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Farmers' Work Time Allocation in Rice Paddy Farming in Sindo Makmur Village, Tiworo Islands Sub-district West Muna Regency

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Abstract

The objectives of this research are 1) to examine farmers' efforts in allocating work time in lowland rice farming activities and other farming activities, 2) to analyze how much income from lowland rice farming is obtained by farmers in Sindo Makmur Village, Toworo Islands District, West Muna Regency. This research will be carried out in August 2022. The object of this research is the Allocation of Farmers' Working Time in Rice Farming. The method used is the case study method. The analysis used is descriptive analysis and income analysis. The results of the research show that the Allocation of Farmers' Working Time in Lowland Paddy Farming Activities and Non-Paddy Rice Farming Activities of Sindo Makmur Village, Tiworo District, West Muna Regency shows that lowland rice farming is a priority activity for farmers while cucumber growing is a side farming activity for farmers. This is to utilize farmers' free time and side income outside of rice farming activities. in this way, farmers divide their working time between lowland rice farming and cucumber farming. Meanwhile for knowing the allocation of farmers' working time in lowland rice farming requires 525 hours during one season. Meanwhile, cucumber plants only need less time, around 189 hours. Meanwhile, the average income from rice farming in Sindo Makmur Village, Tiworo Islands District, West Muna Regency in one harvest is IDR 7,846,703/hectare.

Keywords: Work Time Allocation, Income, Rice Farming

INTRODUCTION

Indonesia is an agricultural country where most of the population's livelihood is farming (Prabowo, 2013). Agricultural development has been carried out gradually and continuously

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with the hope of increasing farmers' income in achieving welfare, increasing food production, increasing farmers' income and welfare is the direction and goal of development and agriculture (Sastradmadja, 1995).

Rice is an agricultural crop as a food crop originating from two continents, Asia and Africa, topical and subtropical. Rice farming provides employment and income opportunities for more than 21 million households in Indonesia (Ariani *et al.* 2000). Because this commodity is a source of carbohydrates, protein and minerals with a composition that is very good for humans. Thus, paddy rice as a food crop continues to receive attention from the government in its development (Azhima, 2013).

Southeast Sulawesi has very strategic potential in developing and increasing rice production. Rice is one of the dominant agricultural subsectors in Southeast Sulawesi Province, covering an area of 103,812.00 ha. Rice production is relatively stable and continues to increase every year, but other commodities are not so large in production. Rice production in Southeast Sulawesi in 2015 increased by 117 tons from the previous year, reaching a production of 657,617 tons in 2014 to 657,734 tons in 2015. the contribution of rice production in Southeast Sulawesi Province in 2015 was 0.88 percent of national rice production. The increase in rice production was preceded by the increase in harvest area and productivity so that in Southeast Sulawesi province still needs to be improved. Ideal conditions for rice cultivation are functioned for rice crops, so other crops have decreased both the harvest area and production. (BPS, 2015).

West Muna Regency is one of the regencies in Southeast Sulawesi Province, the result of the expansion of Muna Regency in mid-2014 with an area of 1,022.89 km^2. As a newly established district, West Muna has tremendous agricultural potential to be developed, one of which is paddy rice. For rice crops, the area of paddy fields in West Muna Regency in 2017 was 3,811.00 ha (BPS, Southeast Sulawesi). The harvest area of paddy rice in West Muna Regency in 2019 was 1,570.65 ha and in 2020 it decreased by 127.98 ha so that the total harvest area of paddy rice in West Muna Regency in 2020 was 1,442.67 ha. For the total production of paddy rice in West Muna Regency in 2019 amounted to 5,622.07 tons and in 2020 experienced a decrease of 1,077.39 tons, so the total production of paddy rice in West Muna Regency in 2020 amounted to 4,544.68 tons after experiencing a decrease. In this case, it can be interpreted that the harvest area and total production greatly affect the productivity/average of rice plants in Southeast Sulawesi Province (BPS Southeast Sulawesi, 2020).

Sindo Makmur Village is one of the villages in the Tiworo Islands District of West Muna Regency. The area of wet-rice farming in Sindo Makmur Village is 134.25 ha while the area cultivated by farmers is 118 ha. Based on the initial survey, Sindo Makmur Village not only

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cultivates its paddy rice farms, but farmers also cultivate various types of commodities, including cucumber farming. The time used by farmers in cultivating their paddy rice farms starts in the morning, which is an average of 5 hours / day. After that, farmers allocate their time for activities outside of paddy rice farming. When waiting for the harvest, farmers do not fully devote their working time. Because at these times farmers also allocate their time to carry out cucumber farming activities, this activity is to get side income for farmers in Sindo Makmur Village, Tiworo Islands Sub-district, West Muna Regency so that farmers do not only rely on paddy rice farming income.

Based on the description above, the authors are interested in making research on "Allocation of Farmers' Working Time in Rice Paddy Farming (Case Study of Sindo Makmur Village, Tiworo Islands District, West Muna Regency)".

METHOD

The population in this study were all farmers who cultivated paddy rice and non-farming paddy rice in Sindo Makmur Village, Tiworo Islands District, West Muna Regency, totaling 144 households. The determination of the research sample was carried out using the *simple random sampling* method, which took 10% of the total population, namely 14 families.

Data collection techniques are done by means of interviews, and literature study. For the formulation of the first problem, using descriptive analysis to determine the efforts of farmers in allocating work time in the activities of rice paddy farming and non-farming rice paddy farming.

For the formulation of the second problem Using income analysis, farm income analysis according to Soekartawi (2002)

Pd = TR - TC

Where:

TR = Y × Py and TC = FC + VC

Description:

Pd = Farm income (Rp/Ha)

TR = Total recipient (Rp/ Ha)

TC = Total production cost (Rp/Ha)

Y = Total production (Kg)

Py = Price (Rp/kg)

FC = Total cost (IDR/Ha)

VC = Variable cost (IDR/Ha)

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RESULTS AND DISCUSSION

Analysis of Farmers' Work Time Allocation

According to Baruwadi, et al (2006) the allocation of working time is the bulk of working time by farmers and families in productive activities both for paddy rice farming and other activities, namely farming other than paddy rice such as food crop farming, livestock breeding, farm labor, and other activities outside the agricultural sector.

In this study, the allocation of farmer work time is divided into the allocation of work time in paddy rice farming activities, and the allocation of work time in other farm activities. To find out the allocation of working time in paddy rice farming activities and outside of paddy rice farming can be explained below.

Table 1 Distribution of Farmers' Work Time Allocation in Paddy and Cucumber Farming in Sindo Makmur Village, Tiworo Islands District, West Muna Regency

No.	Business Activities	Work Time Allocation (Hours)	
		Paddy Rice	Cucumber
1	Land Processing	90	24
2	Planting	25	9
3	Fertilization	40	21
4	Maintenance	230	75
5	Harvest	40	30
6	Post-harvest	100	30
Total		525	189

Source: Primary Data After Processing Year 2022

Based on table 1 above, it can be seen that the distribution of farmers' work time allocation in wet-rice and cucumber farming can be explained as follows;

1. That the largest allocation of work time is in maintenance with 230 hours of work, while the smallest is in planting with 25 hours of work, while fertilizing 40 hours, harvesting 35 hours, land processing 90 hours, and post-harvest as much as 100 hours of work.
2. That the largest allocation of work time is in maintenance with 75 hours of work, while the smallest is in planting with 9 hours of work, while harvesting and post-harvest have the same working hours, namely with 30 hours of work, 21 hours of fertilization and 24 hours of land processing.

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Based on the background of the study, which aims to examine farmers' efforts in allocating work time to wet-rice farming and other non-agricultural activities in Sindo Makmur Village, Tiworo Islands Sub-district, West Muna Regency, it can be concluded that the allocation of work time is mostly done on wet-rice farming compared to other farms such as cucumber crops. This is because paddy rice farming is the main priority for farmers in the village, while cucumber crops are only a side business that utilizes free time from paddy rice farming activities. A comparison of time allocation shows that rice paddy farming requires 560 hours during one season or about 5 hours per day (35 hours per week for 16 weeks), while cucumber farming only requires 189 hours during one season or about 3 hours per day (21 hours per week for 9 weeks). This difference is also influenced by the land area cultivated by farmers in Sindo Makmur Village.

Analysis of Rice Paddy Farming Income

Rice Paddy Farming Costs

According to Soekartawi (2003), cost is a factor of production to produce a commodity is the value of an *opportunity* of using factors and other activities if the income is greater than the costs incurred, then the business is called a profit. But if the income is smaller than the costs used then the business is called a loss.

The elements of production that are fixed and non-fixed in the short term result in the emergence of two categories of costs, namely fixed costs and variable costs. According to Suparmako (2001), these costs are explained as follows.

Table 2 Fixed Costs and Variable Costs

	Description	Total Cost (IDR/Ha)
Fixed Cost	Hoe	11.609
	Tota	11.609
	Tool depreciation value (NPA)	5.804
	Total	5.804
Variable Cost	Fertilizer	741.723
	Pesticides	501.723
	Labor	2.265.102
	Tractor Rental	220.689
	Sacks	195.310
	Seeds	744.827
	Solar	69.831

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	Total	4.739.205

Source: Primary Data After Processing Year 2022

Based on table 2 above, fixed costs and variable costs can be explained as follows;

1. For fixed costs, the average hoe cost of Rp 11,609 per hectare / year in a rice paddy farm in Sindo Makmur Village can be carried out twice a season in one year so that the depreciation costs are divided by two, where the depreciation cost of the hoe in one season is Rp 5,804 so the total depreciation value of the tool (NPA) in one season is Rp 5,804. For the depreciation value of tools (NPA) is IDR 5,804 per hectare / season consisting of hoes, while tractors are not included in fixed costs because the tractors used in land processing are tractors rented by farmers from farmer groups so that farmers only pay the tractor rental fee, tractor rental is included in variable costs.
2. For variable costs, the average use of fertilizer per hectare with a total cost of Rp 741,723 where the fertilizer used is Urea and Poska fertilizer, pesticides with a total cost of Rp 501,723 /hekar consisting of herbicides and intecticides, labor is at a total cost of Rp 2,265,102 /hectare, labor from processing to post-harvest (drying) the highest labor costs at harvest time Rp 1,565,793 /hectare while the lowest at the time of post-harvest activities of Rp 434,482 /hectare. For weeding and fertilizing does not cost enough to use labor in the family while seeding seeds and planting in paddy rice plants are carried out in the Tablea system, the application of the Tablea system in order to reduce costs incurred by farmers and streamline time. Tractor rental costs are included in variable costs because the tractors used by farmers for land processing are tractors owned by farmer groups so that if members or chairmen borrow it will be charged Rp 100,000 / day. The sacks used amounted to 708 sheets at a total cost of Rp 195,310, while the seeds amounted to 1200 kg at a total cost of Rp 744,827, and diesel fuel as engine fuel amounted to 197 liters at a total cost of Rp 69,831. so the total variable costs used in wet rice farming per season averaged 4,739,210 per hectare.

The high cost of production is caused by several factors including the scarcity of fertilizers resulting in expensive fertilizer prices, pesticide costs, tractor rentals and labor costs.

Table 3 Average revenue per hectare by respondent farmers in Sindo Makmur Village, Tiworo Islands Sub-district, West Muna Regency

Description	Average Value (IDR/Ha)
Revenue (TR) = Y.P	

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Production (Y) (Kg)	1.464
Production Price (P) (Rp)	8.600
Total Revenue	12.597.517

Source: Primary Data After Processing Year 2022

Table 3 shows that the total average revenue is Rp 12,597,517 / hectare with a total production of 1,464 Kg and a price of Rp 8,600 / Kg, the revenue is obtained in one season.

Table 4 Analysis of average income per hectare of respondent farmers in Sindo Makmur Village, Tiworo Islands Sub-district, West Muna Regency

No.	Description	Average Value (IDR/Ha)
1	Revenue (TR) = Y.P	
	Production (Y) (Kg)	1.464
	Production Price (P) (Rp)	8.600
Total Revenue		12.597.517
2	Cost	
	A. Variable Cost	
	Total Labor	2.265.102
	Fertilizer	
	➢ Urea	400.344
	➢ Poska	341.379
	Pesticides	
	➢ Insecticides	277.931
	➢ Herbicides	223.792
	Other Costs	
	➢ Tractor Rental	220.689
	➢ Sacks	195.310
	➢ Solar	69.831
	➢ Seeds	744.827
Total Variable Cost		4.739.205
	B. Total Fixed Cost (FC)	
	Tool Depreciation	
	➢ Hoe	11.609

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Total Fixed Cost		11.609
3	Total Cost (TC)	
	A. Variable Cost	4.739.205
	B. Fixed Cost	11.609
Total Production Cost		4.750.814
4	Revenue (PD) = TR-TC	7.846.703

Source: Primary Data After Processing Year 2022

Table 4 shows that the average total revenue is Rp 7,846,703/hectare with total production of 1,464 Kg at a price of 8,600/Kg. The variable cost of labor was Rp 2,265,102/ hectare, urea fertilizer Rp 400,344/ hectare, poska Rp 341,379/ hectare, insecticide Rp 277,931/ hectare, herbicide Rp 223,792/ hectare, tractor rental Rp 220,689/ hectare, sack cost Rp 195,310/ hectare, diesel Rp 69,831/ hectare, and seed Rp 744,827/ hectare with total average variable cost of Rp 4,739,205/ hectare while fixed cost was Rp 11,609/ hectare. So the total average income per hectare is Rp 7,846,703.

Based on the background of the study where researchers want to know the amount of income of farmers with a large enough land area, whether wet-rice farmers in Sindo Makmur Village, Tiworo Islands District, West Muna Regency remain profitable or not. This is because the land area in the area is quite large but the income is still lacking. However, this is indeed profitable even though it is not too high because the area requires production costs, especially in the cost of labor, fertilizers and pesticides and the productivity of the land is still low. So that the average income of farmers per hectare is Rp 7,846,703 / season. Seeing the low income of farmers, namely an average of Rp. 7,846,703 per hectare / season where farmers cannot be said to be prosperous because of their low income, namely an average of Rp. 7,846,703 per hectare / season while the average land area of farmers in Sindo Makmur Village is only an average of 1.03 Ha with an average income of Rp. 8,126,942 / season when converted in four months, the average monthly income of farmers is Rp. 2,031,735 while the average number of family members is 3 to 5 people. According to the Ministry of Agrarian Affairs and Spatial Planning, farmers are said to be prosperous when they have a minimum of two hectares of land.

The low income of farmers, which is only Rp 2,031,735 when converted in one month, is not sufficient to meet the needs of farmers, especially having an average dependency of 3 to 5 people. To meet their needs, farmers in the village look for side jobs, namely by planting vegetables such as kale and cucumber plants, where these farmers utilize vacant land that is not too large, which is an average of 0.04 to 0.05 hectares in one family.

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CONCLUSION

Based on the results of the research to examine farmers' efforts in allocating work time in paddy rice farming and non-rice paddy farming activities and calculating how much income of paddy rice farming in Sindo Makmur Village, Tiworo Islands Sub-district, West Muna Regency, it can be concluded that paddy rice farming is a farmer's priority farming activity while non-rice paddy farming such as cucumber crops is a side farming activity of farmers. The activity is to utilize the farmer's free time and side income outside of paddy rice farming activities. The comparison of farmers' time allocation between paddy rice farming and other farms is for paddy rice farming requires 525 hours during one season. While for cucumber crops the time needed is less about 189 hours. The small amount of time needed by farmers is influenced by the area of land cultivated by farmers in Sindo Makmur Village, Tiworo Islands District, West Muna Regency. While the average income of wet-rice farmers in Sindo Makmur Village, Tiworo Islands Sub-district, West Muna Regency in one harvest season averaged Rp 7,846,703 / hectare.

Based on the above conclusions, it is recommended that farmers optimize their working time in farming wet rice and cucumber crops to increase production, and more intensively study the process of cultivating wet rice to maximize the potential of Sindo Makmur Village which excels in agriculture, especially wet rice. In addition, the government expected to carry out farmer group coaching programs related to good maintenance while maintaining environmental sustainability and ecosystems, and pay attention to the provision of assistance such as fertilizers, seeds, and other facilities to support agricultural activities.

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