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To cite this article: K K Rangga and Y A Syarief 2018 *IOP Conf. Ser.: Earth Environ. Sci.* **142** 012060

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Paddy farmer households' participation and food security level in special effort program in Seputih Raman sub-district of Central Lampung Regency

K K Rangga and Y A Syarief

Department of Agricultural Social Economic, Lampung University, Indonesia

E-mail: korrangga@yahoo.com

Abstract. The objectives of this study are to study the participation of paddy farmers in the Special Effort program to increase paddy production, to study the level of household food security of paddy farmers, and to analyze the correlation between farmer participation and food security level of paddy farmers. The location was chosen purposively in Seputih Raman sub-district. The data were collected from December 2016 to February 2017. The population of this study was paddy farmers who participating in Special Effort program. The hypothesis was tested by using Spearman's Rank correlation test. Farmer household's food security was measured objectively based on the share of household's food expenditure and subjectively based on the opinion, views, and attitudes or farmers' opinions on food availability, food distribution, and household food consumption. This research showed that farmers' participation in Special Effort program in Seputih Raman Sub District, Central Lampung Regency belonged to medium classification, household food security either objectively or subjectively was in food resistant condition of medium classification, and there was significant correlation between farmers' participation and food security level of paddy farmer household.

1. Introduction

Society participation in Special Effort program activity of increasing paddy production is a form of active society use in development. As effort to realize national food sovereignty and resilience, governor through Indonesia Republic Ministry of Agriculture compiles and implements Special Effort Program of increasing Soy, Corn, and Paddy Production. This Special Effort Program of increasing Soy, Corn, and Paddy Production is a national program done by, from, and for farmer, also helped by overseeing and supervision from instructor, college student/ alumni, also Babinsa (Village Coaching Non Commissioned Officer) to do goodness together in order to hasten paddy corn, soy production increase, in all Indonesia territory [1]. Lampung province is one of province which implements Special Effort Soy, Corn, and Paddy Production Increase program. In order to reach the paddy production increasing target of one ton dried milled grain in Lampung province, Lampung Governor has submitted letter number 520/0154/III.1/2015 by 21st January 2015 to Minister of Agriculture, subject: Paddy Production Increasing Target in Lampung Province year 2015 – 2016; and followed by its description per regency/ city corresponded by letter number: 5210.21/0245/III.12/2015 by 28th January 2015 [2].

The success of Soy, Corn, and Paddy Production Increasing activity requires synergy and coordination of the whole intercross significance official from the planning, execution, monitoring, and evaluation also reporting through Soy, Corn, and Paddy Production Increase Coaching Facilitation



which implemented by team stage by stage (central-village) also formed and set which fit the valid condition. At village level, society role and participation, in this case paddy farmers, is really to be expected. Participation is society's voluntary involvement based on society's determinant and self-awareness in development program [3]. Participation is willingness to build the success of every program suiting every individual skill without sacrificing his/ her own interest [4]. Participation is the participation in development, in the activities, and in utilization, also enjoying the development results [5]. The existence of society participation in Soy, Corn, and Paddy Production Increasing program expectedly increases production, enables the society to realize food security, and fulfills the society's food and nutrition need at once. Based on the description, then the research objective is to study: (1) paddy farmer participation level in Special Effort program of increasing paddy production, (2) paddy farmer household's food security level, and (3) connection of farmer participation to farmer household food security level in Seputih Raman sub-district, Central Lampung Regency.

2. Methods

This research was taken place in Seputih Raman sub-district, Lampung province, Indonesia, selected purposively considering that it is the biggest paddy production field in Central Lampung regency, and most of the farmer group member (75%) is on advanced, medium and high class. Data collection was conducted from August to September 2016. The population of this research was 303 members of farmer group implementing the paddy production increasing Special Effort program. From the population, the total sample was 30 respondents [6]. To review the questionnaire accuracy and precision, validity and reliability tests were conducted.

The first and second objectives were answered using descriptive analysis, while the third objective, the answer of the hypothesis, was addressed using non parametric statistic analysis with Spearman's Rank [7] correlation test with SPSS 21 help. Especially, the second objective was to find out farmer household's food security in objective and subjective analyses. The objective measurement was done by comparing the amount of food expenditure with the household total income. If household expenditure share <60%, the household can be said as food resilient; and if the share $\geq 60\%$, the household can be said as not food resilient [8]. Subjective measurement according to [9] is a food security measure based on farmer household opinion, viewpoint, demeanor or opinion to his food situation regarding the household food availability (regarding sufficiency and stability of food availability), household food distribution (regarding food's accessibility or affordability), and farmer household's foodstuff consumption (regarding farmer household member's knowledge on food concerning the quality of food consumed and the ability of choosing food fitting the farmer household's need or sufficiency so that it's safe to be consumed).

3. Result and Discussion

3.1. Respondent Characteristics

The average age for the respondents is 43 years, which is productive age. 13 respondents (43.33%) have formal education level at elementary school, and 12 respondents (40%) have experienced junior and senior high school education level. Respondent family dependent is 3 persons in total. Average experience in paddy farming is 16 years. Average size of the owned farming field is 0.56 ha.

3.2. Farmer Participation Level in Paddy Production Increasing Special Effort Program

The farmer participation in the paddy production increasing Special Effort program viewed from some indicators referring to [4, 10] theory is as follows: (1) Participation in planning phase, (2) participation in program implementation, (3) participation in assessment, and (4) participation in utilization. Based on research result, it can be seen that 14 correspondents (46.67%) have high participation level in paddy production increasing Special Effort program, and average respondents belong to medium level. It means that respondent has had high will to participate in the paddy production increasing Special Effort program.

Viewed from each participation phase, the farmer participation in program planning process belongs to average classification, that can be seen from the farmers which follow the meeting of program planning and farmer willingness to help in preparation and data collection of Group Definitive Plan or Group Needs Definitive Plan, and farmer willingness in giving input and identifying problem happening in the paddy production increasing Special Effort program. The participation level in the paddy production increasing Special Effort program implementation is put into medium classification. Farmers have participated actively in implementing the paddy production increasing Special Effort program activity. The implementation of paddy production increasing Special Effort program includes tertiary irrigation system rehabilitation, farmer machine and tool provision assistance by governor and superior seed provision, Integrated Crop Management Implementation Movement activity, and field optimization enhancement. Farmer participation level in program assessment or evaluation of Special Effort stands in medium classification. This thing can be seen from farmers that have high willingness and skill to assess or evaluate the paddy production increase Special Effort program activity. The Assessment or evaluation includes the suitability of superior seed number given by governor to farmer, the suitability farming machine and tool which borrowed from governor to farmer, also the accompaniment done by several parties. Farmer participation level in utilizing the paddy production increasing Special Effort program is in medium classification. It means that farmers have benefitted from the paddy production increasing Special Effort program conducted. The participation level in this stage can be seen from whether or not there is profit either economically or physically which can be obtained after all the program implementation stages have been done [11]; another benefit which received by farmer is assistance benefit from governor including farmer machine and tool, and superior seed provision to support farmer farming activity, counseling activity, also cooperation accompaniment from several party.

3.3. Paddy Farmer's Food security Level in Seputih Raman sub-district

3.3.1. Objective Measure Objective food security level in this research is measured based on household food expenditure share. According to [12], the higher the household food expenditure share, the lower will be the household food security level. The result of research shows 24 respondent households (80.00%) with food expenditure share <60%, and 6 respondent households (20.00%) with food expenditure share \geq 60%. High food expenditure share shows that household income is still low and food is the primary priority for household expenditure. It is in line with [13] research stating that the higher the food expenditure proportion, the lower household is the food security, in this case household prioritizes its food needs fulfilment focusing on cheap and useful food to overcome hunger.

3.3.2. Subjective Measure Based on result of research and observation on the paddy farmer household's food availability, food distribution and foodstuff consumption, it can be seen that paddy farmer household's food security level in Seputih Raman sub-district subjectively tends to fall into medium category with average value of 40.86. It means that paddy farmer households in Seputih Raman sub-district have sufficient food security. This is due to the paddy farmer household's food availability and food distribution aspects belonging to medium category with average value 12.65 and 10.39, food consumption aspect still belonging to low category with average value 17.82.

Based on each aspect, household's food availability aspect is included into medium category with average value of 12.65, meaning that farmer household has fulfilled its household food needs adequately. Some of farmer household food availability comes from self production and buying from market and stores around. There is plant production especially vegetable cultivated by farmer for own consumption, and partially sold in raw, but there is also the processed one sold later. For primary food production like paddy, farmers prioritize more the harvest saved as stock, because rice is the only primary food in the area and farmers will sell the harvest if it exceeds stock capacity. Food availability stability at household level is based on the food availability sufficiency and household member's eating frequency a day. Farmer households commonly do not prepare food reserve for one month in

the near future, but they prepare food for just couple of days. The type of primary food usually consumed by farmer household is rice without another primary food mixed, like corn or yam, while the farmer household's food eating frequency is 3 times a day.

From farmer household's food distribution aspect including accessibility/ and affordability, the farmer household's food is included into medium category with average value of 10.39. It means that food distribution in paddy farmer household is good enough. The field condition shows that farmer household's food accessibility/ affordability to obtain foodstuff is easy enough, since they produced themselves the foodstuff they need. Regarding the foodstuff they buy, the way to obtain it is also quite easy, because there is market in respondent residence area with pretty close distance (500 m) and affordable price, and there are stores also merchant selling around every morning.

Viewed from consumption aspect, farmer household is included into low category with average value of 17.82, meaning that the knowledge on food consumed by farmer household is still low. The field condition shows the respondent's lack of knowledge on: food which needed by body in right composition, all types of food useful to body health and in the consumption of food, farmer households do not consider the quality of food consumed. Farmer households only consumed the food as it is and what they want suiting their taste is the only one matter without specific considerations regarding the food quality. In similar vein, [13] suggest that household with low income like farmer focuses its spending on fulfilling the food needs in quantity, while the quality aspect is less considered. [14] say that the high farming revenue income actually doesn't affect the farmer household's food consumption habit, because the most important thing from food is the foodstuff's ability of filling in the stomach, so the food doesn't need to be expensive or luxurious.

3.4. Hypothesis Testing

The result of hypothesis testing between farmer participant and farmer household food security level obtains correlation coefficient value of 0.923** at significance level of 0.000 (table 1). That value is smaller compared with value α 0.1 or at confidence interval of 90 percent, meaning that H_1 is supported, there is a very significant correlation between farmer participation and paddy farmer household's food security level variables in Seputih Raman sub-district. The higher the farmer participation in Special Effort program, the higher is the household's food security. In similar vein, [9] says that farmer group participation affects the household's food security in *Desa Mandiri Pangan* (Food Self-Sufficient Village).

Table 1. Result of Correlation Analysis on Farmer Participation and Paddy Farmer Household's Resilience Level

Variable X	Variable Y	Correlation Coefficient (r_s)	Sig (1-tailed)
Participation	Paddy farmer household food security level	.973**	.000

Description :

r_s : Rank Spearman

** : Very significant at Confidence interval of 90% ($\alpha=0,1$)

4. Conclusion

Considering the results it can be concluded that: (1) Paddy farmer participation level in the paddy production increasing Special Effort program in Seputih Raman sub-district is included into medium classification; (2) paddy farmer household's food security level in Seputih Raman sub-district objectively and subjectively belongs to food security condition with medium classification; and (3) there is a very significant correlation between farmer participation and paddy farmer household's food security in Seputih Raman sub-district and Central Lampung regency.

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