

QUALITY BASED PRODUCTIVITY OF FERTILIZER, TECHNOLOGY AND CAPITAL

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Abstract

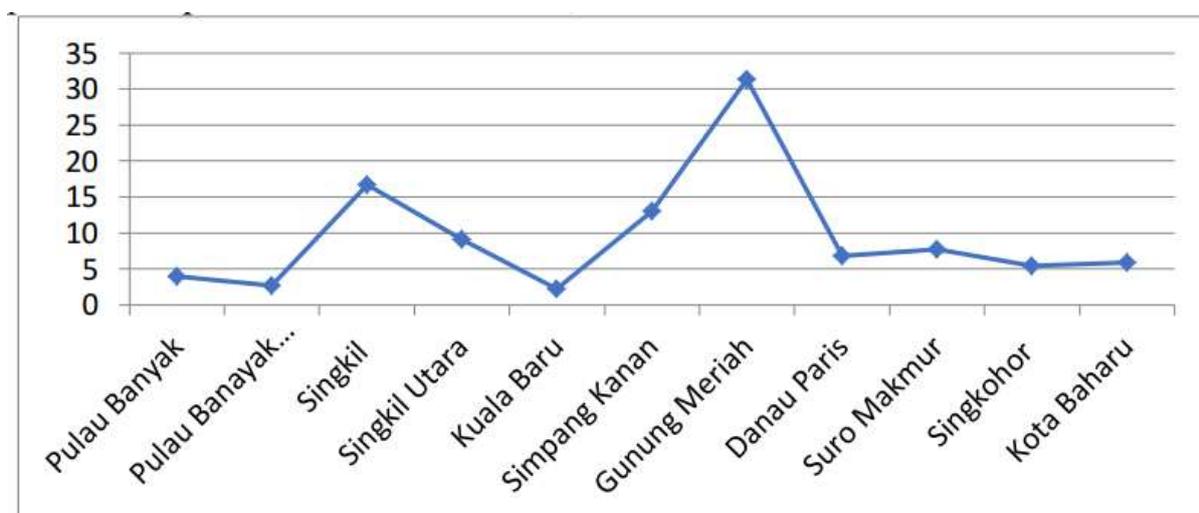
The research objective was to determine the effect of the quality of fertilizer, technology and capital on the productivity of the people in Tunas Harapan Village, Gunung Meriah District, Aceh Singkil Regency. The population in this study was the community in Tunas Harapan Village, Gunung Meriah District, Aceh Singkil Regency, totaling 198 people, then the determination technique was purposive random sampling. The data collection technique used a questionnaire with a Likert measurement scale. The results of multiple regression analysis are $Y = 7.772 + 0.257X_1 + 0.1932 + 0.348X_3 + e$ which shows the quality of fertilizer, technology and capital have a positive and significant effect on the productivity of the people. While the results of the test (t) or partial test show that the quality of fertilizer has a positive and significant effect on community productivity where it can be seen that the value of t count = 2.359 > t table 2.034, the technology variable has a positive and significant effect on community productivity where it can be seen that the value of t count = 2.137 > t table 2.034, and capital also has a positive and significant effect on the productivity of the people where it can be seen that the value of t count = 2.533 > t table 2.034. Then the coefficient of determination (R²) is 0.823 (82.3%). So that it can be said that 82.3% of the variation in the dependent variable, namely the quality of fertilizer, technology and capital in the model has contributed to the productivity of the community in Tunas Harapan Village, Gunung Meriah District, Aceh Singkil Regency, while the remaining 17.7% is influenced by other variables outside the model

Keywords: *Technology Quality, Capital, Productivity*

INTRODUCTION

The State of Indonesia as an agricultural country, its economic development is largely determined by agricultural development. In conditions of the monetary crisis followed by the economic crisis, as has occurred since the beginning of 1997, the agricultural sector grew positively so that it became the savior of the national economy. The added value of the agricultural sector from time to time in absolute terms is always increasing. In addition, the role of this sector in absorbing labor remains the most important. The agricultural system in Indonesia still requires efforts to improve and revitalize in order to accelerate or accelerate the increase in productivity and competitiveness of agricultural business actors.

Aceh Singkil district is one of them that has natural resources that have the potential to be developed, especially in the agricultural sector. The contribution from the agricultural sector ranks first in the Aceh Singkil economy, namely 29.02%. Most of the results from the agricultural sector in Aceh Singkil Regency were supplied from the plantation sub-sector, namely 12.51%. The land area and productivity of plantation commodities that have the highest is oil palm, with a percentage of land area of 60.74% and a percentage of productivity of 73.91%.



Source: BPS Aceh Singkil 2021

Figure 1. Total Population of Aceh Singkil Regency 2021

From the picture above Gunung Meriah Village has a lot of potential in terms of agriculture, almost 50% of the people there work as farmers and depend on agriculture for their lives. The problems in this research are the lack of capital in opening up wider agricultural land, soil fertility which is increasingly polluted which causes it to be unable to grow crops, narrow land cannot increase the area of land owned, poor quality seeds which causes crop failure or unfavorable results, many plant pests that cause death and do not produce and lack of human resources in managing agriculture and plantations. The aim of the research is to increase the productivity of farmers in Tanah Bara Village, Gunung Meriah District, based on the SEM model. The main problems studied are the lack of capital in opening up wider agricultural land, soil fertility which is increasingly polluted which causes it to be unable to grow crops, narrow land cannot increase the area of land owned, poor quality seeds which cause crop failure or unfavorable results, many plant pests that cause death and do not produce and lack of human resources in managing agriculture and plantations.

THEORETICAL BASIS

Farmer Productivity

Low productivity is a reflection of an organization or company that wastes its resources (Aprianto, 2021). The low productivity of many organizations/companies will reduce the overall industrial and economic growth of a nation (Juanda, 2021). Furthermore, productive people are people who can make a real and meaningful contribution to the surrounding environment, are imaginative and innovative in approaching their life's problems and have intelligence (creative) in achieving their life goals (Rahmadani, 2019). At the same time, such a person is always responsible and responsive in relation to other people (leadership) (Zarliani, 2020).

Fertilizer Quality

Fertilizer is a material that contains one or more nutrients or nutrients for plants to support plant growth and development (Maman et al., 2021). The nutrients needed by plants are: (abundant availability in nature), (macro nutrients), and (micro nutrients) (Arifin, 2021). Fertilizers can be given through the soil, leaves, or injected into plant stems (Mahmudah, 2020). The type of fertilizer is solid or liquid form. Errors in calculating fertilizer will change the treatment that has been determined, reduce the level of accuracy and then affect the results and conclusions of the research (Makmur, 2020).

Technology

Technology is defined as the applied science of engineering which is manifested in the form of human creations based on scientific principles (Faturachman, 2021). Technology is a combination of computer technology with communication technology that facilitates the acquisition, processing, storage, transmission and sharing of information (Simangunsong, 2022). Two technological theories, namely Instrumental Theory, is the idea that technology is a tool that is always ready to serve the interests of its users (Utama, 2019). Substantive Theory believes that technology is dynamic and capable of changing social life (Mamilianti, 2020).

RESEARCH METHODS

The type of research used by researchers is quantitative research. Population is not only people, but also objects and other natural objects. So the population in this study is all the people in Tunas Harapan Village, Gunung Meriah District, Aceh Singkil Regency, totaling 198 people.

The sampling technique uses purposive random sampling. Then the technique of collecting data with questionnaires. The measurement scale uses a Likert scale with criteria (5=strongly agree), (4=agree), (3=doubtful), (2=disagree), (1=strongly disagree). Adapun data analysis techniques with multiple linear regression analysis.

RESULTS AND DISCUSSION

Effect of Fertilizer Quality on Productivity

Based on the results of the data processing analysis, it shows that the quality of fertilizer has a positive and significant effect on the productivity of the community in Tunas Harapan Village, Gunung Meriah District, Aceh Singkil Regency. The results of this study are in line with the results of research conducted by (Maman et al., 2021)(Purnama, 2021)(Hadiyanti, 2022) which states that the quality of fertilizer has a significant effect on farmer productivity. This shows that when the quality of fertilizer is getting better, it will have an impact on increasing farmer productivity.

Effect of Technology on Productivity

The results of data processing show that technology has a positive and significant effect on the productivity of farmers in Tunas Harapan Village, Gunung Meriah District, Aceh Singkil Regency. This study corroborates the results of research (Prapnuwanti, 2019)(Mamilianti, 2020)(Rahmasari, 2020) which states that technology has a significant effect on farmer productivity. This can be interpreted that when the use of technology is increased, it will have an impact on increasing the welfare of farmers.

Effect of Capital on Productivity

Based on the results of data processing, it can be stated that capital has a positive and significant effect on the productivity of farmers in Tunas Harapan Village, Gunung Meriah District, Aceh Singkil Regency. This study supports the results of previous studies which state that capital has a significant effect on farmer productivity. This states that when capital is added, it will have an impact on increasing farmer productivity.

CLOSING

Based on the results and discussion, a conclusion can be drawn that all independent variables of fertilizer quality, technology and capital have a positive and significant effect on the productivity of farmers in Tunas Harapan Village, Gunung Meriah District, Aceh Singkil Regency. The variable that has a major influence on farmer productivity is capital.

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