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THE IMPLEMENTATION OF THE RURAL AGRIBUSINESS EFFORT PROGRAM (RAEP) TOWARDS RICE FARMING INCOME IN SOUTH SULAWESI PROVINCE, INDONESIA

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ABSTRACT: *The research aimed to assess the impact of the Farmers Group Joint (FGJ) in implementing the RAEP and analyzed the activities of agribusiness and development programs in Maros Regency, South Sulawesi Province, Indonesia. The object to be measured was the impact of the development of rural agribusiness of rice farming by farmers. The research used a survey method with interview technique. The samples were selected through a simple random sampling technique by taking as many as 10%, so that the respondents consisted of 52 farmers. The data used were primary and secondary data. The research results revealed that the implementation of the RAEP on the performance of the FGJ was quite effective. The performance aspects of the FGJ members included the level of interest and the level of strength. The parts of these levels were categorized effective. The implementation of the program showed a value of -15.778 with a significance of 0.000 < 0.05, H1 was accepted, so that there was a difference in the level of farmers before and after the implementation of the RAEP. The average of the farmers' income before the program was IDR 15,553,192.31, while after the program the average of income was IDR 18,791,826.92. Thus, the average of difference value was IDR 3,238,634.61 or 20.82%. And, the income from the total cost showed that part of the farmer's income was the value of -14.126 with a significance of 0.000 < 0.05, H1 was accepted, so that there was a difference in the level of income in the RAEP. The average of income before obtaining a program fund was IDR 11,763,124.81 per harvest, while after the program the average was IDR 14,681,875.00 per harvest. Thus, the average of difference was IDR 2,918,750.19 or 24.81%.*

KEYWORDS: Rural, Agribusiness, Farming Income, Farmers Group

INTRODUCTION

The development of the national economy based on agriculture and rural areas will directly affect the lives of inhabitants. Agricultural sector development currently challenges low quality of human resources in rural areas, increasingly limited land resources, small status and extensive land ownership, and limited farmers' access to capital. The RAEP is one of the programs developed by the Ministry of Agriculture which was carried out in an integrated manner with the National Independent Community Empowerment Program. The RAEP is a form of venture capital facilities for farmers, cultivators, farm workers, and poor households in rural areas coordinated by the FGJ. This farmers groups as the RAEP implementing farmer institution, it is expected that farmers can improve their quality of lives through efforts to develop the capabilities and skills of human resources in rural areas and they can increase business scales and create efficiency in their activities, which in turn it can increase their productivity.

The RAEP is carried out by farmers (owners and/or cultivators), farm workers and poor farm households in the countryside through the coordination of FGJ as an institution owned and managed by farmers. One of the purposes of the RAEP is to overcome the problems of farmers against the availability of capital, market access, and technology. Some of the requirements that must be met by the FGJ as the RAEP suppliers include the human resources who are capable of managing agribusiness, active management structures, owned and managed by farmers, and confirmed by regents or mayors[1]. The program might have the impact to the farmers' income. The impact is the difference between outcome indicators and programs and outcome indicators without programs. The approach to calculate the impact on the implementation of the RAEP is to calculate how the farmers' income increases. The calculation of the impact of increasing income for poor farmers needs to be done because the main objective of the RAEP is to reduce poverty, besides providing business capital subsidies to poor farmers. It is hoped that the multiplier effect will be greater, so that improving the welfare of the poor in the countryside will be quickly achieved. However, it is difficult to see someone or something in different circumstances at the same time. So, even though indicators of outcomes after the program can be observed, outcome indicators without programs, commonly referred to as counter-factual, cannot be observed [2].

The previous research showed that implementation of the RAEP had been done in Indragiri Hulu Regency. This study used a survey method in 3 subdistricts, namely: (1) the FGJ in Rengat District, (2) the FGJ in Batang Cenaku District, and (3) the FGJ in Pasir Penyu Subdistrict. The FGJ performance analysis using the Importance-Performance Analysis method stated that in A quadrant, there were ten variables that were considered important, but in reality these were not as expected (The respondents' satisfaction levels were still very low). In B quadrant, there were nine variables which were considered optimal in implementation. In C quadrant, there was only one variable, namely the FGJ holds financial cooperation (C3) and in D quadrant, there was no variable which was considered to have a low level of importance with a high level of performance. The results of the t-statistic test on per capita income per month before and after the RAEP showed the tangible results. It can be seen that the p value was less than alpha 0.05, meaning that there was a significant difference between income before and after the RAEP is implemented [3].

The previous research of effects of the RAEP on Productivity and Income of Rice Farming in Sukoharjo Regency had been done by a researcher [4]. This study used an analytical descriptive method. The location of this study was purposive, because Sukoharjo Regency was the district with the greatest rice productivity in Central Java Province, Indonesia in 2012. A number of respondents were 30 rice farmers. The researcha used the primary and secondary data. Analyses of the data were (1) rice farm analysis, (2) difference test, dummy variable regression, and (3) R/C ratio. The results of the study based on the analysis of rice farming revealed that the rice farming income before and after receiving the RAEP funds. The average of the rice farming income before receiving the RAEP funds was IDR 12,438,207.95/ Ha/MT (IDR), while the average of rice farming income after receiving the RAEP funds was IDR 16,900,779.60/ Ha/ MT (IDR). The R/C ratio before receiving RAEP funds was 2.51, while after receiving the RAEP funds it was 3.06. The R/C ratio of rice farming before and after receiving the RADP funds was more than 1, and then farming is efficient. The calculation of different tests showed the value of -t count <-t table (5.750 <-2.045), then H0 is rejected. In the analysis of different income tests, it was known that the calculated t-value <-t table is -10.590 <-2.045), then H0 is rejected, meaning that there were differences in the average of conditions (productivity, income) of rice farming in Sukoharjo Regency before and after participating in the RAEP.

The income of can be calculated based on the farming analysis. In measuring the economic condition of a person or household, one of the most frequently used concepts is through income levels. Income can be defined as the remainder of the reduction in the value of receipts and costs incurred. The expected income is the income that is positive. Farming receipts are the values of the total farming products within a certain period of time, whether or not they are sold.

This acceptance includes all products sold, consumed by farmer households, which are reused for seeds or stored in warehouses [5]. Farming as an activity to obtain production on agricultural land, in the end these will be assessed from the costs incurred and the revenues obtained. The difference between them is the income from farming activities. Thus, the income is defined as the difference from the total revenue with the total costs incurred in farming (Soekartawi, 1995).

Method

The research was carried out in Maros Regency as the location for the implementation of the RAEP, because it might become a buffer zone for agricultural products in South Sulawesi Province. The method used in this study was a census with the data obtained from the primary and secondary data. Primary data was the data directly collected from 52 rice farmers as respondents through direct interviews. Secondary data was the data obtained from relevant agencies, literature, records and reports that had to do with the research.

There were two formulas that had been used to analyze the data: (1) Performance Analysis of the RAEP of the FGJ and (2) Analysis of the impact of the RAEP on income of the farmers. The RAEP performance of the FGJ could be seen from its ability to effectively manage and distribute the RAEP funds based on the assessment criteria; they were considered from the FGJ itself and viewed from the RAEP fund users (farmers).

Based on the score obtained from the respondents, then the range of scale or interval is used to determine the effectiveness of the RAEP fund distribution. Hose is obtained from the difference in the highest possible total score with a minimum total score that may be divided by the number of answer categories [6]

$$\text{Calculation} = \frac{\text{Maximum Value - Minimum Value}}{\text{Number of Answer Categories}} - 1$$

The above formula was used to describe the priority attributes for future improvement. The scale used was the Likert scale, which was shown in Table 1 as follows:

Table 1. Scale of Effectiveness of Assessment Score

Rating Category	Scale Range
Not Effective	250 - 427
Quite Effective	428 - 605
Effective	606 -783

Table 1 above explains that if the total score was in the range of values between 250 -427, the distribution of the RAEP funds might be said to be ineffective. If the total score was in the range of values between 428 - 605, the distribution of the RAEP funds might be said to be quite effective. Meanwhile, if the total score was in the range of values between 606 - 783, the distribution of the RAEP funds might be said to be effective.

The analysis of the impact of the RAEP on the income of the farmers could be calculated by using a formula, [6] namely= TR- C, where TR was the total revenue, and TC was the total cost. Furthermore, to find out the differences in the level of income of farmers before and after the RAEP, the t-test of statistical tests for pairs was conducted [8]. The formula was given as follows:

$$t\ count = \frac{d - d0}{Sd / \sqrt{n}}, \text{ where}$$

d – do was the average of income after a loan – before the loan; Sd was standard deviation; n was a number of observations; and db was a free degree.

The hypotheses were related to H0: $\mu1 = \mu2$ or $\mu1 - \mu2 = 0$; there was no difference in the level of income of farmers before and after the RAEP. And, H1: $\mu1 > \mu2$ or $\mu1 - \mu2 > 0$; there was a differences in the income levels of farmers before and after the RAEP, Where $\mu1$ was the income before the RAEP fund loans and $\mu2$ was the income after the RAEP fund loans. The test criteria were as follows: H0 was rejected if t count > t table, db = n – 1, p value < 0,05 and H0 was received when t count ≤ t tabel, db = n – 1, p value > 0,05.

RESULTS AND DISCUSSION

Maros regency is one of the regencies in South Sulawesi Province with the areas of 1,619.11 km2 consisting of 14 sub-districts with 80 villages and 23 sub-districts. The topography of the areas vary greatly from lowlands and highlands. Low altitude areas range from 0-300 m above the sea level, while hilly areas are 301-800 m above the sea level. The mentoring program for rice farming provides benefits, namely that farmers understand and apply Integrated Crop Management for rice and soybeans, increase productivity and maintain the sustainability of rice production as a buffer zone for national food security, and are able to increase farm household income. The expected impact is the stability of the production of the main commodities of rice and soybeans while ensuring the improvement of the quality of the results and giving policy directions to the regional government in developing the main commodities. Furthermore, it is expected to be able to make a large contribution in the receipt of regional income and the provision of employment.

The activities are carried out in a participatory manner through visits, interviews, resource persons, coordination and meetings, discussions and feedback as well as the implementation of site-specific technologies supporting these strategic activities. A number of farming units are 60%. This pattern is a form of direct capital assistance from the central government to group accounts, by giving farmers the freedom to use it for the provision of group facilities, the purchases of production facilities, and for business development. Basically, the main purpose

of the implementation of this pattern is to increase the effectiveness of assistance to farmers and eliminate financial leaks, so that their utilization is optimal, and become a means or facilitation of the government to farmers. Thus, they are willing and able to use commercial credit. As stated above, optimizing the utilization of the RAEP funds in the regions is expected to be a sustainable business capital through good revolving of funds in groups, but in reality there are still some cases of farmer groups who have received the RAEP packages from one project, and they also receive packages from the others.

Another fact is that with the availability of a lack of group business capital, it should encourage an increase in the ability class of farmer groups. But until now no recipient group has changed its ability class since the government facilitation was rolled out. This phenomenon illustrates the problem of optimal use of the funds by farmer groups. To find out the recapitulation of the effectiveness of a performance and level of satisfaction, the descriptions are presented in Table 2 as follows:

Table 2. Recapitulation of efficiency in Maros Regency

Indicator Answer Performance Aspects of FGJ Members	Amount Range of Score Scale	Information
A. Interests Level		
1. Organizational Level	517	Quite Effective
2. Fund Management	517	Quite Effective
3. Farming	515	Quite Effective
B. Aspects of Satisfaction		
1. Organizational Level	523	Quite Effective
2. Fund Management	511	Quite Effective
3. Farming	511	Quite Effective

Source: Recapitulation of primary data after processing, 2018

Based on the respondents' answers to efficiency recapitulation in Table 2, the performance aspects of the FGJ members with the level of interest which consist of the level of organization with a score scale of 517 are quite effective, managing funds with a score scale of 517 are quite effective, and farming with a score scale of 515 is quite effective. Meanwhile, the aspects of satisfaction with the level of interest which consist of the level of the organization with a score scale of 523 are quite effective, management of funds with a score scale of 511 is quite effective, and farming with a scale of score 511 is quite effective. Thus, the implementation of the RAEP is really quite effective.

The cost structure of FGJ is seen from cash costs and costs calculated. Cash costs are defined as costs for purchasing fertilizers, pesticides, and drugs to eradicate plant pests and diseases, labor and farming taxes issued by the FGJ members during the rice production process.

Farming expenditures included in calculated costs are farm expenditures issued by farmers but not in cash, such as seeds and labor value. The Costs of Farmer Receipts before and after the presence of the FGJ can be seen in Table 8 as follows:

Table 3. Average receipt cost at rice farming before and after RADP

No.	Input of Types	Average of value (IDR) before RAEP	Average of value (IDR) after the RAEP	Difference of Value (IDR)
1	Seeds	535,577	590,961	55,384
2	Fertilizers			
	a. Urea	310,152	385,961	75,809
	b. ZA	442,307	482,307	40,005
	c. TSP	120,971	132,692	11,721
	d. Phonska	483,183	533,461	50,278
3	Pepticides			
	Spontaneous (Liter)	90,000	90,000	0
	b. Grass Poison	20,000	50,000	30,000
	Participation (Filia Score)	40,000	40,000	0
4	Labor	1,611,500	1,611,538	0
5	Tax	182,692	182,692	0
6	Tool Depreciation	8,605	10,336	1,731

Source: Primary data after processing, 2018

Table 3 above shows that the average of seeds before the RAEP obtained by the farmers is IDR 535,577. After the existence of the RAEP with IDR 590,961, the value is different from before the RAEP with IDR 55,384. The average of urea fertilizer before the RAEP obtained by the farmers is IDR 310,152. After the existence of RAEP with IDR 385,961, the value is different from before the RAEP with IDR 75,809. The average of ZA fertilizer before the RAEP obtained by the farmers is IDR 442,307. After the existence of the RAEP with IDR 482.307, the value is different from before the RAEP with IDR 40,005. The average of TSP fertilizer before the RAEP obtained by the farmers is IDR 120,971. After the existence of the RAEP with IDR 132,692, the value is different from before the RAEP with IDR 11,721. The average before the RAEP obtained by the farmers is IDR 483,183. After the existence of the RAEP with IDR 533,461, the difference is found with IDR 50,278.

The average of depreciation of the tool before the RAEP obtained by the farmers is IDR 8,605. After the existence of the RAEP with IDR 10,336, the difference is found with IDR 1,731. The average of labor cost before the RAEP obtained by the farmers is IDR 1,611,500. After the existence of the RAEP with IDR 1,611,538, the difference does not change prices at the time

of farming. The average of tax before the RAEP obtained by the farmers is IDR 182,692. After the existence of the RAEP with IDR 182,692, the difference does not change the tax price to the farmers at the time of farming.

The value of farm receipts issued by farmers before and after the RAEP can be seen in Table 4 as follows:

Table 4. Average of revenue per acres of farmers' rice farming before and after the RAEP

No	Description	Average of Value (IDR) before the RAEP	Average of Value (IDR) after the RAEP	Difference of Value (IDR)
1	Reception	15.553.192,31	18.791.826,92	3.238.634,61

Source: Primary data after processing, 2018

Table 4 above shows that the average of revenue before the RAEP obtained by farmers is IDR 15,553,192.31. And, after the RAEP with IDR 18,791,826.92, the difference is found with IDR 3,238,634.61. Thus, the average of value shows that the farmers have an increase in the income up to 20.82%. But, the average of value of income released by farmers before and after the RAEP can be seen in Table 5 as follows:

Table 5. Average of income per acres of farmers' rice farming before and after the RAEP

No	Description	Average of Value (IDR) before the RAEP	Average of Value (IDR) after the RAEP	Difference of Value (IDR)
1	Income	11.763.124,81	14.681.875,00	2.918.746,19

Source: Primary data after processing, 2018

Table 5 above shows that the average of income before the RAEP obtained by farmers is IDR 11,763,124.81. And, after the RAEP with IDR 14,681,875.00, the difference is found with IDR 2,918,746.19. Thus, the average of value shows that farmers have an increase in income up to 24.81%. The income obtained by farmers is quite large, this is because the selling price of harvested dry grain when selling chili is quite high. The results of receipt by every farmer are seen in Table 6 as follows:

Table 6. Details of the amount of reception of rice farming before and after RAEP

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Reception	Before	15553192,31	52	8471682,091	1174810,930
	After	18791826,92	52	9029344,483	1252144,789

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Reception	Before After	-3238634,615	1479684,704	205195,349	-3650581,468	-2826687,763	-15,783	51	,000

Source: Primary data after processing, 2018

Table 6 above shows that the acceptance of rice farming after the RAEP has increased, whereas the average before the RAEP for farmers' income is IDR 15,553,192.31. After the RAEP program, the average of farmer's income is IDR 18,791,826.92. Thus, it shows a t value of -15,783 with a significance of 0,000<0,05. This is accepted, meaning that there is a difference in the level of farmer acceptance before and after the significant RAEP.

The income used in the analysis is the average of farm income obtained by reducing the average of income with the average of total cost and average of cash cost incurred by farmers. Revenues from total costs are lower than income from cash costs because they are not deducted by calculated costs. The income of rice farming in this study is obtained from the amount of revenue reduced by the total cost of farming production during one growing season. The following is the farming income of each respondent in Table 7.

Table 7. Details of the amount of income of rice farming before and after the RAEP

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pairr 1	Income Before	11763124,81	52	8451844,906	1172060,007
	IncomeAfter	14681875,00	52	8986868,719	1246254,461

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Income Before After	-2918750,192	1489949,323	206618,796	-3333554,734	-250394,650	-14.126	51	.000

Source: Primary ata after processing, 2018

Table 7 above shows that the difference in the level of income of the business of the FGJ in Maros Regency before and after receiving funds from the RAEP with an average of income before obtaining the RAEP funds amounts to IDR 11,763,124.81 per harvest while after the RAEP the average of income is IDR 14,681,875.00 per harvest. Thus, the average of value of the difference is 2,918,750.19 or a percentage of 24.81%. Thus, it shows the t value of -14,126 with a significance of 0.000<0.05. This is accepted, meaning that there is a difference in the level of income of farmers before and after the significant RAEP.

CONCLUSIONS

The effectiveness of the research results in the implementation of the RAEP on the FGJ performance is quite effective. This can be seen from the cooperation and commitment of all stakeholders, namely the government and the community. The FGJ management and farming community for the RAEP, starting from the preparation, implementation and monitoring phases, has a category of quite good effectiveness, so that in the future the RAEP can develop better in the future. Based on the income on total costs, then a portion of farmers' income obtained by the FGJ before and after receiving funds from the RAEP t value of -14.126 with a significance of 0.000< 0.05, H1 is accepted, meaning that there is a difference in the level of income of farmers before and after the RAEP which is significant with the average of income before obtaining funds for the RAEP funds totaling IDR 11,763,124.81 per harvest while after the RAEP the average of income is IDR 14,681,875.00 per harvest. Thus, the average value of the difference is IDR 2,918,750.19 or 24.81%. Based on the aspects of performance and

satisfaction of the FGJ members, it is expected that the government in terms of extension can provide assistance on the RAEP in the form of availability of fertilizers to increase production. In terms of revenue from the results, it is expected that the government and farmers can provide grants for the RAEP in an efficiency and price determination of grains, so that the farmers can gain benefits from the RAEP to a better target.

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