



Factors Affecting Rice Quality in Kasumeeto Village, Pakue District, North Kolaka Regency

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Abstract

This study was aimed to determine factors that affect the quality of paddy in Kasumeeto Village, Pakue District, North Kolaka Regency. Discriminant analysis was used as the analytical tool with a sample of 30 respondents. The results was obtained which was to determine the effect of the use of seeds, irrigation and fertilizer on the quality of lowland rice in Kusemeeto Village, Pakue District, North Kolaka Regency, can be conclude that quality of rice can be increase with increase the usage of high quality seeds and increase the usage of fertilizer. Lowland paddy is a commodity that has very promising prospects, so from the results of this study it is recommended that rice farmers should intensify the use of seeds and fertilizers because they can affect the quality of the paddy cultivated.

Keywords: Production Factors, Paddy Farm, Rice Quality

A. Introduction

Paddy is the main food agricultural product in an effort to fulfill national food needs and provide employment opportunities for the majority of the Indonesian population. Several factors have contributed to the importance of paddy farm in Indonesia, including (1) the paddy farm provides employment opportunities for 21 million farming families, (2) rice from paddy farm is a staple food for around 95 percent of Indonesia's population, and (3) about 30 percent of total expenditure of poor households are allocated to buy rice (Suryana et al, 2001). Rice is the main food ingredient for most of Indonesia's population. Increasing population requires rice production to continue to increase. One of the efforts to increase rice production is to maintain a balance of soil nutrients through fertilization. According to Sutedjo (2002), fertilization is which one of the efforts in order to increase agricultural

production, beside the selection of high quality seeds. Even now considered a dominant factor in agricultural production.

Quality is a collection of distinctive characteristics that can distinguish each unit of these materials and have a real influence in determining the degree of consumer acceptance of these materials (Kartika et al, 1988). The quality in this terms is the quality of the senses and the quality of the chemical. The sensory quality of rice is in terms of color, taste, aroma and texture, while the chemical quality is the content of vitamins, nutrients and others contained in the item.

In an order to increase the productivity of the paddy farm in Indonesia, the availability of superior varieties and high-quality seeds is urgently needed. According to Arsyad (2000), the availability of high yielding varieties with high yield potential and responsive to improvement and in accordance with environmental conditions, as well as having other superior characteristics is very much needed. These superior properties can be seen from seeds that have higher yields, shorter lifespans, resistance to pests and diseases. Seeds are genetically controlled, so it depends on the variety.

The appearance of the seeds greatly influences consumer preferences and the type of final product. This is evidenced by the results of a survey conducted by the Balittan Bogor (Iman et al. 1995) in (Nugraha et al. 2000) which shows that restaurants, especially in West Java, always choose large-sized and distinctively colored rice. The basis for their selection is the consideration of quality as the final product. Large beans will make for attractive rice. According to Nugraha et al. (2000) the quality of a food ingredient shows the characteristics of the material. The quality standard of the rice market is mainly determined by the appearance of the rice grains and consumer preferences. The only guidelines available for setting prices and quality levels are the quality standards issued by BULOG. BULOG's quality standards prioritize the level of dryness, dirt content and appearance of seeds. Meanwhile, according to Adisarwanto (2002) the quantity and quality of rice yields is largely determined by the quality of the seeds. Genetic quality, physical quality, physiological quality, and health quality must be met as requirements for quality seeds. Suryana, dkk (2009) mengungkapkan bahwa beberapa permasalahan yang berkaitan dengan usahatani padi sawah antara lain: (a) kepemilikan lahan usahatani yang relatif kecil dan tersebar dan bahkan cenderung mengecil karena adanya proses fragmentasi lahan sebagai akibat dari sistem/pola warisan, (b) terjadinya alih fungsi lahan sawah untuk penggunaan lainnya sebagai akibat perkembangan perekonomian daerah baik untuk pariwisata, perumahan maupun sektor lainnya, (c) keterbatasan debit air irigasi pada beberapa wilayah, terutama pada musim kemarau yang disebabkan saat panen raya, (e) keterbatasan modal usahatani (pupuk, obat-obatan dan pestisida), sehingga produktivitas yang dicapai masih dibawah produktivitas potensialnya dan (f) tingkat serangan hama penyakit yang masih cenderung tinggi.

I Gusti et al., (2012) The problem most often faced by farmers in rice farming activities related to the use of farming production facilities (fertilizers, medicines, labor, etc.) is the ability of farmers to buy these production facilities because of the low accumulation of farming capital required. owned. Farmers often use inputs that are not optimal so that maintenance in farming activities is not adequate. Whereas the use of inputs or production factors such as seeds, urea fertilizer, phonska fertilizer, rainbow, organic fertilizers, pesticides and labor correctly and efficiently will provide benefits to farmers.

The purpose of farmers doing lowland rice cultivation is to obtain production. However, production is not only modest but should be supported by quality, this is because good quality will trigger relatively higher prices compared to those of poor quality. In the research area of Pakue Subdistrict, rice cultivation has been going on for a long time, but the quality of the rice produced by some farmers is different, some are good and some are not, which are categorized by farmers. The progress of the rice field cultivation business is determined by how much income farmers get in running their business. The quality of rice is an important factor for consumers. If consumers are interested in the quality of the rice offered, it will provide continuity of the farming because the market is willing to accept the rice product. For this reason, it is important to know the factors that affect the quality of rice in Kasumeeto Village, Pakue District, North Kolaka Regency. Based on the research problems above, the goal to be achieved in this study is to find out what factors affect the quality of rice in lowland rice farming in Kasumeeto Village, Pakue District, North Kolaka Regency.

B. Methodology

1. Research Design

Questionnaire is a list of questions to be asked of the respondent (object of investigation) consisting of rows and columns to be filled with answers asked (Sugiono, 2007). The questionnaire used in this study used open-ended questions, for example asking the respondent's name and place of residence, and using closed-ended questions, which asked the respondent to choose one of the answers provided for each question. Each question relates to the problem discussed in this study. The measurement of the research questionnaire was carried out using the scale method, where this scale resulted in a very insignificant answer until the answer was very influential in a range of values from 1 to 5. This measurement scale was chosen by the researcher so that respondents had greater opportunity or discretion (maximum value up to 5) in providing an assessment. according to their perceptions and conditions..

2. Technique of Data Analysis

To find out the factors that affect the quality of rice in Kasumeeto Village, Pakue District, North Kolaka Regency, multiple regression equations are used. The factors that influence income in this study are seeds (X1), irrigation (X2), fertilizer (X3), labor (X4), pesticide (X5), and storage (X6). This study uses the SPSS program version 20th. The multiple linear regression equation is as follows:

$$Y = f(X_1, X_2, X_3, \dots, X_n) \dots\dots\dots(1)$$

Furthermore, the above equation is formulated into an econometric model as follows: $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + u \dots\dots\dots(2)$

Description :

- Y = Quality
- X1 = Seeds
- X2 = Irrigation
- X3 = Fertilizer
- a = Constant
- b₁, b₂ = Parameter estimate.
- e = error

The test criteria are using Discriminant Analysis

Identify, classify and determine the magnitude of the influence of an object of research.

Hypothesis criteria:

- if $H_0 : b_i = 0$; no influence
- if $H_1 : b_i \neq 0$; there is influence

Testing Criteria :

- ToEG > Sig (No significant effect)
- ToEg < Sig (significantly significant effect).

C. Findings and Discussion

Respondents Response Quality and Influencing Factors

Analysis of the quality of lowland rice farming and its influence was conducted in this study, including; seed factors, irrigation and fertilization factors that will affect the quality of lowland rice in Kasumeeto Village, Pakue District. The results of respondents' responses consist of:

a). Quality on Paddy Farm

The quality of paddy farm in this study was determined by the respondents themselves based on their experiences. Where the quality is divided into three parts, which is High quality, Medium Quality and Less Quality. The results of respondents responses can be seen in the following Figure 4.1 below.

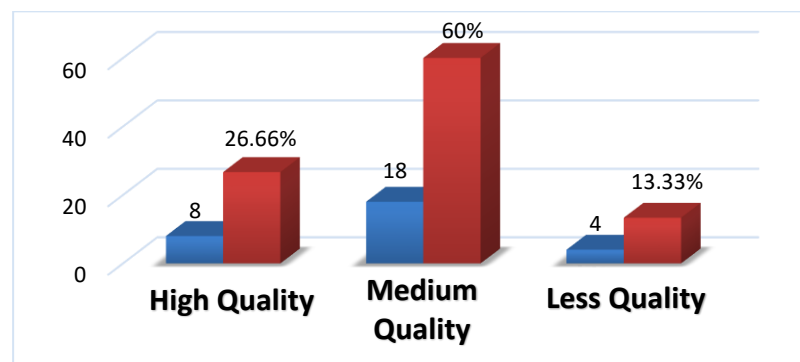


Figure 1. Quality on Paddy Farm Desa Kasumeeto Kecamatan Pakue, 2021

Figure 1 shows that the results of respondents' responses to the quality of their rice which indicated that they were very good were 8 (26.67%) respondents, 18 (60%) respondents said good and 4 (13.33%) said not good. respondents.

b). Paddy Seeds

The procurement of paddy rice seeds in this study was determined by the respondents themselves based on their experiences. So that the quality of the seeds they use, respondents know from the experience they have had during rice farming in Kusumeeto Village. The results of respondents' responses to the rice seeds used by respondents can be seen in Figure 4.2 below.

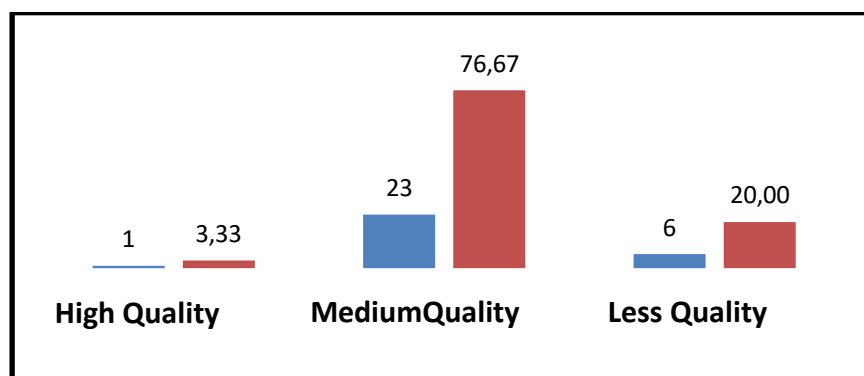


Figure 2. Paddy Seeds Desa Kasumeeto Kecamatan Pakue, Tahun 2021

Figure 2 shows that the results of the respondents' responses to the rice seeds they used stated that they were High Quality as 1 (3.33%) respondents because the seeds were bought with new seeds so that the quality was guaranteed, which stated that they Medium quality 23 (76.67%) respondents, the seeds are the result of their own creations from their own rice products but are still considered good, only 1-2 tillers, and 6 (20%) respondents stated that they are not good, these seeds are the result of their own process but have been used by the tillers more than 2 times, This was done due to the limited capital of the respondents.

c). Availability of Water (Irrigation)

Water is the most important thing in paddy farm, because it is a condition for the growth of lowland plants. The provision of irrigation for paddy farm in this study was determined by the respondents themselves based on their experiences. So that the availability of water that they use by respondents knows it from the experience they have had during rice farming in Kusumeeto Village. The results of respondents' responses about the availability of water for irrigating rice fields used by respondents can be seen in Figure 4.3 below.

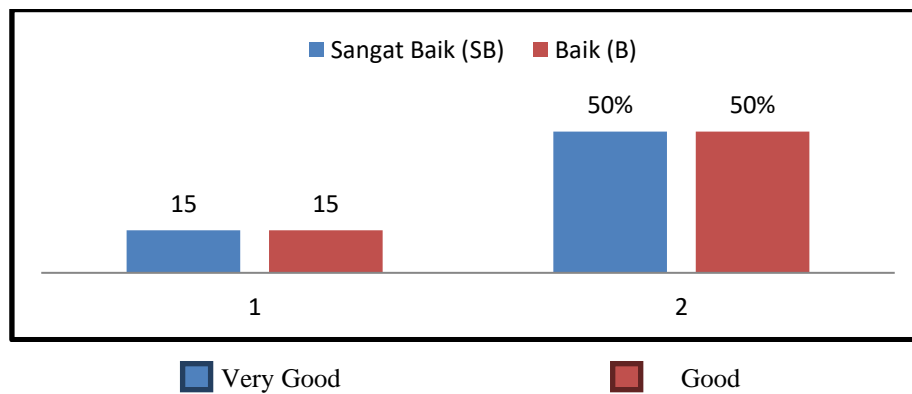


Figure 3. Availability of Irrigation for Respondents Rice Fields in Kasumeeto Village, Pakue District, 2021

Figure 3 shows that the results of the respondents' responses to the rice irrigation they used were stated very good as 15 (50%) respondents and 15 (50%) respondents state good. The results of interviews with respondents that water is in sufficient level..

d). Fertilizer

The procurement of fertilizer for lowland rice in this study was determined by the respondents themselves based on their experiences. So that the number of fertilizers used by respondents is known from the experience they have had while farming lowland rice in Kusumeeto Village. The results of about the use of fertilizers used by respondents can be seen in Figure 4 below.

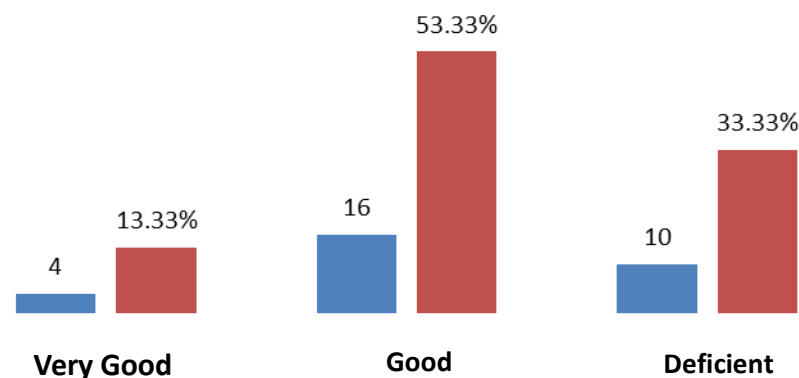


Figure 4. Distribution of Perception on Rice Fertilizer Application Among Respondents in Kasumeeto Village, Pakue District, 2021

Figure 4 showed that the results of respondents responses to the fertilizers they use, for those who stated the amount of use was very good as 4 (13.33%) respondents because the fertilizer used according to respondents was good according to what was used so far. Meanwhile, according to respondents, 16 (53.33%) of respondents stated that the use of fertilizers was considered insufficient that is not according to the portion used so far, but still categorized as sufficient. The respondents stated Not good is about 10 respondents (33.33%), the fertilizer used is considered less than the portion used so far. More or less fertilizer in paddy farm is determined by the availability of capital on respondent farmers, not because of the right composition..

Results of the Effect of Seeds, Irrigation and Fertilizers on the Quality of Paddy Rice

Cumulative statistical test shows that there is a significant effect. In the Eigenvalues table, the Canonical Correlation number is 0.787, this indicate that 78.7% of the variation in rice quality variable can be explained by the variables of seeds, irrigation and fertilizers.

Tabel 1. Tests of Equality of Group Means

Wilks' Lambda	F	df1	df2	Sig.
0,734	4,887	2	27	0,015
0,959	0,573	2	27	0,570
0,647	7,375	2	27	0,003
Wilks' Lambda	F	df1	df2	Sig.
Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	1,628 ^a	98,1	98,1	0,787

Based on the Equality Tests results on Group Means above, from the three factors of seed, irrigation, and fertilizer partially, it can be seen that the effect of using seeds on the quality of paddy farm has a significant effect. This finding indicates that the amount of seed used depends on the quality, because good quality paddy seeds will support good rice yields. One of the determinants of the quality of rice is the appearance of a very good grain of rice. In this research area, the paddy seeds used are in Medium Quality so that it can support good quality rice.

Other findings showed that the effect of Irrigation to ensure the water availability hasn't significant effect on the quality of rice. Water is an input that functioning to ensure the rice growth process went well, moreover the lack of water can have an impact on decreasing the amount of rice farming production. Although, water does not directly determine the quality of the rice produced later, because the availability of sufficient water is not a dominant factor in determining the quality of rice, but there are still genetic factors and soil nutrients that more responsively affect the level of grain quality than water.

Unlike the case with the influence of fertilizer which significantly affects the quality of rice. In the research area, the use of fertilizers has reached an adequate proportion, as described in Figure 4.4. Provision of good fertilizer will encourage improvement in the quality of the rice produced because fertilizer is the dominant factor other than genetics that become to be another factors to determine the quality of rice.

D. Conclusion

Based on the description in the discussion, to determine the effect of the use of seeds, irrigation and fertilizer on the quality of lowland rice in Kusemeeto Village, Pakue District, North Kolaka Regency, can be conclude that quality of rice can be increase with increase the usage of high quality seeds and increase the usage of fertilizer. Paddy Farm is a commodity that has very promising prospects, so from the results of this study it is recommended:

1. Paddy farmers should pay attention to the use of seeds and fertilizers because they can affect the quality of the rice cultivated.
2. The government is expected to provide assistance and guidance to farmers, especially in terms of the use of certified seeds and the use of appropriate fertilizers in the research area so that the yield of lowland rice farming is further increased

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