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ANALYSIS OF THE EFFECTIVENESS OF THE RICE SEED INDEPENDENCE PROGRAM ON FARMER CAPACITY AND INCOME IN PASAR MIRING VILLAGE, PAGAR MERBAU DISTRICT, DELISERDANG REGENCY

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Abstract

This study aims to analyze farmer characteristics, the effectiveness of the Thousand Independent Seed Villages (SDMB) Program, and the income of seed farmers in Pasar Miring Village, Pagar Merbau District, Deliserdang Regency. The research method used a census approach with 25 farmers as respondents. Data were collected through interviews, observations, and literature studies, then analyzed descriptively and quantitatively. The results showed that most farmers were of productive age, experienced, but had low levels of education. The SDMB program was classified as effective based on aspects of understanding, targeting accuracy, and program planning. However, from an economic perspective, the seed nursery business has not been profitable because the R/C ratio is less than one and the net income is negative. This indicates that the business is still a side business. Therefore, technological improvements, seed certification, and strengthening marketing are needed to increase farmer income.

Keywords : Effectiveness, Rice Seeds, SDMB

INTRODUCTION

The agricultural sector is a key pillar of Indonesia's economic development due to its close links with other sectors such as manufacturing, trade, and construction. This sector plays a crucial role not only in creating jobs but also in ensuring food security for the community. According to the Ministry of Agriculture, the agricultural sector is a key contributor to national economic growth in terms of production (Ministry of Agriculture, 2017). Indonesia's continued population growth has led to an increase in food demand, particularly for rice. High per capita rice consumption necessitates a sustained increase in rice production to maintain national food security (Ministry of Agriculture, 2016). Although rice production is showing an upward trend, this growth is still suboptimal. This is due to various factors such as limited land, low productivity, and the limited use of agricultural technology. Furthermore, the main challenge faced by farmers is the limited availability of superior seeds, both in terms of quantity and price (Aisyah et al., 2020).

The availability of quality seeds plays a crucial role in determining agricultural production. However, the provision of certified seeds still fails to optimally meet farmers' needs, both in terms of timeliness, location, and price. Furthermore, the limited number of seed breeders and the lack of competent human resources in the seed sector are obstacles to the development of this sector (Aisyah et al., 2020). To address these issues, the government, through the Ministry of Agriculture, launched the Thousand Independent Seed Villages (SDMB) Program. This program aims to increase the capacity of farmers and farmer groups to produce seeds independently in their respective regions, thereby reducing dependence on seed supplies from outside the region (Ministry of Agriculture, 2016). In addition to increasing seed independence, this program also plays a role in strengthening farmer institutions and enhancing technical capabilities in the seed production process. Thus, the SDMB program is expected to support sustainable agricultural development and improve farmer welfare.

Research purposes

This research aims to:

1. Identifying the characteristics of seed farmers.

2. Assess the level of effectiveness of the implementation of the SDMB Program.
3. Calculating the income earned by farmers from seed breeding businesses.

RESEARCH METHODOLOGY

Location and Time of Research

This research was conducted in Pasar Miring Village, Pagar Merbau District, Deliserdang Regency. The location was selected purposively, considering that the area is a rice production center and the location for the Thousand Independent Seed Villages (SDMB) Program, which was launched in June 2024.

Data Types and Sources

This study used two types of data: primary and secondary data. Primary data was obtained through direct interviews with farmers using questionnaires and field observations. Meanwhile, secondary data was collected from various sources, such as the Central Statistics Agency (BPS), scientific literature, and relevant agencies (Aisyah et al., 2020).

Sampling Method

The respondents in this study were farmers from a farmer group in Pasar Miring Village, Pagar Merbau District, Deliserdang Regency, who participated in the SDMB Program. The sampling technique used a census method, meaning the entire population was selected as respondents. The sample size for this study was 25 rice seed breeders (Aisyah et al., 2020).

Data Processing and Analysis Methods

The data obtained was analyzed using qualitative and quantitative approaches. Qualitative analysis was conducted descriptively to describe the general conditions of respondents and program implementation. Quantitative analysis was used to calculate costs, revenues, and farm income (Aisyah et al., 2020).

1. Descriptive Analysis

Descriptive analysis was used to explain farmer characteristics and the implementation conditions of the SDMB Program. Data obtained from the field were processed and presented in narrative and tabular form to provide a clear picture of the research object (Sugiyono, 2016).

2. Analysis of Farm Business Income

This analysis aims to determine the level of profitability of farming activities. Income is calculated as the difference between total revenue (TR) and total costs (TC). Mathematically, this can be formulated as follows:

- $TR = Py \times Y$
- $TC = TFC + TVC$
- $I = TR - TC$

Description:
I = IncomeTR = Total revenueTC = Total costs

Additionally, R/C ratio analysis is used to determine business feasibility. The R/C ratio is the ratio of total revenue to total costs. If the R/C value is > 1, the business is feasible; if the R/C value is 1, it means it is break-even; and if the R/C value is < 1, the business is not feasible (Suratiyah, 2015).

3. Program Effectiveness Analysis

The effectiveness of the SDMB Program was measured based on respondents' perceptions through a questionnaire using a Likert scale. The assessment was conducted on three main aspects:

1. Program understanding
2. Accuracy of program targets
3. Program planning

Each indicator is scored on a scale of 1–5, ranging from very ineffective to very effective. The assessment results are then categorized according to specific levels of effectiveness (Rangkuti, 2007). A program is considered effective if its implementation and results align with the plan established by the Directorate General of Food Crops, Ministry of Agriculture (Aisyah et al., 2020).

RESEARCH RESULTS AND DISCUSSION

Characteristics of Seed Farmers

Respondent characteristics in this study included age, farming experience, gender, education level, and land ownership status. The results showed that the majority of seed farmers were aged 40–59, indicating that seed farming activities are dominated by the productive age group, but tend to be approaching maturity. In terms of experience, most farmers have between 1 and 10 years of farming experience. This indicates that, despite their relatively short experience, they already have a good understanding of cultivation and seed production. In terms of gender, the majority of respondents were male (72%), indicating that agricultural activities are still dominated by men. Meanwhile, the majority of farmers' education levels are only elementary school (58%). This indicates that farmers' formal education levels are still relatively low, potentially impacting their ability to adopt new technologies. Furthermore, the majority of farmers are landowners (64%), meaning they have direct control over production activities. Overall, these characteristics indicate that farmers have sufficient experience but still need capacity building, particularly in terms of agricultural knowledge and technology (Aisyah et al., 2020).

Level of Effectiveness of the Thousand Independent Seed Villages (SDMB) Program

Program effectiveness is analyzed based on three main aspects, namely program understanding, target accuracy, and program planning.

a. Program Understanding Aspects

The research results showed that 68% of respondents had a high level of understanding of the SDMB program. This indicates that the majority of farmers understood the program's objectives, benefits, and implementation mechanisms. This high level of understanding was also reflected in farmers' ability to utilize their own seeds for the next planting season.

b. Aspect of Program Target Accuracy

A total of 96% of respondents stated that the program was well-targeted. This means the program targeted farmer groups who truly needed support in seed development. This high percentage indicates that the program has successfully increased farmers' capacity to produce seeds independently and in accordance with local needs.

c. Program Planning Aspects

From a planning perspective, all indicators demonstrated a very high level of effectiveness (100%). This included location suitability, seed types and varieties, and assistance implementation. The research location was deemed to meet criteria such as being free from severe pests, having high production potential, and still relying on seed sources from outside the region. Furthermore, the assistance provided, both in the form of production facilities and equipment, was deemed appropriate to farmers' needs. Therefore, from a planning perspective, the SDMB program was designed and implemented very well (Aisyah et al., 2020).

Discussion of Effectiveness

Overall, the SDMB Program can be categorized as effective because it has increased farmer independence in seed supply. This success is supported by targeted alignment, good farmer understanding, and thorough program planning. However, this effectiveness is more visible in the technical and institutional aspects, not fully in the economic aspects.

Analysis of Seed Farmer Income

Income analysis is carried out to determine the feasibility of the seed breeding business run by farmers.

a. Income and Expenses

Farmers' total income comes from the sale of rice seeds and consumption rice. According to the data, total revenue reached approximately Rp 8,122,558, while total production costs were Rp 8,290,572.

b. Net Income

Net income is calculated as the difference between revenue and costs, namely: Income = TR – TC
= Rp. 8,122,558 – Rp. 8,290,572 = Rp. -168,014
These results indicate that the seed breeding business experienced financial losses.

c. R/C Ratio Analysis

The R/C ratio was 0.9. Because this value is less than 1, the seed breeding business is declared economically unfeasible.

Income Discussion

Although the SDMB program has successfully improved farmers' seed production capabilities, it has not yet yielded optimal economic benefits. This is due to several factors, including:

- The selling price of seeds is still low
- Production costs are quite high
- The seeds produced do not have official certification so their selling value is low.

As a result, seed breeding is still considered a side job and has not become a primary source of income for farmers.

CONCLUSION

Based on the results of research on the effectiveness of the implementation of the Thousand Independent Seed Villages Program (SDMB) in the "Mitra Tani" Farmer Group , Karehkel Village, Leuwiliang District, Bogor Regency, the following conclusions can be drawn:

1. The characteristics of seed-breeding farmers indicate that the majority are of productive age (40–59 years), have 1–10 years of farming experience, are predominantly male, and most have a basic education. Furthermore, the majority of farmers are landowners. This indicates that farmers have potential for business development, but still require capacity building, particularly in education and technology.
2. The SDMB program has a high level of effectiveness. This is demonstrated by the program's strong understanding, its targeted alignment with farmers' needs, and its thorough planning, which is tailored to field conditions. Overall, the program has successfully increased farmer independence in seed supply.
3. The income of seed farmers is still not economically viable. This is indicated by a R/C ratio of less than 1 and negative income. Therefore, seed farming remains a sideline business and has not yet become a primary source of income for farmers.

Suggestion

Based on the research results, several suggestions that can be given are as follows:

1. For farmers, it is necessary to improve the quality of seed production by implementing better seeding technology and participating in training to improve skills and knowledge.
2. The government needs to provide more intensive support, particularly in terms of seed certification, market access, and assistance with production facilities to increase the selling value of seeds.
3. For farmer groups, it is necessary to strengthen institutions and marketing systems so that production results can be sold at more profitable prices.
4. For further research, it is recommended to examine the marketing aspects and seed distribution chain in more depth in order to find strategies to increase farmers' income.

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