, is burdened on the condition on field containing more coordination, facilitation, and assistance. In 2004, there was a cooperation between Ministry of Agriculture Batu and Association of Hotel and Restaurant Indonesia Batu about private organization role on agricultural development in Batu. It is hoped to be able to absorb agricultural production in Batu.

The program has been implemented for two years but there is only few realization on field. unfortunately, the regulation is not strong and synchronous with other offices and it causes the cooperation has not been successful yet. Private sectors (middlemen, hotel, restaurant, and souvenir shop) take farmers' products without being known by extension workers. There is also possibility that the products are sold through middlemen or other suppliers (hotel and restaurant purchase the products from midlmen). Farmers can not provide the high quality standard products so that some products are incurred from outside Batu. Moreover, they are imported from other countries, whereas the products of farmers in Batu such as paprika are absorbed by consumers from Surabaya.

Some groups said that village are only follow farmer group activities without giving any aids or another attention. Farmer groups consider that village is still finite in role on agricultural development, although they understand that government have other duties, not only in agriculture. They actually expect motivation from village officials on agriculturl development. The relation among those four institutions is presented in Picture 1.



Picture 1. Relation of Organisational Social System in Field

The limited synergy among sectors shows that only BPP which plays role as farmer groups partner. In fact, BPP is responsible to assist farmer group to develop their horticulture business indeed. The limitedness of relation among the sectors also become a difficult tasks for BPP, both human resource and budget, as well as the infrstructure. Therefore, synergy to accelerate the success is necessary to develop agricultural sector, especially horticulture commodity. Private sector only purchase the products from farmers without any information given to extension either workers or the groups officially.

Village government is considered only give instruction to farmers to keep working on improving their agricultural business.

The developed social system model

The disharmony of institutions or sectors in supporting horticulture agribusiness causes farmers run their business only by themselves. As known, the synergy of cooperation performs high potential which give more profit to both sides on agricultural development. Social system engineering through organisation have to be developed and conceptualized. Selo Soemardjan *cit.* Ranjabar (2015) explained that social change is every change of community-based organization affecting the social system including social value, attitude, and behavior pattern among the groups of community.

Social change through organization will bring farmers to cooperation era. Every organizations' role is expected on agricultural development.

a. Agricultural Extension Center (BPP)

Institution which really plays its role to assist farmers is BPP, an UPT of Ministry of Agriculture, Batu. It has done its function as farmers assistance institution with the existance of extension workers in every village. Each villages is assisted by one or two extension workers as the government policy that one extension worker for one village. They are used when farmers need to consult the activities of farmer group.

b. Private (middlemen, hotel, agriculture shop, restaurant, and dan foods souvenir shop)

Private sectors has their role on providing production facilities or materials and also marketing. The existance of tourism which absorbs the horticulture products can be maximally used by farmers. On other side, there are large number of middlemen but slightly smal number of hotel of restaurants which absorbs the products. There should be a cooperation between private sector and BPP and also farmer group in clasifying the types of desired products so that they are appropriate with what are needed. The assistance for farmers should be done by BPP so that the products are acceptable in hotel, restaurant, and tourists who need food souvenirs. Hopefully, in run their business, private sectors in Batu have more priority on farmers' products

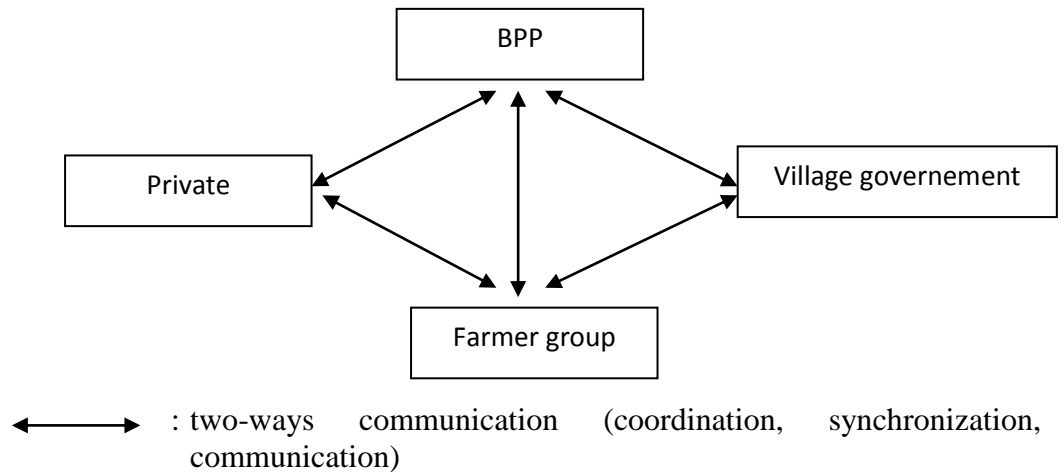
c. Village government

Village government is expected to support the procurement of infrastructure in village. the current infrastructures suffice but there are still mny of them which need to be developed especially its horticulture production center. The village fund help farmers to fulfill the infrastructure needs in implementing the business effectively, efficiently, and profitably. Village government also hopefully give assistance and motivation to farmer group activities so that farmers feel that they are supported by their local leader.

d. Farmer group

In more advanced development, farmer groups becomes not only objects but also a subjects of development. They can implement horticulture agribusiness without being assisted continually by extension workers or government. With their independence, farmer groups are hoped to be more creative and adaptable in various situation, moreover on AEC challenge requiring the competitive farmer groups. The dependent farmer groups will

loose and be difficult to improve. The independent ones will act more to solve various problems. The synergy engineering model among organizations or sectors is given in Picture 2.



Picture 2. Social system engineering model on organization synergy

Every organizations has rolet in business implementation. Private organization purchase the products from farmers with the appropriate quality and also price. The result of coordination with BPP is expected to describe the quality of products. Furthermore, the relation between BPP and farmers will develop so government will not only be informant but also be business partner. Village government give support to farmers so that they become more creative and independent in running their horticulture business. Village policy and infrastructure help farmers to be more competitive through the rule that will protect farmers. In addition, motivation is also given by village official to support farmers' horticulture business. Furthermore, BPP, as governmental institution, is more active in assiting farmers and farmer groups to be more proactive to seek opportunity and develop their business. The synergy among sectors is implemented through the effective coordination, synchronization, and communication. Communication is build in two-ways of communication so that every organizations understand each other including their goal.

CONCLUSION AND RECOMMENDATION

The conclusions of this research are:

1. The independence of farmer groups will build farmers character to be more independent. Some groups have been independent both in eveloping agribusiness and running the group function, arranging group structure, and taking risks. The independence will strengthen the social system in organization aspect.However, there are still groups which depend on government.
2. The synergy model among organiztions or sectors is an engineering of social system. The synergy among organiztions will shape the social order of agricultural development to be more effective and efficient.

The recommendation based on research result are:

1. Government policy is needed to protect the local farmers so that they become more competitive in AEC era.
2. There should be improvement of farmers' awareness of the importance of farmer groups' independence.
3. Private sector role should be optimized to gain the agribusiness success, so that they should purchase the products from farmers with the appropriate price or auction system.

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