Farmer Institutional Dynamics in Vegetable Agribusiness Development Efforts in Kelurahan Talang Keramat, Banyuasin District

Dynamika Kelembagaan Petani dalam Upaya Pengembangan Agribisnis Sayuran di Kelurahan Talang Keramat Kabupaten Banyuasin

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ABSTRACT

Kelembagaan petani baik yang dibina oleh pemerintah maupun yang muncul dari inisiatif Organisasi Non Pemerintah (NGO) mempunyai posisi penting dalam pengembangan agribisnis sayuran. Penelitian bertujuan untuk membandingkan dinamika kelembagaan petani binaan pemerintah dan organisasi non pemerintah serta merumuskan kerangka kerja kelembagaan belajar bersama. Metode survey dilakukan dengan pengambilan sample acak berlapis tak berimbang, data dianalisis menggunakan scoring, statistic uji khi kuadrat (crosstabs chi square) dan analisis SWOT. Hasil penelitian ini menunjukkan dinamika kelembagaan petani rata-rata berada pada kriteria sedang dengan perbedaan pada indikator dinamik. Kelompok binaan pemerintah lebih memprioritaskan pencapaian tujuan agribisnis, sedangkan kelompok binaan NGO mengembangkan struktur yang egaliter. Faktor-faktor yang signifikan mempengaruhi dinamika kelembagaan petani adalah umur petani, pendidikan, setatus dalam organisasi, dan akses kredit. Kerangka kerja belajar bersama dari aspek teknologi ditujukan untuk menemukan, membagikan dan menggunakan teknologi pengembangan agribisnis sayuran. Sedangkan dari aspek kelembagaan ditujukan untuk penguatan organisasi dan jaringan kerja.

Kata kunci: NGO, kelompok tani, organisasi, agribisnis

ABSTRACT

Farmers’ institutions, whether fostered by the government or those that have emerged from the initiatives of non-governmental organizations (NGOs), have an important position in developing vegetable agribusiness. This research aimed to compering the institutional dynamics of government-assisted farmers and non-government organizations and to formulate a collective learning institutional framework. The survey method was carried out by taking disproportional stratified random sampling, the data were analyzed using scoring, chi-square crosstabs and SWOT analysis. The results of this study indicate that the institutional dynamics of farmers are on average in moderate criteria with differences in dynamic indicators. Government-assisted groups prioritize achieving agribusiness goals, while NGO-assisted groups develop an egalitarian structure. Factors that significantly
influence the institutional dynamics of farmers are farmer age, education, status in the organization, and access to credit. The joint learning framework from the technological aspect is aimed at discovering, sharing and using vegetable agribusiness development technology. Meanwhile, from the institutional aspect, it is aimed at strengthening organizations and networks.

Keywords: NGOs, farmer groups, organizations, agribusiness

INTRODUCTION

Farmers' institutions are very important in agribusiness development due to the various roles of these institutions in providing services to their members, such as increasing access to production inputs, production processes, marketing of products and income (Bachke, 2019); (Liverpool-Tasie, 2014); (Yang & Liu, 2012); and (Thomas & Vink, 2020). They are often neglected by public institutions resulting in a weak bargaining position of the farmers that it hampers the market access and information. Consequently, the strategic position of the farmer institutions needs to be strengthened for the small farmers to be able to contribute to economic growth and poverty alleviation (Mbeche, 2014); (Abdul-Rahaman & Abdulai, 2018); (Rustinsyah, 2019); (Richardson-Ngwenya et al., 2019).

The dynamic farmer institutions can improve the farmers’ bargaining position to access supermarkets and modern retail markets, and relieve dependence on single buyers and reduce transaction costs through collective action (Trebbin, 2014) and (Gramzow et al., 2018) and (dos Santos et al., 2020). The institutions can also represent their members in community-based governance (Wang et al., 2017), encourage horizontal coordination among producers and act as a link in the supply chain (Conejero et al., 2017) and (Hannachi et al., 2020). Furthermore, institutions can empower famile farmers to access markets (Mudege et al., 2015). After the 1998 reform, the farmer institutions were not only dominated by the government-formed institutions such as farmer groups and Farmer Group Association (Gapoktan) but also developed by non-government organizations (NGOs) such as the Indonesian Farmer Union (SPI) resulting from the demands of the new issues such as food sovereignty, agroecology, farmers' rights, and agrarian reform (Sirait et al., 2017); (Resosudarmo et al., 2019); (Widian & Subono, 2019) and (Claeys & Edelman, 2020). The previous studies on the farmer institutional dynamics focused on the dynamics of farmer groups assisted government (Sriati et al., 2020); (Mirza et al., 2017).

The researchers mostly studied the dynamics of farmer groups and variables related to these dynamics and did not see them as an important aspect of empowering farmers based on their internal strength (Bakhtiar et al., 2020); (Wahyuni et al., 2017). As far as we know, there has been no study comparing the farmer institutional dynamics developed by the government and NGOs in Indonesia and having to do with the vegetable agribusiness development.

It is quite interesting to study the institutional dynamics of these two types of organizations in relation to the vegetable agribusiness development. Therefore, this research aimed to compare the dynamics of government and non-government assisted farmer organizations and to formulate an institutional framework for learning with farmers in developing vegetable agribusiness based on the dynamics of farmer organizations.

MATERIALS AND METHODS

Kelurahan Talang Keramat was a vegetable agribusiness center supplying the needs of Palembang City. It was important to develop agribusiness activities in an effort to improve the welfare of farmers and meet the vegetable needs of urban
communities. This strategic position was a consideration to determine the research site. Moreover, the location has a farmer institution fostered by the government, namely Gapoktan Keramat Jaya and a non-government fostered institution, the Talan Indonesian Farmers Union (SPI). The field data collection was conducted from August to October 2018.

This study used a survey method with unequal layered random sampling. This sample consisted of two layers. The first layer was Gapoktan with a sample size of 15 farmers (18.29% of the population) and the second layer was SPI with a sample size of 15 farmers (42.86% of the population). The total number of sample was 30 farmers. The data analysis of the first objective measured the group dynamics using the Likert scale method covering 4 dynamic dimensions, namely group objectives, group structure, group functions and tasks, and group effectiveness. Each dimension was measured based on 3 questions. Each assessment question for high criteria scored 3, medium criteria scored 2, and low criteria scored 1. This assessment was based on farmers' perceptions. The score range was between 12 to 36. The respondent class categories were grouped into high, medium and low criteria (Table 1). The second objective analyzed the factors influencing the dynamics, namely the age of the farmer, education, status in the group and credit facilities using statistical analysis of the chi square test (crosstabs chi square), which was processed using SPSS 16.0 software as a tool. The third objective analysis formulated an institutional framework for learning with farmers in developing vegetable agribusiness using a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats).

RESULTS AND DISCUSSION

Institutional Dynamics

Farmers' institutional dynamics were interpreted as the internal strength of the group for the development of agribusiness of its members. The transformation from farming to agribusiness has been carried out by Keramat Jaya Gapoktan through government support for the Rural Agribusiness Program (PUAP) in 2016. Through this program, 100 IDR million was already disbursed used as capital for groups to support farmer institutions in developing agribusiness activities in the input, production (Farm) and output sectors such as processing and marketing. In the input sector, the Agricultural Equipment and Machinery Service Unit (UPJA) was developed, as well as a fertilizer and pesticide kiosk. In the production sector (Farm), land productivity optimization was already developed by using agrochemical inputs and increasing cropping intensity, with the dominant vegetable commodities being water spinach, spinach and mustard greens. Meanwhile, the output sector developed joint marketing activities and exploring marketing to supermarkets and to end consumers without going through middlemen. The transformation towards agribusiness in the SPI group received less attention. The agricultural model being developed was agroecology. This effort was intended to rebuild local wisdom by developing self-produced seeds such as clear beans, winged beans and chilies. Apart from that, they began to restore natural methods of production and revive local micro-organisms for natural soil fertility. This initiative did not yet receive the government support that the activities carried out tended to develop independently by utilizing the potential in the group. This early agroecological plant did not yet result in optimal productivity and a special marketing network for natural vegetable products was not yet carried out. The dynamics in each farmer institution could be seen from the dimensions of Group Objectives, Group Structure, Group Task Functions and Group Effectiveness. The average score obtained for each element of dynamic formation was presented in Table 2.
The average number of scores obtained by Gapoktan was 27.73 with moderate criteria, not much different from SPI of 26.60. Both institutions received moderate criteria. The criteria showed that the internal strength of the group was not yet fully able to encourage agribusiness development. External support such as the government, perusahaan and NGOs was more influential in encouraging farmers to market vegetable products to supermarkets than the dynamics within farmer groups. Trebbin (2014) states that the role of the organization was very limited in helping the farmers' position in the supply chain to supermarkets. The study conducted by Bakhtiar et al. (2020) showed that the dynamic value of the horticultural group in Malang was in the high category. It was different from this study in a way that this study did not look at the dynamics in the context of agribusiness development but in the context of farming. When viewed from the dimension of group dynamics of Gapoktan, only the objective dimension of the group got a high criterion. This showed that the government-fostered farmer groups put more emphasis on achieving the objectives of vegetable agribusiness activities. The scores for group structure, group task function and group effectiveness of Gapoktan belonged to moderate criteria. As for the SPI, the group task function and group effectiveness were in moderate criteria and the group structure was in a high criterion. A high group structure reflects an egalitarian and democratic structure. Decision-making in the organization was derived from the grassroots level in accordance with to the needs and problems at hand.

Factors Affecting Dynamics

Analysis of the factors influencing the group dynamics was carried out using the Crosstabs Chi Square. In this analysis the two layers were combined to have sizeable sample to meet the chi-squared test criteria. The sample frequencies resulted from the two groups that have been combined, there were 17 samples in the medium criteria and 13 samples with high criteria The factors to be analyzed were Age of Farmers, Education, Status in Group and Credit Facility. The effects of each of these factors would be described in the following sections.

Age of Farmers

The age of farmers was one of the most important factors in influencing the group dynamics. The age was grouped into three categories, namely young age (25–39 years old), middle age (40–52 years old) and old age (53–64 years old). The younger age was more responsive to activities. Table 3 showed the effect of farmer age on the group dynamics.

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| Component Elements        | Gapoktan | SPI  |
|---------------------------|----------|------|
| Score                     | Criteria | Score | Criteria |
| Group Objectives          | 8.40     | High  | 6.13     | Moderate |
| Group Structure           | 6.40     | Moderate | 7.80     | High    |
| Group Task Function       | 6.33     | Moderate | 6.27     | Moderate |
| Group Effectiveness       | 6.60     | Moderate | 6.40     | Moderate |
| Jumlah                    | 27.73    | Moderate | 26.60    | Moderate |

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Table 1. Value of the class interval for farmer institutional dynamics

| Class Interval Score (total score) | Class Interval Value (per indicator) | Class Interval Value (per question) | Criteria |
|-----------------------------------|-------------------------------------|-------------------------------------|----------|
| 12.00 ≤ x ≤ 20.00                | 3.00 ≤ x ≤ 5.00                     | 1.00 ≤ x ≤ 1.66                     | Low      |
| 20.00 < x ≤ 28.00                | 5.00 < x ≤ 7.00                     | 1.66 < x ≤ 2.33                     | Medium   |
| 28.00 < x ≤ 36.00                | 7.00 < x ≤ 9.00                     | 2.33 < x ≤ 3.00                     | High     |

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Table 2. Average Score of farmers' institutional dynamics

Table 3. The effect of farmer age on the group dynamics

| Farmer Age | Moderate | %    | High   | %    | Total   | %    |
|------------|----------|------|--------|------|---------|------|
| Young Age  | 1        | 20.00| 4      | 80.00| 5       | 100.00|
| Middle Age | 7        | 46.07| 8      | 53.33| 15      | 100.00|
| Old Age    | 9        | 90.00| 1      | 10.00| 10      | 100.00|
| Total      | 17       | 56.67| 13     | 43.33| 30      | 100.00|

Table 4. The effect of education on group dynamics

| Education            | Moderate | %    | High   | %    | Total   | %    |
|----------------------|----------|------|--------|------|---------|------|
| Elementary           | 16       | 76.19| 5      | 21.81| 21      | 100.00|
| Junior High Schools  | 1        | 14.29| 6      | 85.71| 7       | 100.00|
| Senior High Schools  | 0        | 00.00| 2      | 100.00| 2       | 100.00|
| Total                | 17       | 56.67| 13     | 43.33| 30      | 100.00|

The Most of the young farmers (80.00%) have high group dynamics, on the contrary most of the older farmers (90.00%) have moderate group dynamics. The results of the crosstabs chi square test using the SPSS for Windows version 16 program showed that the calculated Pearson Chi Square value was 7.87. This value was greater than that of the chi square table df = 2 with α 0.05 of 5.99, so that the Ho was rejected. This was also reinforced by the calculated Asymp. Sig (2-sided) Chi-Square value of 0.02 where the value was < α (0.05) to reject the Ho. In other words, there was a significant effect of farmer age on the group dynamics, where young farmers had higher group dynamics than those of the older farmers.

Education

Education influenced farmer behavior in group activities and adopted new, more effective methods. The formal education completed by the farmers consisted of three categories, namely Elementary, Junior and Senior High Schools. In Table 4, most of the farmers who graduated from the elementary school (76.19%) had moderate group dynamics, whereas most of the farmers who graduated from junior and senior high schools had high group dynamics.

The results of the crosstabs chi square test using the SPSS for Windows version 15 program showed that the calculated Pearson Chi Square value was 7.87. This value was greater than that of the chi square table df = 2 with α 0.05 of 5.99, so that the Ho was rejected. This was also reinforced by the calculated Asymp. Sig (2-sided) Chi-Square value of 0.004 where the value was < α (0.05) to reject the Ho. That is to say, there was an influence of education on group dynamics, in which the farmers who completed higher education had higher group dynamics than those who had lower education.

Status in the Organization

The status in the organization between the management and members was different in responsibility of running the organization. The administrators had more responsibility for encouraging the group dynamics. Table 5 shows the effect of Status in the organization on Group Dynamics.

Most of the farmers who were the members of the organization (68.18%) had moderate group dynamics, on the other hand most of the organizational administrators (75.00%) had high group dynamics. The results of the crosstabs chi square test using the SPSS for Windows version 15 program showed that the calculated Pearson Chi Square value was 4.46. This value was greater than that of the chi square table df = 1 with α 0.05 of 3.84, as a result the Ho was rejected.
Table 5. The effect of status in the organization on group dynamics

| Status in Organization | Moderate | % | High  | %  | Total | %  |
|------------------------|----------|---|-------|----|-------|----|
| Member                 | 15       | 68.18 | 7     | 31.82 | 22    | 100.00 |
| Administrators         | 2        | 25.00 | 6     | 75.00 | 8     | 100.00 |
| Total                  | 17       | 56.67 | 13    | 43.33 | 30    | 100.00 |

Table 6. The effect of credit on the group dynamics

| Akses Kredit | Moderate | %  | High  | %  | Total | %  |
|--------------|----------|----|-------|----|-------|----|
| Having Access| 3        | 30.00 | 7    | 70.00 | 10    | 100.00 |
| No Access    | 14       | 70.00 | 6    | 30.00 | 20    | 100.00 |
| Total        | 17       | 56.67 | 13   | 43.33 | 30    | 100.00 |

This was also reinforced by the calculated Asymp.Sig (2-sided) Chi-Square value of 0.035 where the value was < α (0.05) to reject the Ho. In other words, there was an influence of status within the organization on group dynamics, where farmers who were in charge of the organization had higher group dynamics compared to those who were only members.

Credit Access

Access to credit was only owned by Keramat Jaya Gapoktan because it already received funds from the government through the Rural Agribusiness Program (PUAP). Meanwhile, the Indonesian Farmer Union did not yet have access to credit. The credit provided by Gapoktan was used by the members to buy seeds, fertilizers and pesticides, although it could not yet serve all the needs of the members. The credit was needed to encourage a program achievement in the Agribusiness sector. Table 6 shows the effect of credit on the group dynamics. Table 6 shows that most farmers having the access to credit (70.00%) had high group dynamics, on the other hand most of the farmers who did not have access to credit (70.00%) had moderate group dynamics. The results of the crosstabs chi square test using the SPSS for Windows version 15 program showed that the calculated Pearson Chi Square value was 4.34. This value was greater than the value of the chi square table df = 1 with α 0.05 of 3.84, as a result the Ho was rejected. This was also reinforced by the calculated Asymp.Sig (2-sided) Chi-Square value of 0.037 where the value was <α (0.05) to reject the Ho. That is to say, there was an influence of access to credit on group dynamics, where farmers having access to credit had higher group dynamics than those who did not.

Collaborative Learning Framework

Based on the institutional dynamics of Gapoktan and SPI and the factors that influenced them, the Strengths, Weaknesses, Opportunities and Threats from each of these institutions could be identified. The SWOT method was used to develop a collaborative learning institutional framework in the development of vegetable agribusiness. Table 7 shows the results of the SWOT identification.

Table 7 shows that Gapoktan and SPI have their respective strengths and weaknesses. In certain aspects, Gapoktan have strengths but the SPI have weaknesses, such as in the aspects of clarity and understanding of the organizational objectives. Likewise with the opportunities and threats. Gapoktan is more likely to take advantage of support from the government, while the SPI as an organization with a non-government character is more likely to get support from donor agencies. From the threat aspect, the government supporting the conventional agriculture is a threat to the SPI wanting to develop the organic agriculture.
Table 7. SWOT identification for Keramat Jaya Gapoktan and Talang-Keramat-Based SPI

| Description | Gapoktan | SPI |
|-------------|----------|-----|
| Strengths   |          |     |
| 1.          | The Organizational objectives were practical and easy for the members to understand | 1. Democratic Organizational Structure |
| 2.          | Obtaining PUAP funds from the government | 2. Independent in providing production input |
| 3.          | Production experience | 3. Eco-friendly products |
| 4.          | Having a savings and loan unit | 4. Having a network of up to a National level |
| 5.          | Having a Service Unit of Agricultural Tools and Machinery (UPJA) | 5. Dialogic educational process |
| Weaknesses  |          |     |
| 1.          | Domination of the leading actors | 1. Not optimum understanding of the organization objectives |
| 2.          | Dependence on input of outside production | 2. No particular marketing network of the organic products |
| 3.          | Marketing depends on middleman | 3. Low education of the members |
| 4.          | Low education of the members | 4. Not having a savings and loan unit |
| 5.          | One-way educational process tendency | 5. Low coordination among the sections |
| 6.          | Low coordination among the sections | 6. No post-harvest technology |
| 7.          | No post-harvest technology | 7. Slow process of decision making |
| Opportunities |          |     |
| 1.          | The increasing need for vegetables | 1. The increased public awareness of organic vegetables consumption |
| 2.          | Government support | 2. The recognition of the rights of farmers |
| 3.          | New growth centers at Tanjung Api-Api area | 3. Absorb employment |
| 4.          | Credit services | 4. Donor support |
| 5.          | Corporate CSR | 5. Agricultural insurance |
| Threats     |          |     |
| 1.          | Change of land function | 1. Continual government support of conventional farming |
| 2.          | The declined interest of the younger generation on agricultural business | 2. Climate change |
| 3.          | Vegetable price fluctuation | 3. Vegetable price fluctuation |
| 4.          | Imported vegetable products | 4. Imported vegetable products |

Table 8. Collaborative learning framework

|                  | Internal Organization | Between Organizations |
|------------------|-----------------------|-----------------------|
| Technological Aspects | Agricultural Extension | Field Trip |
|                   | Mentoring             | Technology Exhibition |
|                   | Training              | Farming Demonstration |
|                   | Plot Demonstration    | Farmer Apprenticeship |
| Institutional Aspects | Organization Routine Meeting | Farmer Communication Forum |
|                    | Annual Work Meeting   | Farmer Jamboree |
|                    | Member Deliberation   | Multi-stakeholder Forum |
|                    | Congress              | Collaborative Network |

The strengths and weaknesses as well as the opportunities and threats of each of these institutions are the basis for the preparation of a collaborative learning framework in the development of vegetable agribusiness in Kelurahan Talang Keramat. Information that can be exchanged can be in the form of technological or institutional aspects, while the space created can be within an organization or between organizations. The collaborative learning framework from the technological aspect aims to find, share and use vegetable agribusiness development technology both within the organization's internal environment and between Gapoktan and the Indonesian Farmers Union. Meanwhile, from the institutional aspect, it aims to strengthen internal organizations and networks between institutions (Table 8).

CONCLUSION

The results of the study show that the farmer institutional dynamics are on the average in moderate criteria with different
dynamic indicators. The government-fostered groups prioritize more on achieving agribusiness goals, while the NGO-fostered groups develop an egalitarian structure. The factors significantly influencing the institutional dynamics of farmers are farmer age, education, status in the organization, and access to credit. The collaborative learning framework from the technological aspect aims to discover, share and use vegetable agribusiness development technology. From the institutional aspect, it aims to strengthen organizations and networks.

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