Anjoro: International Journal of Agriculture and Business
Vol. 3 Issue 1, April 2022
p-ISSN: 2721-8678 | e-ISSN: 2721-7914. **DOI: 10.31605/anjoro.v3i1.1422**

Analysis of lowland rice peat land in Mampai Village, Kapuas Murung District, Kapuas-Kalimantan Central District

Revi Sunaryati[1]* and Abdul Wahib Muhaimin

[1]*Agribusiness Study Program, Faculty of Agriculture, University of Palangka Raya*
[2]*Agribusiness Department, Faculty of Agriculture, University of Brawijaya*

**Corresponding author's e-mail: sunaryatirevi@gmail.com*

Received January 12th, 2022; revised February 1st, 2022; accepted March 1st, 2022

ABSTRACT

Central Kalimantan is a province where the agricultural sector is still the basis for economic cohesion. Mampai Village, Kapuas Murung District, Kapuas District, Central Kalimantan is a peatland rice field. Peat soil is wet soil and stores a lot of acid, so it is not easy to use or to grow crops. The purpose of this study was to determine the general description of lowland rice farming held in Mampai Village and to determine the amount of lowland rice income and its contribution to the total income of lowland rice RTP in Mampai Village, Kapuas Murung District, Kapuas District, Central Kalimantan Province. The results of descriptive analysis of the general description of farming in rice fields in Mampai Village, Kapuas Murung District, Kapuas Regency have implemented farming intensification technology well where farmers have implemented a cropping pattern 2 times a year, namely MT I and MT II with an average cultivated area of 2.40 ha. pe MT. The results of the analysis of lowland rice income obtained forone year by farmers amounted to Rp. 36,355,109 and contributes 74.93%, this shows that the role of lowland rice farming for farmers in Mampai Village is very important, thus it can be said that rice field rice farmer households in Mampai Village, Kapuas Murung District, Kapuas District, Central Kalimantan, are categorized as not poor.

Keywords:
Mampai Village, Income, Rice paddy farming

1. Introduction

Agricultural development is a dynamic process that brings the impact of changes in social and economic structures, economic development is faced with strategic environmental conditions, continues to develop which is directed at leading commodities that are able to compete in international markets. This relates to advances in science and technology in the agricultural sector to produce goods and services needed by the market. Central Kalimantan is a province where the agricultural sector is still the basis of economic closeness [1].

Mampai Village, Kapuas Murung District, Kapuas Regency, Kalimantan

The middle is peatland rice fields. Like other types of soil, peat soil also has the following characteristics:

a. The color of the soil is generally dark brown
b. Is wet land
c. It has high acidity, and few nutrients are available
d. Soft or soft and mostly formed in swampy areas
e. Formed from organic materials (plants and animals)

It is known from these characteristics that peat soil is wet soil and stores a lot of acid so that this peat soil is not easy to use or grow crops. It can be seen in Table 1, namely the harvested area, production and productivity of food crops (paddy rice)

in Central Kalimantan Province in 2019 that the total lowland rice in 2016 with harvested area increased by 183,446 ha with production of 725,755 tons and productivity of 3.70 tons.ha^{-1}.

Table 1. Harvested area, production, and productivity of rice paddy crops by district in Central Kalimantan Province from 2019

`Country/City	Harvest area (ha)	Production (tons)	Productivity (tons.ha^{-1})
Kotawaringin Barat	4,014	14,985	3.73
Kotawaringin Timur	12,664	48,606	3.84
Kapuas	89,102	361,231	4.05
Barito Selatan	5,667	19,964	3.52
Barito Utara	3,038	11,014	3.63
Sukamara	1,690	5,684	3.36
Lamandau	779	2,631	3.38
Seruyan	2,409	8,436	3.50
Katingan	13,759	53,231	3.87
Pulang Pisau	42,698	169,679	3.79
Gunung Mas	542	1,918	3.54
Barito Timur	6,792	27,426	4.04
Murung Raya	292	950	3.63
Palangka Raya	-	-	-
Total/Average	183,446	725,755	3.70

Source: [2]

Tabel 2. Harvested area of paddy rice production and productivity in Kapuas Regency by district in 2018

`Country/City	Harvest area (ha)	Production (tons)	Productivity (tons.ha^{-1})
Kapuas Kuala	11,073	44,777	4.04
Tamban Catur	5,642	22,823	4.04
Kapuas Timur	9,577	38,787	4.05
Selat	1,901	7,709	4.06
Bataguh	16,542	67,157	4.06
Basarang	1,959	7,942	4.05
Kapuas Hilir	5.163	20,878	4.04
Pulak Petak	11,136	45,201	4.06
Kapuas murung	10,367	42,049	4.06
Dadahup	1,772	7,196	4.06
Kapuas Barat	7,309	29,730	4.07
Mantangai	6,311	25,583	4.05
Total/Average	77,679	359,834	4.05

Source: [3]

In 2019 the largest district that cultivates lowland rice is Kapuas Regency with a harvested area of 89,102 ha with a production of 361,231 tons with a productivity of 4.05 tons.ha^{-1}, followed by Pulang Pisau with a harvested area of 42,698 ha with a production of 169,679 tons and a productivity of 3.97. Then the third largest producer of lowland rice is Katingan Regency with a harvested area of 13,759 ha with a production of 53,231 tons and a productivity of 3.87 tons.ha^{-1}. Then for the

next Regency, followed by East Kotawaringin Regency, East Barito Regency, South Barito Regency, West Kotawaringin Regency, North Barito Regency, Seruyan Regency, Sukamara Regency, Regency of Lamandau, Gunung Mas District, and Murung Raya District. Then for the area of harvest, production, and productivity of rice paddy in Kapuas Regency by District are presented in Table 2.

Table 2 It can be seen that the harvested area, production and productivity of lowland rice in the sub-districts in Kapuas Regency, in 2015 the largest harvested area was in Bataguh District with a harvested area of 16,542 Pulau Petak with a harvested area of 11,136 ha with a production of 45,210 with the average productivity is 4.06 tons. Then for the 3rd District, namely Kapuas Kuala District with a harvested area of 11,073 ha with a production of 44,777 tons with an average productivity of 4.04 tons.ha^{-1} and the next sub-district, Kapuas Murung District with a harvested area of 10,367 ha with a production of 42,049 tons and productivity of 4.06 tons.ha^{-1}. Then the next sub-district is Kapuas Timur District with a harvested area of 9,577 ha with a production of 38,787 tons with a productivity of 4.05 tons.ha^{-1}. Meanwhile, West Kapuas has a harvested area of 7,309 ha with a production of 29,730 tons.

2. Methods

2.1. Sampling Method

The object of this research is the Farmer's Household (RTP) where the head of the household has a steady income from lowland rice farming. The population of RTP whose head of household has a fixed income from lowland rice farming. There are 2 farmer groups in Mampai Village where each farmer group has 18 members and 17 people then to determine the research sample then randomly taken from 2 farmer groups who cultivate lowland rice.

2.2. Data Processing Method

The data obtained and the results of the research are qualitative in nature which are processed in the form of an explanation of the results of the interviews. The data from the research results were then analyzed in accordance with the objectives of this study. Qualitative data processing is carried out descriptively by outlining the qualitative obtained from interviews at the research site related to household income of lowland rice farming.

2.3. *Analysis Method*

Data analysis was carried out in accordance with what the research objectives were. To answer the research objectives, it can be described as follows:

- The first research objective was answered by describing the general description of lowland rice farming held in Mampai Village
- The second objective is answered by estimating the amount of lowland rice income and its contribution to the total income of lowland rice household households in Mampai Village, Kapuas Murung District, Kapuas Regency, Central Kalimantan Province, using the following formulas:

To determine the total cost can use the formula:

$$TC = TFC+TVC \quad (1)$$

Where:
TC = Total Cost
TFC = Total Fixed Cost
TVC = Total Variable Cost

Fixed Costs are costs that in total do not change. Although there is a change in the volume of production or sales within a certain limit. This means that the amount does not depend on the size of the quantity of production produced. Included in the fixed costs are:
- Land rental fee,
- Property tax, and
- Equipment Depreciation, where the equipment cost is calculated as follows:

$$NP \frac{NB - NS}{UE} \quad (2)$$

Where:
NP = Depreciation Value
NB = Purchase Value
EU = Economic Life
NS = Residual Value

Variable costs are costs that in total vary according to changes in production or sales volumes. That is, variable costs change according to the level of output produced or depending on the scale of production carried out. Included in the variable costs are:
- Fertilizer cost,
- Pesticides cost,
- Seed,
- Labor wages, etc.

Before calculating the total cost, first calculate the fixed costs and variable costs using the following formula:

$$TVC = \sum^{n} X_i P_{xi} \quad (3)$$

Where:
TVC = Total Variable Cost
Xi = Physical quantity of inputs that make up fixed costs
Pxi = Input price
i = 1,2,3…
n = Input type

To determine the total revenue can use the following formula:

$$TR = Yj. Pyj \quad (4)$$

Where:
TR = Total Revenue
Yj = Production obtained (kg)
Py = Output Price (Rp)
j = Period in growing season
1 = Planting season 1
2 = Planting Season 2

To calculate income can use the following formula:

$$I = TR\text{-}TC \quad (5)$$

Where:
I = Income
TR = Total Revenue
TC = Total Cost

3. Results and Discussion

3.1. Rice Farming Income Analysis

Table 3. Analysis of lowland rice farming income in Mampai Village, Kapuas Murung District, Kapuas Regency, 2018

Description	MT I	MT II	MT I + MT II
1. Acceptance (Rp)	34,963,470	30,308,083	65,271,563
Production	8,451	7,328	15,779
Price	4,127	4,143	8,270
2. Farming Fee			
A. Fixed Cost	119,750	119,750	239,500
B. Facility Cost	6,517,500	6,153,167	12,670,667
Production			
Seeds	1,127,500	1,047,500	2,175,000
Fertilizer			
- Urea	1,071,000.00	1,014,000.00	2,085,000.00
- TSP	1,054,500.00	990,000.00	2,044,500.00
- Phonska	1,800,000.00	1,800,000.00	3,600,000.00
Pesticide			
- Roun up	693,333	410,000	1,103,333
- Gramaxone	243,448	196,000	413,333
- Regent	303,279	485,500	439,448
- Dharmabas	141,333	141,333	282,666
- Mipcinta	101,333	68,833	170,166
Labor costs	8,382,434	7,623,844	16,006,278
Total Cost	15,019,684	13,896,761	28,916445
3. Pendapatan	19,943,786	16,411,322	36,355,108
4. R/C Ratio	2.33	2.18	2.26

Source: Processed primer data, 2019

Analysis of the income of rice farmers in Mampai Village, Kapuas Murung District, Kapuas Regency, there are two planting seasons in one year, namely MT I, started from land processing in October, and harvesting in February, while in MT II planting was carried out in March and harvesting around June-July. The complete analysis of lowland rice farming can be seen in Table 3.

In Table 3, the average revenue in MT I is Rp 34,963,470 with an average price of 4.127 per kg (GKG) with an average production of RP 8,451 and on MT II the average revenue obtained is 30,308,083 with an average price of 4,143 per kg, with an average production on MT II of Rp 7,328. For farming costs there are fixed costs and production facilities (variable costs). In MT I and MT II the average cost obtained is Rp. 119,750. Then for non-fixed costs or the cost of production advice on MT I, the average is Rp. 6,517,500 and the average for MT II is 6,153,167. Then for the average cost of seeds used in MT I amounting to Rp 1,127,500.00 and the average cost used for MT II is Rp 1,047,500.00 the cost used for urea fertilizer on MT I with an average of 1,071,000.00 and MT II of Rp. 1,014,000.00 the average cost of TSP MT I is Rp. 1,054,500.00 and MT II is Rp. 990,000.00 and Phonska on MT I and MT II with an average fee of Rp 1,800,000.00 then for round- up pesticide use, the cost used in MT I is IDR 693,333 and on MT II of IDR 410,000 the average cost of Gramoxone used was IDR 243,448 and on MT II of IDR 196,000 the use of regent on MT I and MT II with an average cost of IDR 282,666 use of Mimcinta on MT I with an average cost of the average is Rp. 101,333 and for MT II, which is Rp. 68,833 then for the use of Dharmabas pesticides on MT I and MT II the average cost used is Rp. 141,333. Then for the cost of using labor on MT I the average cost is Rp. 8,382,434 and the average cost required for MT II is Rp. 7,623,844. Thus, we can conclude that the average cost of MT I and MT II is IDR 28,916,445 and the average income for MT I and MT II is IDR 36,355,108.

3.2. Household Income for Lowland Rice Farming

The value of the R/C Ratio in MT I was 2.33, which means that for every farming expenditure of IDR 1.00, an income of IDR 2.33 would be obtained. In MT II the R/C Ratio value is 2.18 and for MT I and MT II (combined) the R/C value is 2.26. MT I and MT II is Rp. 36,355,109 with a percentage of 74.93%. Thus, it can be said that lowland rice farmer households in Mampai Village, Kapuas Murung District, Kapuas Regency, Central Kalimantan are categorized as not poor.

4. Conclusion

Based on the results and discussion above, the following conclusions were rice farmers in Mampai Village, Kapuas Murung District, Kapuas Regency have implemented farming intensification technology well with the following general description: a) Lowland rice farmers in Mampai Village have applied the cropping pattern 2 times a year, namely MT I and MT II with an average cultivated land area of 2.40 ha per MT, and the amount of rice income obtained for one year by farmers is Rp. 36,355,109 and contributed 74.93%, this shows that the role of lowland rice farming for farmers in Mampai Village is very important, thus it can be said that lowland rice farmer households in Mampai Village, Kapuas Murung

District, Kapuas Regency, Central Kalimantan, are included in the category of not poor.

References

1. Sukino. Membangun pertanian dengan pemberdayaan masyarakat tani. Yogyakarta: Pustaka Baru Press; 2013. 335 p.
2. BPS of Central Kalimantan; 2020.
3. BPS of Central Kalimantan; 2019.