

**FARMERS' PERCEPTIONS OF THE ROLE OF GAPOKTAN
IN THE IMPLEMENTATION OF SERASI PROGRAM IN
TANJUNG LAGO DISTRICT, BANYUASIN REGENCY****Siska Tri Wulandari*, Elisa Wildayana, and Desi Aryani**

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ABSTRACT

Farmers' perception of the role of Gapoktan is one of the factors driving farmer participation in agricultural activities and Gapoktan institutions in Tanjung Lago District, Banyuasin Regency. This study aims to (1) analyze farmers' perceptions of the combined role of farmer groups in the implementation of the Save Rawa Prosperous Farmers (Serasi) program in Tanjung Lago District, Banyuasin Regency; (2) analyze the differences in the income of rice farmers before and after the Serasi program in Tanjung Lago District, Banyuasin Regency. The method used in this study is a survey; the data types used are primary data and secondary data. The selection of research locations was carried out purposively, considering that the Tanjung Lago sub-district is one of the sub-districts with a large swamp area. In the application of the Serasi program, there is an active Gapoktan, and the majority of the farmers cultivate rice. The results shown in this study are (1) Farmers' perceptions of the role of Gapoktan in implementing the Serasi program in Tanjung Lago District, Banyuasin Regency in the category of farmer's role as a processing unit of 257.4 (High), the category of Gapoktan's role as a processing unit of 267.2 (Very High), the category of Gapoktan's role as facilities and infrastructure is 268.4 (Very High) and the category of Gapoktan's role as marketing unit is 271.6 (Very High); (2) there is an increase in the income of rice farmers before the Serasi program with an average income of Rp. 53,512,267/year and Rp. 71,505,884/year. Suggestions government should follow up on the sustainability of the Serasi program because it is very effective in increasing rice production and the economy. Efforts are needed to increase farmer assistance from related government agencies/agencies and empowerment of the role of Gapoktan. Farmers continue to optimize aid to the government to become independent and prosperous farmers the role of Gapoktan contributes to improving the quality of human resources, production, and agricultural productivity.

Keywords: *farmers perception, income, participation, role of gapoktan*

BACKGROUND

The agricultural sector is a sector that plays a strategic role in the structure of national economic development. This was proven when Indonesia experienced a monetary and financial crisis that provided empirical evidence that the agricultural sector was the most resilient in facing the global crisis. The agricultural sector was the only sector that grew negatively by -13.7 percent (1998), while other sectors grew negatively by -13.7 percent (1998). The agricultural sector, especially food (rice), is very strategic and can be the primary basis for future economic development in Indonesia. Besides being a staple food, rice is also a source of income for the majority of Indonesian people, both as producers and farmers (Indirasari, 2012). According to data from the Ministry of Communication and Informatics, the structure of the working population by occupation in August 2019 was still dominated by three main fields, namely agriculture at 27.33%, trade at 18.81%, and processing industry 14.96%.

The food problems faced by Indonesia today are due to the large population and followed by the large number of fertile rice fields that have been converted into residential land, as well as natural disasters in the form of dry conditions or floods that occur almost every year which results in reduced rice production to meet national needs, the government must import rice from other countries (Purnamaningsih, 2006). Meanwhile, agricultural land every year decreases in quantity and quality. The area of ground in Indonesia, which is currently no longer in the form of forest areas but has become agricultural land or land that has been used, is 70.2 million ha, which consists of rice fields, fields, plantation yards, and pastures, timber and ponds (BBSDLP, 2008). The area of abandoned land is recorded at 11.3 million ha, so the adequate agricultural land is only 58.9 million ha. Rice fields tend to shrink due to land conversion at an average rate of 1.0-1.5% or around 75-90 thousand ha per year, which is not offset by printing new rice fields. 42% of irrigated rice fields are threatened with changing functions, as stated in Indonesia's RT/RW in districts/cities.

Plantation land has expanded rapidly in the last 20 years, from 8.77 million ha in 1986 to 18.5 million in 2006. In that period, oil palm was the primadonna commodity that dominated agricultural land use, from 0,6 million to 6.3 million ha. In terms of quantity, agricultural land is reduced due to the conversion of agricultural land into residential areas, industries, and others. According to Hidayat (2008), nationally, every year, there is a conversion of 100,000 ha of paddy fields (including 35,000 ha of irrigated land), thus meaning that by 2030 Indonesia will lose 242 million ha of rice fields, while in terms of quality, the fertility of agricultural land is reduced.

Strategic natural resources for development are land (Kasryno, 2000). Almost all areas of physical development require lands, such as agriculture, forestry, housing, mining, and transportation. In agriculture, the land is a vital resource for farmers and agricultural development. Based on the fact that agriculture in Indonesia still relies on agricultural land (Darma & Ritohardoyo, 2013). Indonesia's agricultural land consists of swamps, irrigated land, wetlands, and dry land. One of the land resources (agroecology) that has not been appropriately utilized is tidal land. Tidal swampland is an agroecological type that has great potential for agricultural development, especially food crops (Haryono, 2013)

The development of tidal swampland agriculture is one of the efforts to respond to the challenges of increasing agricultural production, which is an increasingly complex (Nazemi & Hairani, 2012). With proper management through appropriate technological innovations, tidal swampland has reasonable prospects of developing into productive agricultural land. However, the use of tidal marsh for the cultivation of food crops, especially rice, faces several obstacles and problems, including low soil fertility, acidic soil reactions, presence of pyrite, high levels of Al, Fe, Mn, and organic acids, low P, poor in basic cations such as Ca, K, Mg, and suppressed microbial activity (Arsyad, 2014).

Utilization of tidal swampland in supporting the program to increase national food production can be done because various technological innovations are available (Suriadikarta, 2011), such as (1) water and soil management technology, including micro water management, land management, amelioration and fertilization; (2) new superior varieties that are more adaptive and productive; and (3) appropriate agricultural tools and machines for the typology of the land. However, the development and optimization of tidal swampland use also face non-technical obstacles, including the capital, availability of labor, and technology mastery by farmers.(Suriadikarta & Sutriadi, 2007).

One of the provinces in Indonesia, namely South Sumatra, has an essential sub-agriculture in the economic development of food crops, namely rice (Agricultural Research and Development

Agency, 2011). One of the contributors to swamp rice production in South Sumatra is Banyuasin Regency. Rice is one of the primary food crop commodities in the Banyuasin Regency. The breakdown of harvested area, production, and productivity per sub-district in Banyuasin Regency in general in 2019 is as follows:

Table 1. Planting Area, Harvest Area, and Rice Production per District in Banyuasin Regency in 2019.

No.	Subdistrict	Planted Area (Ha)	Harvest Area (Ha)	Production (Tons)
1.	Banyuasin II	976	960	4,284
2.	Sembawa	607	639	2,851
3.	Rimau Island	11,675	4,517	20,150
4.	Penuguan Strait	2,887	15,034	67,066
5.	Tungkal Ilir	2,850	2,756	12,294
6.	Rantau Bayur	16,296	15,758	70,297
7.	Betung	2	2	9
8.	Suak Tapeh	699	950	4,236
9.	Talang Kelapa	790	754	3,365
10.	Tanjung Lago	14,507	16,024	71,484
11.	Banyuasin II	10,246	3,842	17,139
12.	Karang Agung Ilir	4,859	11,758	52,451
13.	Muara Telang	32,745	41,275	184,130
14.	S. M. Telang	12,178	11,838	52,809
15.	Makarti Jaya	9,679	13,711	61,165
16.	Air Salek	20,316	33,649	150,107
17.	Banyuasin I	4,205	4,342	19,369
18.	Air Kumbang	1,771	1,852	8,262
19.	Rambutan	5,951	5,749	25,645
20.	Muara Padang	6,074	8,740	38,988
21.	Muara Sugihan	26,522	30,281	135,084
Amount		185,834	224,431	1,001,185

Source: Banyuasin Regency Agriculture Office, 2019

The table above shows that rice production in Banyuasin Regency in 2019 generally reached 1,001,185 tons. Of the 21 sub-districts in Banyuasin Regency, the most significant contributor to rice production is Muara Telang District, with 184,130 tons (Banyuasin Regency Agriculture Office, 2019). Supporting agricultural development in tidal swampland, the government in the 2019 budget year provided a budget for optimizing activities for tidal marsh through a pattern of government assistance which was handed over directly to a combination of farmer groups. Government assistance to farmer group associations refers to the Regulation of the Minister of Finance Number 173/PMK.05/2016 concerning Mechanisms for Implementing Government Assistance Budgets at State Ministries/Institutions with the program Save the Welfare of Farmers or Serasi (Banyuasin Regency Agriculture Office, 2019). The Ministry of Agriculture (Kementan) strives to increase the agricultural production index. According to data Central Bureau of Statistics (2018) in the 2017 Agricultural Index released in November 2018, in the period 2013-to 2017, the food crop production index has increased from year to year. While in 2013, the food crop production index was only 104.41, that value rose to 120.12 in 2017. Serasi Program is one of the Ministry of Agriculture's strategies to realize Indonesia's target of becoming a food barn in 2045.

Serasi Program is one of the leading activities in the Directorate of Agricultural Infrastructure and Facilities (PSP) of the Indonesian Ministry of Agriculture. This swampland optimization activity aims to increase the cropping index (IP) or increase productivity and increase the participation of Gapoktan in the management of swamp agricultural land (Banyuasin Regency Agriculture Office, 2019). Increasing the involvement of Gapoktan plays a vital role in a farming business because, as a supporter of agricultural development, it is necessary to develop and motivate farmers to increase production yields.

The application of this innovation is expected to optimize the utilization of tidal swampland resources and increase the productivity and income of farmers, especially in South Sumatra. Banyuasin Regency is one of the regencies that carry out Serasi program activities; this is because the area of swampland owned is comprehensive and adequate for the program's implementation and meets the criteria of the program requirements. The implementation of this program will also affect farmers around the Banyuasin Regency area. The details of swamp rice planting area per sub-district in Banyuasin Regency participating in the Serasi program in 2019 are as follows:

Table 2. Swamp rice planting area per sub-district in Banyuasin Regency participating in the 2019 Serasi program.

No.	Subdistrict	Planted Area (Ha)
1.	Muara Telang	18,582
2.	Air Salek	13,419
3.	Tanjung Lago	8,085
4.	Air Kumbang	665
5.	Makarti Jaya	3,011
6.	Muara Padang	3,591
7.	Muara Sugihan	16,967
8.	Penuguan Strait	5,710
9.	Rimau Island	619
10.	Tungkal Ilir	903
11.	Banyuasin II	1,539
12.	Sumber Marga Telang	2,327
13.	Rambutan	1,927
14.	Suak Tapek	1,034
15.	Rantau Bayur	4,180
Amount		82,559
Average		5,503

Source: Banyuasin Regency Agriculture Office, 2019

Based on the data table above, several sub-districts in Banyuasin Regency participate in the Serasi program and the planting area of swamp rice in each sub-district. The total planted area of swamp rice that participated in the Serasi program in Banyuasin Regency was 82,559 ha. The highest data for the area of swamp rice that participated in the Serasi program in Banyuasin Regency was Muara Telang District, Muara Sugihan District, Air Salek, and the fourth largest was Tanjung Lago District. Tanjung Lago sub-district is a sub-district where most of the population is farmers. Supported by the role of farmer institutions such as Gapoktan, it becomes a gathering place for farmers. It can improve and develop farmers' abilities in farming to be more effective and efficient in increasing production yields.

Banyu Urip and Bangun Sari villages have the largest area of swampland that is part of the Serasi program in Tanjung Lago District. A sound irrigation system and the role of Gapoktan contribute to socio-economic development in this village. Such as accessibility to agricultural information, access to capital, infrastructure, and markets, and the adoption of agricultural innovations. This Gapoktan was formed independently or based on policy interests from the government through relevant agencies to solve the problems faced by farmers in the village. This Gapoktan contributes to accelerating the socio-economic development of farmers (Effendy, 2020); accessibility to agricultural information (Arfadi et al., 2018); accessibility to capital, infrastructure, and markets (Karyani & Akbar, 2016); and adoption of agricultural innovations (Ratna, 2012).

The formation of Gapoktan is a manifestation of consolidated agriculture because, with compact agriculture, the procurement of production facilities and the sale of products can be carried out together, as well as maximizing the process of agricultural production so that it will have an impact on increasing production inputs and farmers' income. It utilizes the combined role of farmer groups as agricultural development is a form of developing and motivating farmers to increase production yields. The existence of the role of Gapoktan will make it easier for the government and stakeholders (Safe'i et al., 2018). Farming development as an effort to accelerate the target can further improve and develop the ability of farmers and their families as subjects of agricultural development through a group approach so that they play a more significant role in development. The formation of Gapoktan is based on the vision that is carried out, that modern agriculture is not only related to current agricultural machines, but it is necessary to have an economic organization that can touch and moves the economy in the village through agriculture on the principles of togetherness and partnership to achieve increased production and farm income for its members.

Farmers' perceptions of the role of Gapoktan can be one of the driving factors for farmer participation or involvement in agricultural activities and Gapoktan institutions (Oktarina, 2015). In other words, the success of Gapoktan is strongly influenced by the size of the role given through the activities and the form of that role, and it can not only improve the welfare of its member farmers but also be able to increase their farming. Based on the description above, this study aims to: (1) analyze farmers' perceptions of the combined role of farmer groups in the implementation of Serasi Program in Tanjung Lago District, Banyuasin Regency; (2) Analyzing the differences in the income of rice farmers before and after the Serasi Program in Tanjung Lago District, Banyuasin Regency. (3) analyzing the relationship between farmers' perceptions of the combined role of farmer groups with farmers' income in applying for the cooperative program in Tanjung Lago District, Banyuasin Regency.

RESEARCH METHODS

This research was conducted in Tanjung Lago District, Banyuasin Regency. The selection of research locations was carried out purposively, considering that the Tanjung Lago sub-district is one of the sub-districts with a large swamp area. In the application of the Serasi program, there is an active Gapoktan, and the majority of the farmers cultivate rice. Data collection was carried out from February – to April 2021.

The method used in this research is a survey method. This method is carried out directly at the research location and conducts direct interviews using questionnaires to collect primary data from farmers (Wiradi, 2009). The sampling method used is simple random sampling, based on the

following criteria: (1) farmers who have implemented the Serasi Program, (2) farmers who are engaged in tidal swamp rice farming, (3) farmers who are members of the Gapoktan. Farmers are members of the Gapoktan who participate in the Serasi Program in Tanjung Lago District, Banyuasin Regency.

Tanjung Lago District consists of 10 villages that have implemented the Serasi Program from the government. Of the ten villages, the samples in this study were Banyu Urip Village and Bangun Sari Village. In Banyu Urip Village, 696 farmers are members of Gapoktan, while in Bangun Sari Village, 796 farmers are members of Gapoktan. Samples were taken from 40 farmers in Banyu Urip Village and 40 in Bangun Sari Village. The sampling technique used the formula from Taro Yamane and Slovin as follows:

$$n = \frac{N}{N(d)^2 + 1}$$

Information:

n : Number of samples sought

N : Total Population

D : Precision value (determined 5% with 95% confidence level)

In addition, the types of data collected are primary and secondary data: (1) Primary data is data obtained directly from the field or research site. In this study, the primary data collected were data obtained using direct interviews with swamp rice farmers who implemented the Serasi program in Tanjung Lago District, Banyuasin Regency; (2) Secondary data is data obtained from government reports, legislation, articles, books as theory and so on (Sujarweni & Wiratna, 2014). Researchers use secondary data to strengthen the primary data carried out—secondary data obtained from the Banyuasin Regency Agriculture Service and the Banyuasin Regency Central Statistics Agency.

Data collection is a way of collecting the data needed to answer the problem formulation. In collecting data, the researchers used three types of methods, namely:

1. Observation
2. Interview (Interview)
3. Documentation

The data processing method is carried out, tabulated, and described descriptively. Data processing is carried out on observations, interviews, and documentation data. Definitively, data processing is to present data or information obtained in the field to obtain complete and orderly results.

1. Farmers' Perceptions of the Role of Gapoktan in Banyuasin Regency

The data obtained from the Likert's scale questionnaire results were tabulated. In the Likert scale, the variable of farmers' perceptions of the role of Gapoktan will be measured and translated into variable indicators. Then the indicator is used as a starting point for compiling instrument items in the form of statements or questions. According to the Regulation of the Minister of Agriculture No. 273 of 2007, the roles of Gapoktan are (1) Gapoktan as a farming business unit, (2) Gapoktan as a management business unit, (3) Gapoktan as a facility and infrastructure unit (4) Gapoktan as a marketing business unit.

The data obtained from the respondents' answers to the questionnaire were then analyzed using the scoring method (score). All criteria for assessing farmers' perceptions of the role of Gapoktan will be given a predetermined score. According to Sugiyono (2009), to facilitate the

assessment of respondents' answers, the Likert's Scale category criteria were made. The category class criteria used in this study were as follows: (1) (Very Low/VL), (2) (Low/L), (3) (High/H), and (4) (Very High/VH). All criteria for assessing farmers' perceptions of the role of Gapoktan will be given a predetermined score, namely (1) score 4 (Very High/VH), (2) score 3 (High/H), (3) score 2 (Low/L), and score 1 (Very Low/VL).

The first is to determine the ideal score for each answer scale. The ideal score is the score that is used to calculate the score to determine the maximum and minimum value and determine the number of scores based on the criteria line criteria. To calculate the number of ideal scores (measures) of all items, the following formula is used (Martono, 2010):

$$\text{Criterion Score} = \text{Scale Value} \times \text{Number of Respondents}$$

Where the criteria scores for each answer scale are:

1. $S_4 = 4 \times 80 = 320$ (Very High/VH)
2. $S_3 = 3 \times 80 = 240$ (High/H)
3. $S_2 = 2 \times 80 = 160$ (Low/L)
4. $S_1 = 1 \times 80 = 80$ (Very Low/VL)

The total score is entered into the criteria line, the measurement of which is determined in the following way.

1. Maximum Index Value = Highest answer scale \times Number of respondents = $4 \times 80 = 320$
2. Minimum Index Value = Lowest answer scale \times Number of respondents = $1 \times 80 = 80$
3. Distance Interval = (maximum value – minimum value) / 4 = $(320 - 80) / 4 = 60$

Information regarding the boundary line criteria for each statement can be seen below:

1. 80 score < 140 is in the Very Low/VL category
2. 140 score < 200 is in the Low/L category
3. 200 score < 260 is in the High/H category
4. 260 score < 320 is in the Very High/VH category

The interpretation of the values is as follows:

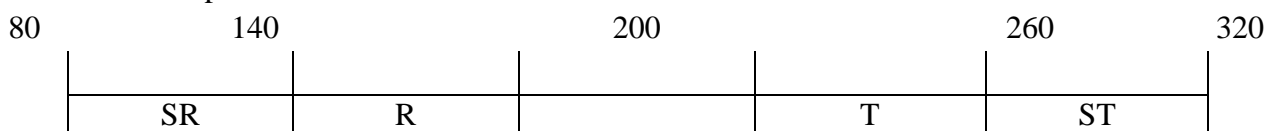


Figure 1. Understanding of the value of the statement assessed by 80 respondents

2. Farmers' Income

Calculate the income of rice farmers using the equation:

$$Pd = TR - TC$$

$$TR = Y \cdot Py$$

$$TC = FC + VC$$

Information:

- Pd : Farmer's income (Rp/ha/year)
 TR : Total Revenue (Rp/ha/year)
 TC : Total Cost (Rp/ha/year)
 Py : Production Price (Rp/Kg)
 Y : Total Production (Kg/ha/year)
 FC : Fixed Cost (Rp/ha/year)
 VC : Variable Cost (Rp/ha/year)

Differences in income were analyzed using the t-test with accurate and critical values; the significance level was 5% (Arikunto, 2019). To determine the required value using the distribution table t required degrees of freedom (df), where $df = N - 1$.

$$t = \frac{md}{\sqrt{\frac{\sum x^2 d}{N(N-1)}}}$$

$$\sum x^2 d = (d - md)$$

Information:

- T : Statistical test value or t-test
- Md : Average of the difference in farmers' income before-after the implementation of the program
- $\sum x^2 d$: Deviation from income
- N : Number of Respondents
- D : degrees of freedom determined by the formula (N-1)

If the value of t count > t table, the income of swamp rice farmers before and after the Serasi Program has a significant difference. On the other hand, if the value of t count < t table, the income of swamp rice farmers before and after implementing the Serasi Program is not significantly different.

3. The Relationship of Farmers' Perceptions on the Role of Gapoktan with Rice Farmers' Income

Guidelines for providing the interpretation of the Spearman Rank correlation coefficient are in the Table 3.

Table 3. Spearman Rank Correlation Coefficient Interpretation (Rs)

Coefficient Interval	Relationship Level
0.00 – 0.199	Very low
0.20 – 0.399	Low
0.40 – 0.599	Strong enough
0.60 – 0.799	Strong
0.80 – 1,000	Very strong

Source: Sugiyono, 2017

RESULT AND DISCUSSION

Farmers' Perceptions of the Role of Gapoktan

Gapoktan is a combination of farmer groups that join and work together to increase economies of scale and business efficiency (Nuryanti & Swastika, 2011; Sugiyanto, 2017). Gapoktan is formed based on (1) mutual interest between members, (2) being in a farming area which is a shared responsibility among members, (3) having management cadres who are dedicated to mobilizing farmers, (4) having cadres or leaders who are accepted by the community, other farmers, (5) Having activities that most members can benefit from, and (6) There is encouragement or benefits from local community leaders (Erlinawati, 2010).

Building the ideal Gapoktan requires the support of quality human resources through a continuous coaching (Sodikin, 2021). Growing and developing a solid and independent Gapoktan is expected to directly solve farmers' problems, financing, and marketing (Revikasari, 2010). Gapoktan development can be done by empowering farmers as farming units, processing, production facilities and infrastructure, and marketing (Asiala, 2018). According to the Ministry of Agriculture Number:

273/Kpts/Ot.160/4/2007, concerning the guidelines for the growth and development of farmer group associations.

Gapoktan in Tanjung Logo sub-district, Banyuasin Regency, carries out activities such as repair of collector channels, construction of connector channels and embankments, installation of culverts, construction of farm road embankments, spread planting, land preparation, assistance with seeds, fertilizers and dolomite and building of pumps. In addition, the harmonious activities carried out by Gapoktan in the Tanjung Logo sub-district, Banyuasin district, are conducting an investigator and design survey, infrastructure development and repair, pre-and post-harvest machine tools assistance. The total assessment of farmers' perceptions of the role of Gapoktan in Tanjung Lago District, Banyuasin Regency, using the Likert method is shown in Table 4.

Table 4. The total assessment of farmers' perceptions of the role of Gapoktan, Tanjung Lago District, Banyuasin Regency

No.	Role	Average value	Criteria
1.	Farming Unit	257.4	H
2.	Processing Unit	267.2	VH
3.	Facilities and Infrastructure Unit	268.4	VH
4.	Marketing Unit	271.6	VH

Description: Very Low (VL), Low (L), High (H), Very High (VH)

Table 4. shows that the results of the assessment of farmers' perceptions of the role of Gapoktan in Tanjung Lago District, Banyuasin Regency, using the Likert method resulted in an average value in each category, such as the category of the role of Gapoktan as a farming unit of 257.4 with high criteria because it is based on on the assessment made by farmers to Gapoktan as a farming business unit. The next category is the role of Gapoktan as a processing unit with an average value of 267.2 with very high criteria because it is based on the results of the assessment conducted by farmers on farmer groups. The next category is the role of Gapoktan as a unit of facilities and infrastructure with an average value of 268, 4 with very high criteria because, based on the Gapoktan assessment, it provides services to all members to meet the needs of production facilities and agricultural machinery, both based on kredit/farm capital for members of farmer groups who need it or from self-funding the rest of the business results. And the category of Gapoktan's role as a marketing unit with an average value of 271.6, the criteria is very high because Gapoktan can provide services for marketing facilities for its members' agricultural products in the form of network development and partnerships with other parties as well as direct marketing. The high role of Gapoktan in the Tanjung Lago District is supported by the role of Gapoktan as a unit with their respective criteria. Besides that, The high role of Gapoktan in Tanjung Lago District, Banyuasin Regency is caused by the support of relevant agencies so that it can run well. One of them is getting support or contributions from the Regional Government in the form of land conditioning with owners, preparation of farmer human resources, compensation agreements for land affected by infrastructure, inserting electricity lines to locations with PJU format, and operator fuel and maintenance.

Income

Farming income is the difference between farm income and total production costs incurred per year (Rp/ha/year). The condition of farmers' income before the cooperative program tends to be below. This is because farmers do not know how to increase their income, but they can improve after

the joint program. The results of the analysis of the average income of rice farming before and after the Serasi program in Tanjung Lago District, Banyuasin Regency, are shown in Table 5.

Table 5. Average Rice Farming Income Before and After the Harmony Program in Tanjung Lago District, Banyuasin Regency in 2019

No.	Component	Before	After
1.	Revenue (Rp/ha/year)	61,281,420	84,455,537
2.	Total Cost	7,707,500	12,949,653.65
	a. Fixed Cost (Rp/year)	61,653.65	61,653.65
	b. Variable Cost	7,707,500	12,888,000
3.	Income (Rp/ha/year)	53,512,267	71,505,884

Table 5. shows that based on the analysis results, the average income of farmers before the Serasi program in Tanjung Lago District was Rp. 53,512,267,- Ha/yr. This income is obtained from the reduction in the receipts of swamp rice farmers in Tanjung Lago District, which is Rp. 61,281,420,- Ha/year with a total farming cost of Rp. 7,707,500,- Ha/yr. Based on the analysis results, the average income of farmers after the Serasi program in Tanjung Lago District is Rp. 71,505,884,- Ha/yr. The amount of this income is obtained from the reduction in the receipts of rice farmers in Tanjung Lago District, which is Rp. 61,653.65,- Ha/year, with a total cost of farming that is Rp. 12,888,000,- Ha/year. Farmers' income will be higher if farmers can reduce production costs incurred and offset by increased production (Chand, 2017; Duffy, 2009). The difference in the income of rice farmers before and after the Serasi program in the Tanjung Lago District can be explained through the t-test in Table 6.

Table 6. The Relationship of Farmers' Perceptions on the Role of Gapoktan with Farmers' Income in Tanjung Lago District, Banyuasin Regency

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of The Difference		d f	Sig (2-tailed)
				Lower	Upper		
Before and after	17993616.938	946342.151	105804269	17783018,808	18204215,067	177	.000

This test determines whether there is a difference in income between the two conditions, namely before and after the program (Fayaz et al., 2006). The value of decision-making is based on comparing the value of Sig (2-tailed) with 0.10. If Sig (2-tailed) < 0.10, then there is a difference in the income of rice farmers before and after the Serasi program, but if Sig (2-tailed) > 0.10, then there is no difference in the payment of rice farmers before and after the Serasi program. The t-test results showed that Sig (2-tailed) < 0.10, so it was decided that there was a difference in the income of rice farmers before and after the Serasi program. The payment of farmers after the cooperative program increased; this happened because farmers were taught to become better farmers to increase the amount of income.

The two-tailed (2-tailed) significance value of the relationship between farmers' perceptions of Gapoktan and rice farmers' income is 0.000 or less than 0.05. Based on the test criteria, Ho is accepted if the significance is < 0.05, and Ho is rejected if the significance is > 0.05. The sig (2-tailed) value of the relationship between the role of Gapoktan and the income of rice farmers is 0.000 < 0.05, Farmers' Perception of the Role of Gapoktan in the Implementation of Serasi Program (Wulandari et al., 2022)

then H_0 is accepted, meaning that the farmers' income is higher after the implementation of the Serasi program.

The Relationship of Farmers' Perceptions on the Role of Gapoktan with Farmers' Income

Income is the ultimate goal to be achieved in the farming (Wordofa & Sassi, 2014). The amount of income is highly dependent on the amount of production and the efficiency of production costs. The existence of the role of Gapoktan can be a positive contribution to making farmers who are creative, innovative, and independent (Ningsih, 2013). The results of the analysis of the assessment of farmers' perceptions of the role of Gapoktan in the Tanjung Lago District obtained an average of 257.4, with the category of Gapoktan's role as a farming unit with high criteria. Furthermore, the category of Gapoktan's role as a processing unit with an average value of 267.2 with very high standards, the next category is the role of Gapoktan as a facility and infrastructure unit with an average value of 268.4 with very high criteria. And the category of the role of Gapoktan as a marketing unit with an average value of 271.6, the requirement is very high.

The high assessment of the criteria for each Gapoktan role shows that farmer members can manage swamp rice farming effectively and efficiently by using materials used for farming more effectively and efficiently as needed. With this, farmers can get their farm income before the Serasi program, which averages Rp. 53,512,267,- Ha/year and after the program Rp. 71,505,884,- Ha/year. The results of the analysis of the relationship between farmers' perceptions of the role of Gapoktan and the income of swamp farmers in Tanjung Lago District, Banyuasin Regency using the Spearman Rank correlation analysis method are in Table 7.

Table 7. The Relationship of Farmers' Perceptions on the Role of Gapoktan with Farmers' Income in Tanjung Lago District, Banyuasin Regency

Variable	Correlation coefficient	Sig (2-tailed)	Connection
X1 with Y	0.742**	0.000	Strong

Information:

Y : Rice farmers' income (Rp/ha/year)

X1: Farmers' Perceptions of Gapoktan

Table 7. shows that the results of the Spearman Rank correlation analysis obtained a correlation coefficient value of 0.742 between the variable farmers' perception of Gapoktan (X1) and the income variable (Y), meaning that there is a strong relationship between farmers' perceptions of the role of Gapoktan and farmers' income. The two-tailed significance value of the relationship between farmers' perceptions of Gapoktan and rice farmers' income is 0.000 or less than 0.05. Based on the test criteria, H_0 is accepted if the significance is < 0.05 , and H_0 is rejected if the significance is > 0.05 . The sig (2-tailed) value of the relationship between the role of Gapoktan and the income of rice farmers is $0.000 < 0.05$, then H_0 is accepted, meaning that there is a strong relationship between the role of Gapoktan and the income of rice farmers in Tanjung Lago District.

CONCLUSION AND SUGGESTION

The results showed that (1) farmers' perceptions of the role of Gapoktan in applying for the Serasi program in Tanjung Lago District, Banyuasin Regency were in the category of Gapoktan's role as a farming unit of 257.4 with high criteria. Furthermore, the category of Gapoktan's role as a processing unit with an average value of 267.2 with very high criteria, the next category is the role of Gapoktan as a facility and infrastructure unit with an average value of 268.4 with very high criteria and the category of the role of Gapoktan as a marketing unit with an average value of 271.6, the criteria are very high (ST); (2) there is an increase in the income of rice farmers before and after the Serasi program, namely the average income before the Serasi program is Rp.53,512,267/year and after the Serasi Program Rp. 71,505,884/yr. The t-test results showed that Sig (2-tailed) < 0.10, so it was decided that there was a difference in the income of rice farmers before and after the Serasi program.

For next, the government should follow up on the sustainability of the Serasi Program because it is very effective in increasing rice production and the economy. Efforts are needed to increase farmer assistance from related government agencies/agencies and empowerment of the role of Gapoktan. Farmers continue to optimize aid to the government to become independent and prosperous farmers the role of Gapoktan contributes to improving the quality of human resources, production, and agricultural productivity.

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