

ANALYSIS OF LIVESTOCK RESOURCE ALLOCATION IN CATTLE BUSINESS DEVELOPMENT

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Abstract

The economic performance of farmers' households shows the allocation of resources owned by households for productive, consumptive, and investment activities. The largest allocation for cattle business illustrates the responsibility of farmers' households in using resources for their goals. The research used a survey method. Then, the data collection technique employed interviews with respondents from cattle farmers' households by using the designated questionnaire. The sampling method was purposive, which was the population of cattle farmers' households receiving capital assistance for cattle business and selling their cattle from capital assistance. The resource allocation for the cattle business had significantly influenced by the total of the received capital assistance, the value of calves, and the allocation of capital assistance for non-cattle businesses.

Keywords: Cattle Business; Recources; Livestock

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INTRODUCTION

The decision of a household to allocate resources from various usages is determined by the respective household and farmer's circumstances. It explains the economic performance of the household. The agricultural business sector has high business risks so farmers' households sometimes combine agricultural and non-agricultural businesses that provide high economic benefits (Salendu and Elly, 2014).

The economic benefits of a business will be largely determined by how much capital will be expensed in the business. Capital is a significant element in the economy because, without capital, farmers will be difficult to perform their economic activities. Capital resources are anything that is used to produce goods and services. Based on ownership, capital resources are divided into (1) individual capital (capital owned by individuals) and community capital, including capital assistance from the government. Theoretically, the existence of capital assistance will increase the capital capacity of farmers' households in productive activities.

The allocation of capital assistance for agricultural production activities is aimed to purchase some inputs such as seeds, fertilizers, pesticides, and other medicines, paying labor wages, renting tractors, purchasing capital and other materials (Adebayo et al., 2008, deRosari et al.,



2014). However, some farmers only use capital assistance to purchase production inputs. Farmers having narrow land do not purchase inputs or other technologies, such as renting tractors. Therefore, the research aims to analyze the influencing factors of decision-making by farmers' households to allocate production capital assistance to cattle businesses.

METHODS

The household economic performance in this research was defined as the ability of households to make decisions in allocating their resources for various business activities. Further, in this research, the economic performance was measured by the total allocation of capital resources for cattle production, obtained from the government, for cattle business activities. Regarding the allocation of capital assistance, this research was conducted in areas that had received capital assistance programs for cattle production.

This research was conducted in Minahasa District under the following considerations: (1) one of the centers of the cattle population in North Sulawesi and (2) the largest recipient of capital assistance for cattle production in North Sulawesi. The selected district was Tompaso Barat District. In addition, the research used a survey method. The data collection technique was interviews with respondents of farmers' households as recipients of capital assistance cattle using the designated questionnaire. The sampling of farmers' households was purposive sampling, which was the population of cattle farmers' households receiving capital assistance for cattle business and having sold their cattle obtained from the capital assistance. The location of the capital assistance for the cattle business was assumedly influenced by the total of the received capital assistance, the value of the calves, wages for the cattle business, the value of the feed, the value of the medicine, and the total of the allocation of capital assistance for non-cattle business.

$$ATS = A0 + A1 JBM + A2 NBK + A3 UPH + A4 PK + A5 NOB - A6 ABS + U1 \quad (1)$$

$$\text{Hypothesis: } A1, A2, A3, A4, A5 > 0, A6 < 0$$

Where:

ATS : Total allocation of resources for business cattle (IDR/year)

JBM : Total capital assistance received by farmers' households (IDR/year)

NBK : Feeder cattle value (IDR/year)

UPH : Wages for cattle business (IDR/HOK)

NPK : Feed value (IDR/year)

NOB : Medicine value (IDR/year)

ABS : Total allocation of capital assistance for non-cattle business (IDR/year)

U1 : Error

RESULTS AND DISCUSSION

The variables included in the equation of the allocation of resources for cattle business were following the economic theory and had statistically significant values for all variables. The F-test was conducted to test the regression coefficients whether the total of variables and capital assistance received by farmers' households, value of calves, wages for cattle

business, feed value, medicine value, and total allocation of capital assistance for non-cattle business affected the total allocation of capital assistance for cattle business or not.

Then, the requirements for decision-making to test the hypothesis were by comparing the significant value (probability) with the error limit of decision-making (α) that had been determined. If the significant value was less than α , the taken decision rejected the H_0 hypothesis. It means that there was a simultaneous effect of all exogenous variables on endogenous variables.

The results of the F-test or simultaneous test related to the variable of allocation of capital assistance for cattle business show that p-value as of $<.0001$ was obtained and if the specified α was 0.05, $0.0001 < 0.05$. It concludes that the exogenous variables collectively affected the endogenous variables. Meanwhile, the variable of allocation of capital assistance for non-cattle businesses demonstrates that a p-value of $<.0001$ was obtained and if the specified α was 0.05, it was $<.0001 < 0.05$. Conclusively, the variables jointly impacted the endogenous variables.

Furthermore, a partial test was conducted. The purpose of the partial test was to know whether or not each of the exogenous variables affected the endogenous variables. The provisions of decision-making to test the hypothesis stated above were by comparing the significant value (probability) with the error limit of the decision-making (α). If the significant value was less than α , the taken decision rejected the H_0 hypothesis. This shows that there was a partial effect (using the t-test) of each of the exogenous variables on the endogenous variables. The results of the estimated allocation of capital assistance by cattle farmers' households receiving capital assistance for cattle can be seen in the following equation:

$$\text{ATS} = -1813744 + 0,489 \text{ JBM} + 0,394 \text{ NBK} + 282,459 \text{ UPH} + 0,073 \text{ NPK} + 1,207 \text{ NOB} - 1,343 \text{ ABS} + U_i$$

Meanwhile, the theory of household economy related to the allocation of utilized resources, owned by households, including capital assistance, was a rational behavior in household management. The decision in utilizing capital assistance for other activities was the household's decision to maintain the equilibrium of the farmers' household. However, it countered with the successful objective of capital assistance grants. In short, the household's decision in utilizing capital assistance was adjusted to the farmer's circumstances.

The results of the analysis reveal that the p-value for the partial test related to the total of the received capital assistance (JBM) affected the allocation of capital assistance for cattle business (ATS) as of $<.0001$ so that a decision could reject H_0 ($<.0001 < \alpha = 0.05$). The indicator

is that the total of the received capital assistance (JBM) affected the allocation of capital assistance for cattle business (ATS). It was in line with research by Dahri et al. (2015), stating that capital assistance has generally a positive impact on both the total of cattle and the total of working hours in the cattle business, and all of them have a significant effect. Also, the results were following the research performed by Elly et al. (2008); Tumober et al (2014); deRosari et al. (2014), arguing that procurement of capital assistance to farmers in developing cattle business has a positive impact (Table 1).

Table 1. Results of the Estimated Allocation of Farmer Household Resources in Cattle Business

Variable	Coefficients	P-value
Intercept	-1813744	0,13858
JBM	0.489	1,87E-11*
NBK	0.394	1,5E-08*
UPH	282.459	0,250811
NPK	0.073	0,847732
HOB	1.207	0,116246
ABS	-1.343	0,000153*
R-Square = 0,954		
F = 79,81		

* significant at 0.05

Furthermore, the results of the p-value for the partial test of the value of calves affected the allocation of capital assistance for cattle business with a probability value $<.0001 <0.05$. The conclusion is that NBK affected ATS. In addition, to the total of the received capital assistance and the value of the calves, the allocation of capital assistance for cattle businesses was influenced by the allocation of capital assistance for non-cattle businesses e. The p-value for the partial test of the variable of allocation of capital assistance for non-cattle businesses (ABS) was $<.0001 <0.05$, so ABS affected ATS.

Additionally, the expenses for feed in the allocation of capital assistance for cattle business were higher than other expenses. This was because the feed was an important aspect of the beef raising. The allocation of cost production for feed was 60-70%. Also, the development of ruminantia livestock production required the availability of stable and qualified feed, because feed was a determining factor for the production success and sustainability.

CONCLUSION

The allocation of capital assistance for cattle businesses has significantly been influenced by the total of the received capital assistance, the value of calves, and the allocation of capital assistance for non-cattle businesses. Meanwhile, the allocation of capital assistance for non-cattle businesses has been significantly influenced by the total of the received capital assistance and the allocation of capital assistance for cattle businesses.

Household decisions in allocating capital assistance for cattle businesses to non-cattle businesses have been a phenomenon of the economic behavior of farmers' households in



utilizing capital assistance. This utilization should be directed at farming activities that support the development of the cattle business. It is necessary to make improvements to the program by considering: 1) the business stages and experiences of farmers so that they are right on target, and 2) program clarity which is characterized by clear purposes, objectives, and instruments.

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