FARMERS PERCEPTIONS ABOUT ORGANIC RICE AGRICULTURE SYSTEM OF RICE INTENSIFICATION (SRI) METHOD FOR SUSTAINABILITY FARMING BUSINESS AND ENVIRONMENTAL

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ABSTRACT. Pandeglang Regency has a rice productivity of 4.82 tons/ha which is the fifth rank out of eight cities and districts in Banten Province. This is a special concern for several *stakeholders* to increase the productivity of the rice yields, such as one non-governmental organization that provides assistance to farmers through the system of rice intensification (SRI) organic rice farming program. The program has the main objective of improving the welfare of farmers through increasing rice productivity and in the long term can improve the quality of the environment and public health. This study aims to determine the individual beneficiary (IB) perceptions of the benefits of the SRI method of organic rice farming. Perceptions of the SRI method of organic rice farming innovation are based on relative advantage, compatibility, complexity, experimental, and observative. The research method is descriptive research with a qualitative approach. The research location was chosen purposively, namely Parigi Village, Saketi District, Pandeglang Regency, Banten Province. The research location was chosen because it is Harfa's partner who is the most active in running the SRI method of organic rice farming. This research was conducted from August to December 2019. Data collection was done through observation and in-depth interviews. The results of this study are the perception of relative advantage is felt to be profitable, the perception of compatibility is not compatible, the perception of complexity is difficult, the experimental perception is not getting the results that are not appropriate, and the observational perception is still not widely applied in the surrounding environment.

KEYWORDS : Perception**,** Organic Rice, System of Rice Intensification (SRI)

INTRODUCTION

Indonesia is a country where the majority of the population are farmers. Farmers are the main backbone in meeting the country's food needs, therefore attention to the welfare of farmers is very important. As faced by farmers in Pandeglang Regency, Banten Province, which is one of the expansion areas that used to be included in the West Java Province. Rice production (in tons of GKG) in Pandeglang Regency has the highest production of 449,695 tons with the largest harvested area of 93,386 ha, so that the productivity of rice in Pandeglang Regency in 2018 is 4.82 tons/ha which is the highest rice productivity value of all five in Banten Province (BPS, 2019). This shows that the productivity of dry milled unhulled (DMU) rice is still low compared to other districts and cities in Banten Province which have productivity of 5.86 tons/ha (Serang City), 5.28 tons/ha (Serang Regency), 5.12 tons/ha (Tangerang City), and 5.00 tons/ha (South Tangerang City). So it is necessary to make efforts to increase rice productivity in Pandeglang district through the support of various parties.

Land damage caused by the use of inorganic fertilizers is one of the main problems in agricultural productivity. Continuous use of chemical fertilizers without being followed by organic fertilizers can reduce the quality of the physical, chemical and biological properties of the soil. The addition of organic matter, especially in paddy fields, is very necessary because 95% of agricultural land in Indonesia contains less than 1% organic matter, even though the minimum limit for organic matter content that is considered suitable for agricultural land is 4-5% (Musnamar, 2006). Organic farming is very important for the development of people who want to live healthy and without damaging the surrounding environment by utilizing natural materials. So that farmers are expected to be more aware and creative in the use of organic fertilizers and it is hoped that farmers' income will also increase (Roidah, 2013).

One of the stakeholders who is concerned in dealing with social and environmental problems in Pandeglang Regency is the social humanitarian institution Harapan Dhuafa (Harfa) Pandeglang branch. Harfa's activities include collecting funds and community assistance, community development through economic, education, health, environmental and social empowerment. Harfa has many development programs that are in direct contact with grassroots communities, thus requiring a participatory communication approach in order to achieve independence and sustainability of benefits for the beneficiaries. One of the long-term programs carried out by Harfa is the organic rice farming development program using the System of Rice Intensification (SRI) method. The program has the main objective of improving the welfare of farmers through increasing rice productivity and in the long term can improve the quality of the environment and public health (Harfa, 2019). In essence, organic rice farming using the SRI method is more profitable than inorganic and at the same time environmentally friendly as people's awareness increases about the dangers of non-organic food (Sugarda *et. al.* 2008 and Mayrowani 2012). Through this program, it is hoped that it can shape the character of independent farmers who are environmentally friendly.

The perception of farmers in Indonesia on organic farming is not very good because the value and knowledge of farmers about organic farming is very minimal. Leeuwis (2009) explains that the concepts of meaning, interpretation, and perception have almost the same meaning and all refer to the results of applying our knowledge to certain situations. Knowledge and perception are closely related to the concept of information. Perception or meaning tells about certain statements which are information.

From the explanation above, there is a gap between the conditions in the field and the perception of farmers in general, so that a problem arises, namely "what is the perception of farmers about organic rice farming system of rice intensification (SRI) for sustainable farming?". Then the purpose of this study was to determine the individual beneficiary (IB) perceptions of the benefits of the SRI method of organic rice farming.

METHODS

This study was designed as a descriptive study with a qualitative approach. The research location was chosen purposively, namely Parigi Village, Saketi District, Pandeglang Regency, Banten Province. The research location was chosen because it is Harfa's partner who is the most active in implementing the SRI method of organic rice farming, despite the poor condition of the community. Parigi Village is a pioneer of organic rice farming program using SRI method in Pandeglang Regency. This research was conducted from August to December 2019.

The subjects of this research were individual beneficiaries (IB) of the SRI method of organic rice farming program implemented by Harfa. Data collection was obtained through in-depth interviews, observation, and literatures review methods. Data analysis uses data reduction, presentation and verification (Creswell, 2010).

RESULTS AND DISCUSSION

Perceptions of the Benefits of Organic Rice Farming Programs with the SRI Method

The HDI perception of the benefits of organic farming programs with the SRI method obtained from this study refers to the theory of the characteristics of innovation adoption by Rogers (2003), namely innovation is an idea, practice, or something that is perceived as something new. by another person or unit of adoption. Based on this theory, the indicators of perception of innovation (organic rice farming with SRI method), namely relative advantage (level of direct and indirect profit), compatibility (level of conformity with existing culture), complexity (level of difficulty of innovation), experimental (level of ease of use). applying innovation), and observative (the results of innovation can be seen in the surrounding environment). Perceptions of the usefulness of the SRI method of organic rice farming programs based on the theory of innovation characteristics as perceived by individuals (perceptions) can be seen in Table 1.

Table 1 Number and percentage of respondents in Parigi Village according to perceptions of program usefulness

Perceptions of Program Benefits	Category	Number of Respondents	
		People	%
Relative Profit	Low	0	0.00
	Medium	13	23.21
	High	43	76.79
Compatibility	Low	0	0.00
	Medium	29	51.79
	High	27	48.21
Complexity	Low	3	5.36
	Medium	48	85.71
	High	5	8.93
Experimental	Low	2	3.57
	Medium	11	19.64
	High	43	76.79
Observative	Low	41	73.21
	Medium	9	16.07
	High	6	10.71
Total		56	100.00

Source : data exploration of researcher

The benefits of the SRI method of organic rice farming program are mainly felt by HDI based on the relative advantages of innovation the. The relative advantage based on Table 1 is very high, namely 76.79 percent of respondents felt the benefits of the program. Perceptions of the benefits of the program with organic rice farming with the SRI method, namely increasing rice productivity, saving production input costs, good impact on land fertility, impact on health, and other benefits. The increase in rice productivity felt by farmers is 20-40 percent. The average rice productivity in Parigi Village is 4-6 tons/ha as stated by the head of the Pulosari Gapoktan, as follows:

> *"Paddy productivity in Parigi Village is on average 4-6 tons/ha, this is due to the condition of the rice fields in mountainous areas, so that a lot of land is used for paddy fields and irrigation, while the increase in yields is around 20-40 percent seen from the yields. My land is from 10 kw to 12 kw"*

The savings in production input costs are only obtained by not buying urea fertilizer which is considered high enough, farmers simply use organic materials that are around such as straw, livestock manure, and MOL materials that are commonly found around the land. However, over time, people have understood the use of compost and manure, so fertilizer materials such as straw, livestock manure, and materials for making MOL already have economic value, so there is difficulty in obtaining these materials. As conveyed by the chairman of the Barokah Tani Group as well as the manager of the APPO House:

> *"In the past, straw was burned and there was no benefit, now after there is training or provision from Harfa, straw and livestock manure can also be used properly for compost and even become contested materials. and has economic value."*

IPM also felt the benefits of organic rice farming using the SRI method, namely in the form of improving and maintaining the fertility of agricultural land which can be felt through indicators of loosening rice fields, the emergence of loose soil animals such as worms, eels and others. The following was conveyed by a member of Barokah Tani regarding the condition of the rice fields planted with organic rice using the SRI method:

> *"If you use chemical fertilizers, the land becomes hard and shallow, but after farming organic rice, my land is no longer shallow and the rice field environment is alive because there are many worm paths in the field and there are many eels."*

HDI decision making in adopting innovation is also influenced by compatibility (*compatibility*) innovation with the norms or values that exist in society. Table 1 shows that 51.79 percent of respondents stated that the suitability of innovation (organic rice farming with SRI method) was quite in accordance with existing norms or values in society and the rest answered very well (48.21 percent). This indicates that the public's perception of the innovation is considered positive or good. Culturally, organic rice farming with SRI method is appropriate because IPM is actually a farmer, but geographically it is not suitable, because some IPM only have garden land, so SRI organic rice farming has not been optimally applied. Field Facilitator (FF) Harfa said the following:

> *"... as in Mangong, the results of the training on organic fertilizers were applied to secondary crops, such as chilies, papayas, and even annual crops such as cloves, melinjo, and others began to be fertilized organically"*

In general, there are seven principles (rules) SRI method organic rice farming developed, namely: (1) soil processing and fertilization with organic compost, (2) quality seeds and planted young, (3) seeds planted single and direct, (4) wide spacing, (5) fertilization without chemical fertilizers, (6) efficient use of water (macak-macak) and (7) integrated pest control without the use of pesticides and synthetic materials. The SRI method of organic rice farming is considered to be quite difficult to implement when viewed from the interview results in Table 2 which states that 85.71 respondents stated that the application of the innovation was quite complex. The complexity felt by the HDI is related to obstacles in implementing innovation, namely controlling snails is quite risky if planted alone, division of time for farm workers, so that land and plant management is not intensive, the location of land that is far enough will have the potential to cause transportation costs for organic fertilizers, and the instant habit of HDI which is still attached to using chemical fertilizers. The results of the study Sugarda *et al.* (2008) in West Java revealed that farmers have not ideally applied the SRI method of rice farming principles due to the following factors: (1) too complicated; (2) pest and disease attacks are difficult to control; (3) organic fertilizers are difficult to obtain or expensive; (4) stunted plant growth; (5) lack of assistance; (6) the nature of farmers who want to always try; (7) intensive maintenance; and (8) busy working in other sectors. The head of the Pulosari Gapoktan expressed his opinion as follows:

> *"SRI has great results for people who are total in their care, but for people who are lazy, SRI is not suitable."*

The level of application of organic rice farming using the SRI method is not optimal. In the early stages, IPM was very enthusiastic about growing organic rice because of the perceived benefits. However, this condition did not last long. Many factors become obstacles in the sustainability of organic rice farming using the SRI method as previously described. One of the main influencing factors expected by HDI is to plant organic rice, which is to provide more economic value. Learning from experience, Berkah Tani Group produces 2 tons of organic rice using the SRI method, but the results of farmers' efforts do not get the right results, instead they are sold at the same price as conventional agricultural rice. This is in accordance with Jumna's research (2015) which explains the marketing criteria as the main priority, reflecting that the development of organic rice farming in Sragen Regency is closely related to marketing problems. Factors that hinder the strategy of developing a farming business in an effort to increase organic rice production in Sragen Regency, Sambirejo District, are obstacles in terms of forming partnerships between farmer groups and private sector/big traders of organic rice. The main obstacle to marketing is the main concern of farmers, Harfa, and the government that must be resolved. According to the belief, the chairman of the Pulosari Gapoktan is of the opinion:

> *"The way to develop organic SRI is by paying attention to the price and the market, the more marketing people want to farm organic rice, if the price and market are appropriate, the improvement of health and the environment will follow"*

CONCLUSION

Perceptions of innovation (organic rice farming with SRI method), namely: Relative advantages (level of direct and indirect profits), namely an increase in rice productivity, savings in production input costs,

good impact on land fertility, impact on health, and other benefits. The increase in rice productivity felt by farmers is 20-40 percent. Compatibility (level of conformity with the existing culture), namely Culturally, organic rice farming with the SRI method is appropriate because IB is actually a farmer, but geographically it is not suitable, because some IB only have garden land, so that the SRI method of organic rice farming has not been optimally applied. Complexity (innovation difficulty level) i.e. IB is felt to be quite difficult because it is related to obstacles in the application of organic rice farming with the SRI method, including controlling snail pests which are quite risky if planted alone, division of time for farm laborers, so that land and plant management is not intensive, the location of land that is far enough will have the potential to cause transportation costs. on organic fertilizers, and the IPM instant habit that is still attached to using chemical fertilizers. Experimental (easy to apply innovation and can be seen in the surrounding environment) namely Learning from experience, the Berkah Tani Group produces organic rice using the SRI method as much as ± 2 tons, but the results of farmers' efforts do not get the right results, instead they are sold at the same price as conventional agricultural rice. Observative (the results of the innovation can be seen in the surrounding environment), namely by observation, farmers are still not interested in farming organic rice with the SRI method, so that organic rice farming with the SRI method has not been widely seen in the surrounding environment.

REFERENCES

[BPS] Badan Pusat Statistik Kabupaten Pandeglang. (2019). Kabupaten Pandeglang dalam Angka. Banten (ID): BPS Kabupaten Pandeglang.

Creswell JW. (2010). *Research Design, Pendekatan Kualitatif, Kuantitatif, dan Mixed*. Yogyakarta (ID): Pustaka Belajar.

[Harfa] Lembaga Sosial Kemanusiaan Harapan Dhuafa. (2016). Profil Lembaga dan Data Perkembangan Kelompok SRI. Environmental Services Program Yayasan Harfa Banten Cabang Pandeglang.

Jumna BK. (2015). Strategi Pengembangan Usahatani dalam Upaya Peningkatan Produksi Padi Organik di Kecamatan Sambirejo Kabupaten Sragen. *Economics Development Analysis Journal*. 4(3): 256-264.

Leeuwis C. (2009). Komunikasi untuk Inovasi Pedesaan. Yogyakarta (ID): Kanisius.

Mayrowani H. 2012. Pengembangan Pertanian Organik di Indonesia. *Forum Penelitian Agro Ekonomi*. 30 (2): 91-108.

Musnamar, EI (2006). Pembuatan dan Aplikasi Pupuk Organik Padat. Seri Agro Tekno Penebar Swadaya, Cimanggis, Bogor.

Rogers EM. (2003). Diffusion of Innovation Fifth Edition. New York (US): Free Press.

Roidah, Ida S,. (2013). Manfaat Penggunaan Pupuk Organik Untuk Kesuburan Tanah. Jurnal Universitas Tulungagung BONOROWO Vol. 1.No.1.

Sugarda JG, Charina A, Setiagustina L, Setiawan I. (2008). Kajian Pengembangan Usaha tani Padi Organik SRI (System of Rice Intensification) berwawasan Agribisnis dalam Mendukung Program Ketahanan Pangan secara Berkelanjutan. Jurnal Agrikultura. 19(1): 15-25.