

COMPARATIVE BUSINESS OF RICE FARMING IN UMONG PAYA WITH UMONG LAND IN LEMBAH DISTRICT SABIL DISTRICT OF SOUTHWEST ACEH

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Abstract

*Lembah Sabil subdistrict there are two types of : rice fields, namely Umong Paya and Umong Darat, so there is a rice farming business that uses both lands. Is there a difference (comparative) in the benefits of rice farming using Umong Paya and Umong Darat. The purpose of this study was to determine the difference between the benefits of Umong Paya and Umong Darat rice farming. The location of this research was carried out in the Lembah Sabil subdistrict, Southwest Aceh Regency, especially in the two Gampong Cot Bak U and Meunasah Sukon carried out in 2022. The data analysis used in this study were cost calculations, acceptance calculations, profit calculations and different tests or tests. *t* (independent *t* test). The results of the research conducted explained that the rice farming business Umong Paya obtained an average production of 6,555 Kg/Ha/MT, the average total cost of Rp. 18,930,106/Ha/MT, the average receipt of Rp. 32,217,411/Ha /MT and an average profit of Rp.13,287,305/Ha/MT. While Umong Darat rice farming business earned an average production of 7,704 Kg /Ha/ MT, the average total cost of Rp.16,305,657/Ha/MT, the average receipt of Rp. 34,766,457/Ha/MT, and an average profit of Rp. 18,462,758/Ha/MT. The analysis of data using the *t* test (independent *t* test), showed that the sig value of 0.016 < from 0.05 (α) means that there is a difference in the average profit of Umong Paya rice farming business with Umong Darat. Thus there is a difference in the average production, acceptance, total cost obtained by Umong Paya rice farming business with Umong Darat, resulting in a difference in profits obtained by the two farming businesses. The analysis of data that has been done shows that there is a real difference in the average profit in real terms between the Umong Paya rice farming business and Umong Darat in Lembah Sabil subdistrict of Southwest Aceh regency.*

Keywords: *rice farming business, umong paya, umong land, profit.*

INTRODUCTION

Rice plants are not native to Indonesia, but people in Indonesia choose rice plants as a staple food crop that is greatly needed by the Indonesian people. Rice plants (*Oryza sativa* L.) are the name of plants that are the prima donna for the Indonesian people and other nations in the world. Indonesia positions rice plants as staple food crops, so cultivation is an important thing to know and develop. Indonesia has land for planting rice plants that is quite extensive and wider than other commodities (Jamilah, 2017). According to Kastanja (in Taufik et al., 2013) rice is an important commodity and ranks first in Indonesia. This food contains 8 g of protein and 73 g of carbohydrates in every 100 g. Therefore, rice plants are used as the main source of carbohydrates for the Indonesian people. Many Indonesian farmers cultivate rice plants in Indonesia, because the availability of land and climate are suitable for cultivating rice plants. Rice production in Indonesia in 2020 reached 54.65 million tons (BPS, 2020), this shows that the level of rice cultivation in Indonesia is very high. Aceh Province is one of the provinces in Indonesia that produced rice production in 2020 of 1.76 million tons (BPS, 2020). Judging from the rice production produced by Aceh Province, it is very potential in cultivating rice plants, so it can contribute to national rice production.

Aceh Barat Daya Regency is located in the southwestern part of the Aceh region, and is one of the rice producing areas in Aceh Province. Aceh Barat Daya Regency is ranked 8th as the regency with the largest area of rice fields in Aceh Province. The area of rice fields in Aceh Barat

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Daya Regency is 12,055 hectares (BPS, 2020), which makes Aceh Barat Daya Regency very potential for rice cultivation. rice fields. Southwest Aceh Regency has 9 sub-districts, each sub-district has rice fields and cultivates rice fields. Lembah Sabil District is one of the sub-districts located at the westernmost tip of Southwest Aceh Regency. In Lembah Sabil District there are two types of rice fields, namely swamp rice fields (Umong Paya) and dry rice fields (Umong Darat), for irrigation sources, both of these areas use irrigation. Both of these areas have different soil characteristics,

Umong Paya land will always be flooded and remain wet even if there is or is not water flowing through it, while Umong Darat land will be moist and flooded when there is water flowing through it and will dry out if there is no water flowing through it. This condition results in differences in cultivation methods between the two areas. Nursery in Umong Paya must mound the soil and make a limit on the seeding media so that it is not submerged in water and the water channels on the rice field embankments must be opened, besides that the harvesting technique is also different, Umong Paya harvesting still uses manual labor such as cutting rice using human power and threshing the rice using a Power Threshser machine and human power, while Umong Darat already uses machine power such as a Combine Harvester. Thus, the difference in cultivation methods and harvesting techniques between the two lands will result in differences in production costs for farming businesses that use the two lands.

The use of Combine Harvester harvesting machines is very common among rice farmers in Lembah Sabil District. With the existence of both lands to use Combine Harvester to be effective and not trapped (collapsed) in swampy rice fields, therefore one of the officers who coordinated the Combine harvester machine in Gampong Cot Bak U and Meunasah Sukon conducted a mapping and production survey of Umong Paya and Umong Darat. Based on the results of the survey conducted by the officer coordinating the Combine Harvester, data was obtained on the area of Umong Paya in Gampong Cot Bak U covering 2 hectares with a production of 14.6 tons and the area of Umong Darat covering 18 hectares with a production of 135 tons. For Gampong Meunasah Sukon, the area of Umong Paya is 3 hectares with a production of 21.9 tons and the area of Umong Darat is 27 hectares with a production of 202.5 tons. In addition, the varieties used by farmers who use both lands are also different, and the two lands also show differences, namely, Umong Paya has a productivity of 7.3 tons/ha and Umong Darat is 7.5 tons/ha, therefore related to the explanation above, it has an impact on the difference in costs incurred, production and profits of farming businesses that use Umong Paya and Umong Darat.

LITERATURE REVIEW

Farming Business Concept

Farming is an organization whose implementation is independent and deliberately attempted by a group of people from the same social class. Soekartawi stated that the availability of facilities or production factors (input) does not mean that the productivity obtained by farmers will be high, but how farmers carry out their efforts efficiently is a very important effort. Technical efficiency will be achieved if farmers are able to allocate production factors in such a way that high production is achieved. If farmers are able to increase their production with the price of production facilities being suppressed but the selling price is high, then farmers are able to carry out technical efficiency and price efficiency or carry out economic efficiency (Soekartawi, 2002).

Paddy Farming Business

Rice plants (*Oryza sativa* L.) are rice-producing plants which are a source of carbohydrates for some of the world's population. Almost 95% of the Indonesian population consumes rice as a staple food, so that every year the demand for rice increases along with the increasing population (Pratiwi, 2016). Rice plants are generally seasonal plants with four growth phases, namely fast vegetative, slow vegetative, reproductive and ripening phases. Broadly speaking, rice plants are divided into two parts, namely the vegetative part and the generative part, where the vegetative part

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consists of roots, stems, leaves and the generative part consists of panicles consisting of grains, leaves and flowers (Tiku, 2008).

Land Classification

The definition of land includes all environmental conditions and soil is one of its parts. The meaning of land can be stated as follows:

- a. Land is a stretch of the earth's surface that can be useful for humans, whether it has been managed or not.
- b. Land is always related to the earth's surface with all the factors that influence it (location, fertility, slope, and others).
- c. Land varies with factors of topography, climate, geology, soil and vegetation cover.
- d. Land is part of the earth's surface and all the factors that influence it.
- e. Land is the surface of the earth that is useful for human life and is formed in a complex manner by physical and non-physical factors found on it (Su Ritohardoyo, 2013).

Farming Business Costs

Costs are expenses or sacrifices to obtain goods or services that are useful for the future (Ahmad & Wasilah, 2012). Obtaining income (revenue) that will be used as a reduction in income. In a broad sense, costs are sacrifices of economic resources, measured in monetary units, that have occurred or are likely to occur for a specific purpose (Mulyadi, 2014). Costs are sacrifices of economic resources to obtain goods or services that are expected to provide benefits now or in the future (Siregar et al., 2013).

Concept of Acceptance

Income (revenue) is the difference between total income and costs that have been incurred. These costs are classified into two, namely fixed and variable costs. Fixed costs are costs that are relatively fixed in amount and continue to be incurred even though the production obtained is large or small. So the amount of this fixed cost does not depend on the size of the production obtained. These fixed costs are such as land rent and purchase of agricultural equipment. Variable costs are costs whose size is influenced by the production obtained in farming. These variable costs are in the form of costs required to buy seeds, fertilizers, medicines, and labor costs (Soekartawi, 1993).

Concept of Profit

Profit or gain is the increase in economic benefits during an accounting period (e.g., an increase in assets or a decrease in liabilities) that results in an increase in equity, other than those involving transactions with shareholders. Net profit can mean different things and therefore always requires clarification. Strict net profit means after all deductions (as opposed to only certain deductions applied to gross profit or margin) (Themim, 2012).

Comparative Analysis Theory (comparison)

Comparative analysis or comparison is a statistical procedure to measure the difference between two or more data (variables). This difference analysis or difference test is very dependent on the type of data (nominal, ordinal, interval, and ratio) and the sample group being tested. The type of statistical technique used to test the comparative hypothesis must be appropriate to the type of data or variable based on the measurement scale. Comparative studies or research are a type of descriptive research that seeks to find fundamental answers about cause and effect, by analyzing the factors that cause the occurrence or emergence of a particular phenomenon (Nazir, 1988).

METHOD

Location, Objects and Scope of Research

This research was conducted in Lembah Sabil District, Southwest Aceh Regency, namely in two Gampong Cot Bak U and Meunasah Sukon. The selection of this location was carried out by Purposive sampling, because in both villages there are many farmers who cultivate rice fields in Umong Paya and Umong Darat, data on both lands has been known and there are two types of land. The objects in this study are rice field farmers who use Umong Paya and Umong Darat, which are in Gampong Cot Bak U and Meunasah Sukon. The scope of this study only analyzes the comparative benefits of rice field farming businesses using Umong Paya and Umong Darat, in Gampong Cot Bak U and Meunasah Sukon, Lembah Sabil District, Southwest Aceh Regency.

Data Types and Sources

This study uses primary data (direct data) and secondary data. Primary data is obtained through field surveys, with data collection techniques by conducting direct interviews (questions and answers) with rice farmers who use Umong Paya and Umong Darat, in Gampong Cot Bak U and Meunasah Sukon, Lembah Sabil District, Southwest Aceh Regency. Secondary data is obtained from books, journals, and internet sources.

Population and Sample

The population in this study were all farmers who carried out rice farming using Umong Paya and Umong Darat, in two villages, namely Gampong Cot Bak U and Meunasah Sukon, Lembah Sabil District, Southwest Aceh Regency. The population of farmers using Umong Paya was 34 people and Umong Darat 100 people. For the total sample taken, there were 32 samples, consisting of 12 samples of farming businesses using Umong Paya and 20 samples of farming businesses using Umong Darat. Determination of the number of samples was determined by purposive sampling (determined intentionally), with a sampling fraction for Umong Paya of 1/3 and Umong Darat of 1/5.

The results of determining the number of samples were obtained, for Umong Paya there were 12 people and Umong Darat there were 20 people, the total sample was 32 people. Based on Roscoe's statement (in Sugioyono, 2007), a feasible sample size in a study is between 30 and 500, thus the sample size in this study is feasible and meets the criteria. The sampling method was carried out by means of unproportional stratified random sampling from each population, namely rice farming businesses that use Umong Paya and Umong Darat, in Gampong Cot Bak U and Meunasah Sukon. The balanced stratified random sampling technique (Proportionate Stratified Random Sampling) is a technique used when the population has homogeneous members/elements and is proportionally stratified. While the unproportional / Disproportional Stratified Random Sampling technique is a technique used to determine the number of samples when the population is stratified but less proportional (Sugioyono, 2007).

Data analysis

Cost Calculation

According to Sukirno (2006) to calculate costs, it can be calculated from one production process. The total cost incurred (Total cost) is calculated using the following formula:

$$TC = FC + VC$$

Information :

TC = total costs incurred by FC = fixed cost

V.C. = variable cost

Calculation of Income and Profit

According to Sukirno (2006), revenue can be obtained in one production process, which can be written mathematically as follows:

$$TC = FC + VC$$

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Information :

TC : total cost (total cost) FC : Fixed cost (fixed cost)

V.C. : Variable cost (non-fixed costs)

According to Budiyo (in Riyantina, 2016) profit can be obtained in one production process, profit or gain is the difference between total income and costs incurred by farmers, which can be written mathematically as follows:

$$\pi = TR - TC$$

$$TR = P \times Q$$

Information :

π : TR income or profit : total revenue (total income) TC : total cost (total cost)

P : product price

Q : production quantity

Difference Test

Differential tests were conducted on the income or profits of rice farmers using Umong Paya and Umong Darat, using the t test. The t test formula for two unrelated samples (Independent Sample t test). If the first rice farmer sample is not the same as the number of samples of the second rice farmer ($n_1 \neq n_2$), the variance is homogeneous or the first rice farmer sample and the second rice farmer sample are the same ($n_1 = n_2$), and the variance is homogeneous, then the Polled Variance formula is used (Sugioyono, 2011).

RESULTS AND DISCUSSION

Rice Farming Business Analysis

Table 3. Calculation of average land area, production, price, total cost, total income and profit of Umong Paya and Umong darat rice farming business.

NO	Information	Umong Paya Paddy Farming Business	Umong Darat Rice Farming Business
1	Land Area (Ha)	0.16	0.22
2	Production (Kg/Ha/MT)	6,555	7,704
3	Total Cost (Rp/Ha/MT)	18,930,106	16,305,657
4	Total Revenue (Rp/Ha/MT)	32,217,411	34,766,457
5	Profit (Rp/Ha/MT)	13,287,305	18,462,758

Source: Processed Primary Data, 2022.

Rice Farming Business Production

Production is the result received by rice farmers after carrying out their farming activities. The average production obtained by rice farmers using Umong Paya is an average of 6,555 Kg/HA/MT (Table 3). While the average production obtained by Umong Darat rice farming is 7,704 Kg/HA/MT (Table 3). The technology used by Umong Paya rice farming for harvesting techniques still uses human power. In cutting rice using human power, it is cut manually using a sickle, for threshing the grain using a Power Thresher machine. While for Umong Darat rice farming in its harvesting uses a complex harvesting machine, namely the Combine Harvester machine. The difference in the use of this harvesting technique is due to the characteristics of the two lands, at the research location the Combine Harvester machine often gets stuck in the mud in the Umong Paya rice fields, thus the performance of the Combine Harvester machine is less effective. Therefore, rice farming businesses that use Umong Paya rice fields tend to use harvesting by hand.

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Total Cost of Paddy Farming Business

Costs are expenses incurred by rice farmers in carrying out their farming activities. The production costs of rice farmers include fixed costs and variable costs. The variable costs incurred by farmers include the cost of seeds, fertilizers, pesticides, and wages or labor costs, while the fixed costs incurred include the cost of depreciation of agricultural equipment and irrigation (keujrun blang), in this research analysis land rental costs are not included because all land owned by farmers is privately owned. The average total cost incurred by rice farmers using Umong Paya is Rp. 18,930,106 / Ha / MT (Table 3). While the average total cost incurred by the Umong Darat rice farming business is Rp. 16,305,657 / Ha / MT (Table 3).

Rice Farming Business Revenue

Income is the result of sales of production received by rice farming businesses. In the research that has been conducted, it shows that there are some farmers who store some of the rice in other words not sold, which is produced for consumption, in the analysis of this study the amount of rice from production stored or not sold by farmers is calculated in the income received by rice farmers. The average total income of Umong Paya rice farming businesses is Rp. 32,217,441 / Ha / MT (Table 3). While the average total income received by Umong Darat rice farming businesses is Rp. 34,766,758 / Ha / MT (Table 3). For the average selling price of rice grain for rice farming businesses using Umong Paya with the criteria of dry harvested rice, it is Rp. 4,916 / Kg (Appendix 6). Meanwhile, the average selling price of paddy from Umong Darat's paddy farming business with the criteria of wet harvested paddy is IDR 4,510/Kg (Appendix 7).

Benefits of Paddy Farming Business

The amount of profit obtained by the rice farming business in the research conducted is the difference between the total income (TR) received by the farming business and the total costs incurred by the farming business when carrying out rice farming activities. The total profit received by the rice farming business is the result of farming activities carried out in the form of grain sold so as to generate income, while the total cost is the sum of fixed costs and variable costs incurred in running the rice farming business. If the income obtained by the rice farming business is greater than the costs incurred, then the profit received by the rice farming business will also be large and vice versa. The profit obtained by the Umong Paya rice farming business in the research conducted, the average profit obtained was Rp. 13,287,305 / Ha / MT (Table 3). While the average profit obtained by the Umong Darat rice farming business was Rp. 18,426,758 / Ha / MT (Table 3).

Difference Test (t-Test)

The difference in profit between rice farming businesses using Umong Paya and Umong Darat in Lembah Sabil District. It can be clearly seen through the analysis of different tests (t-test or independent t-test) for unpaired samples as follows:

Table 4. Results of the t-test analysis (independent t-test) of the average profit of Umong Paya and Umong Darat rice farming businesses.

Profit	Average	N	Std.Deviation	Std.ErrorMean
<i>Umong Paya</i>	13287305.08	12	5100435.24	1472368.83
<i>Land Lord</i>	18462757.55	20	5777877,90	1291972.78

Source: Processed Primary Data, 2022.

The table above explains that the average profit received by the Umong Paya rice farming business is Rp. 13,287,305/Ha/MT (Table 4). While the average profit received by the Umong Darat rice farming business is Rp. 18,462,758/Ha/MT (Table 4). The difference between the profits of the Umong Paya and Umong Darat rice farming businesses is Rp. 5,175,453/Ha/MT.

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Furthermore, to find out the real difference in profits between the Umong Paya and Umong Darat rice farming businesses, it can be seen in the table below, using the sig value obtained and then compared with the alpha value ($\alpha = 0.05$). The following is a tabulation of the results of the SPSS analysis of the comparison of sig values with alpha, namely:

Table 5. Results of the analysis of sig values with alpha (α) of the profits of rice farming businesses

		<i>Umong Paya</i> with <i>Umong Darat</i> .				
		F	Sig.	T	df	Sig.(2-tailed)
Profit	Equal variance assumed	,707	,407	-2,559	30	,016
	Equal variances not assumed			-2,642	25,655	,014

Based on the table above, it can be seen that the sig value is $0.016 < 0.05$ (α). This means that the hypothesis H_0 is rejected. Thus, the hypothesis H_a is accepted, it can be concluded that there is a significant difference in the average profit between the Umong Paya and Umong Darat rice farming businesses in Lembah Sabil District, Southwest Aceh Regency. The difference in profits received by the Umong Paya and Umong Darat rice farming businesses is caused by differences in cultivation methods, production received, selling prices of grain, and harvesting technology used by the two farming businesses, so that the profits received by each farming business show differences.

Referring to the research conducted by Fitri and Ainal (2018), in their research entitled Comparative Analysis of Rice Farming Production on Irrigated Land and Rainfed Land in Simeulue Cut District, Simeulue Regency. For data analysis using the t-test method (independent t-test). So it can be concluded that there is a difference in the average of both production and income received by the two farming businesses, due to differences in cultivation methods and treatments given. Therefore, the results of this study are in line with previous studies where there is a significant difference in the average production, total costs, income and profit between Umong Paya and Umong Darat farming businesses, due to differences in cultivation methods and treatments given. For the calculated T value obtained -2.559 (Table 5), this proves that the profit value of Umong Paya rice farming is smaller than Umong Darat so that it shows a negative direction.

CLOSING

Conclusion

Based on the results of the research and data analysis conducted, the following conclusions can be obtained. The average production of paddy farming using Umong Paya is 6,555 Kg/Ha/MT, while the average production of paddy farming using Umong Darat is 7,704 Kg/Ha/MT. The average cost incurred by paddy farming using Umong Paya is Rp. 18,930,106/Ha/MT, while the average cost incurred by Umong Darat farming is Rp. 16,305,657/Ha/MT. The average total income obtained by Umong Paya paddy farming is Rp. 32,217,411/Ha/MT, while the average total income obtained by Umong Darat paddy farming is Rp. 34,766,457/Ha/MT. The average profit obtained by the Umong Paya rice farming business is Rp. 13,287,305/Ha/MT, while the average profit received by the Umong Darat rice farming business is Rp. 18,426,758/Ha/MT. The results of the analysis that have been carried out using the t-test (independent t-test), show that there is a significant difference in the average profit between the Umong Paya and Umong Darat rice farming businesses in Lembah Sabil District, Southwest Aceh Regency. Thus, the H_0 Hypothesis is rejected and the H_a hypothesis is accepted, that there is a real difference in the average profit of the Umong Paya and Umong Darat rice farming businesses in Lembah Sabil District, Southwest Aceh Regency.

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Suggestion

It is expected that in the future there will be further research and can continue previous research on seed varieties that are suitable for both lands, namely Umong Paya and Umong Darat. So that it can direct and provide information to both farming businesses to use the right varieties for the land used, with the hope of making the productivity produced by both farming businesses even higher.

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