

Strengthening Agricultural Communities with Organic Rice Development Using the Jajar Legowo System

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ARTICLE INFO

Keywords: Agricultural, Jajar Legowo

Received : 12, May

Revised : 22, June

Accepted: 21, July

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ABSTRACT

The implementation of the non-profit program "Strengthening Agricultural Communities with Organic Rice Development Using the Jajar Legowo System" has been ongoing since June 2023. The approach offered to address the problems of this activity is to synergize community empowerment programs implemented by universities, regions, and local actors. Lontara Government and Gapoktan. The results of implementing this non-profit program are: (a) The socialization of the Jajar-Legowo planting method was successfully carried out among farmers, (b) The enthusiasm of the residents during the socialization was not followed by the courage to apply it directly in their fields, only one of the partner farmers was willing to cover their area to be used as a place of proof.

INTRODUCTION

In Indonesia, around 18 million farmers grow rice and produce 66 percent of this food gross domestic product. In addition, rice cultivation provides employment and income opportunities for more than 21 million households, contributing 25-35 percent of income. Therefore, rice remains a strategic commodity for the economy and national food security, so that it becomes the most important basis for future agricultural revitalization. Stagnant development and increased rice production threaten national stability. Even though the competitiveness of rice tends to decrease compared to several other commodities, investment to develop and increase national rice production is absolutely necessary, with the main objective of achieving self-sufficiency and increasing the income and wealth of farmers. (Sari, 2021).

Rice is the staple food of the Indonesian people whose needs continue to increase along with population growth which also continues to grow. Rice is imported every year because domestic production is insufficient to meet the consumption needs of the Indonesian people and national rice reserves. (Sari, 2021).

For example, in 2011 the government signed an agreement to import 800,000 tonnes of rice from Vietnam and 500,000 tonnes and 300,000 tonnes from Thailand respectively. This condition must be addressed by increasing production and increasing the area of rice mills, but on the other hand the area of rice fields is decreasing, because land has changed its function to other uses such as industrial areas. Land, housing, roads, etc. Likewise, it seems that the productivity of rice plants has decreased due to various factors related to soil conditions (increased soil acidity, decreased amount of soil organic matter, decreased number and activity of soil biota, soil structure), stagnant changes and changes or even a decrease in climate conditions that cannot be predicted. and an increase in pests and plant diseases.

Jajar Legowo planting technology is expected to increase rice production. Rice planting in Jajar Legowo is a technological change in rice spacing that emerged from the Tegel (square) planting system developed by the community. The term legowo comes from the Javanese language (Banyumas) which consists of the words lego and dowo; Lego means wide and Dowo means long. When planting Jajar Legowo, rows of rice plants are separated from each other by a wide and elongated road. If the distance between rows of rice plants is usually 20-25 cm, then the rows separate the corridors between groups with a distance of 50-70 cm, depending on soil fertility and the variety of rice planted. (Sari, 2021).

The best rice cultivation method scientifically considers environmental aspects (soil, water, climate, plant pests/OPT), plant characteristics (suitable cultivars), including canopy shape, in addition to technology and management (Sutoro and Makarim, 1997). social and economic aspects, which also determine the feasibility of applying agricultural technology. Recently, one rice farming method was highlighted and touted as one of the successes in increasing rice productivity: the jajar-Legowo farming system. (Sari, 2021).

The Jajar Legowo (Tajarwo) planting system is a planting system that pays attention to rows of plants, alternating between two or more rows of rice plants and one empty row. The goal is that the plant population per unit area can be maintained and even increased (Yunizar et al., 2012). Compared to the tile planting method, border plants receive more sunlight, air circulation is better and plants receive more nutrients (Hatta, M. 2012.). Higher populations in the Jajar-Legowo cropping system provide higher yield opportunities (Suhartatik et al., 2011).

The tendency to plant Jajar-Legowo, even in the same population, offers the opportunity to produce more plants, because more photosynthesis occurs because planting saves more solar radiation and the easy diffusion of CO₂ gas for photosynthesis. Lin et al. (2009) stated that large spacing can increase total plant light and increase seed yield. Larger distances can increase the total light radiation collected by the plants and increase yields. Therefore, the implementation of the Jajar Legowo cultivation system that is adapted to local environmental conditions will almost certainly increase the productivity of rice cultivation and farmers' profits, while national expansion can increase rice production.

Technology that can increase rice productivity in rainfed land is used by increasing the IP index (Cultivation Index) and increasing production per unit area. The use of technology must be adapted to the country's agro-ecosystem conditions and the socio-economic conditions of the local community.

LITERATURE REVIEW

1. Increase the capacity of human resources (farmers) by increasing knowledge, skills and attitudes through training in rice cultivation technology in accordance with the correct cultivation method, especially how to plant jajar legowo on paddy rice plants for members of farmer groups.
2. Establishment of smallholder demonstration plots in strategic locations, equipped with technology and production facilities to maximize productivity and set an example for the surrounding farming community.

METHODOLOGY

The approach proposed in this activity to overcome these problems is to synergize community empowerment programs implemented by universities, local governments and existing community organizations. Until now, community empowerment programs in the same area have been running independently, although better and more sustainable results can be achieved through synergy effects. Universities can play many roles in this synergy through non-profit programs that involve academic staff and students as agents of social change in society.

RESULT

Ta' District is part of the Tanete Riattang District, Bone Regency in South Sulawesi Province. The population, who are mostly rice farmers, must be empowered in rice cultivation by increasing production through improved rice cultivation techniques, new innovations such as Jajar-Legowo cultivation, and the abandonment of chemical pesticides.



Picture 1. Dissemination of the Way of Transplanting the Jajar Legowo System



Picture 2. Moving and planting rice with the Legowo row planting system

DISCUSSION

Increasing the efficiency of staff (farmers) is done through counseling. Suggestions were given before the planting exercise and during the pilot rice planting until harvest once a month. The consultation took place at the farmer group house. The interest and enthusiasm of the partner farmers was quite high and many questions were raised during the discussions.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

1. The socialization of planting Jajar Legowo to the farming community in Ta' Village, Tanete Riattang District, Bone Regency was successfully carried out.
2. The enthusiasm of colleagues during socialization was not matched by the courage of colleagues to apply it directly to their Irish people, so that only one person was ready to use his Irzone as a means of proving.

Recommendations

1. All farmer group managers can apply the Jajar Legowo technology as a whole and share the results and benefits of implementing the Jajar Legowo system, so that all farmers can experience the benefits of implementing the Jajar Legowo system directly.
2. Involve farmer group members in monitoring and participating in extension activities, because extension activities are very important in terms of knowledge dissemination and uptake.

ADVANCED RESEARCH

The development of the Jajar Legowo planting method in farmers' paddy fields in Ta' District, Tanete Riattang District and Bone Regency must be monitored and evaluated for the future and guidance must be continued because farmers without continuous guidance tend to return to the previous old method. new innovations are really managed and socialized. Before this article was written, the rice sale organized by the business group with the local farming community could not be carried out and had to be included in the next community service program.

ACKNOWLEDGMENT

We thank the farming community of Ta' village and the local government, as well as the Association of Farmers Groups (Gapoktan Lontara)

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