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UDC 332

PATTERNS OF MANAGEMENT AND BUSINESS ANALYSIS OF INCOME ON PEATLAND

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ABSTRACT
Peatlands are marginal lands for agriculture because of their low fertility and very acidic pH. This study aims to: 1) determine the pattern of peatland management so that it becomes agricultural land; 2) peatland utilization patterns managed by farmers; 3) knowing the income and RCR of farming on peatlands. The research location is Kalampangan Village because the majority of farmers do farming on peatlands. The location of the research was purposive, the sampling method was Quota sampling and the number of samples was set at 30 people. The type of data used is primary data. The results showed that the pattern of peatland management was carried out in three ways, namely land management, plant management, and water management. Land use is used for horticultural farming, livestock raising, and fruits. The results of the farming analysis show that the income from farming activities (on farm) in a year is an average of Rp. 18,326.65. Furthermore, The average RCR is 3.81 so that farming on peat land is declared feasible to be cultivated.

KEY WORDS
Peatland, management, utilization, income, RCR.

Indonesia's peatland acreage ranges between 13.4 and 14.9 million hectares (Ha) (Ritung, 2011; Anda 2021), with Central Kalimantan having one of the largest tropical peatlands in the country (Wetlands, 2004). Peatland management in Kalimantan and Sumatra results in an annual loss of approximately 2.6 percent of peatland (Miettinen et al. 2016)

Peatlands have been managed as agricultural regions in Central Kalimantan for centuries. Peatland agricultural production faces numerous hurdles due to the peat soil's unique characteristics. According to Rawlins and Morris (2010), Arif (2012), Wildayana (2017), Syahza (2019); Syahza et al. (2019), Costantini et al. (2020), and Elia et al. (2021), the challenges associated with farming on peatlands include low carrying capacity, environmental concerns, and less supportive socioeconomic conditions for farmers.

Dry and irreversible peat (Sabiham, 2010; Hutagaol & Hidayat, 2021) decreases water resistance and is erodible. Additionally, peat has a poor bearing capacity, making it difficult for plants to reach their roots securely, and a high hydraulic conductivity horizontally but a low hydraulic conductivity vertically, making water and nutrient transportation difficult. By determining its characteristics, prudent and appropriate management measures may be determined, ensuring that developed farming is lucrative without putting the environment at risk (Arif, 2012).

Kalampangan Village in Palangka Raya City is a transmigrant settlement area that was established in 1982 and is part of the Bereng Workshop UPT region (Technical Implementation Unit). Initially, the agricultural land in the Kalampangan Village region was undeveloped, and numerous issues arose due to the state of the peaty agricultural ground. The farmers in this village lack experience managing peatlands for agricultural purposes. However, agriculture has grown in the Kalampangan Village, Palangka Raya City, over the last two decades. Kalampangan farmers engage in a variety of agricultural economic activities, including secondary crops, horticulture, fruit production, and even cattle production. Peatlands must be managed carefully as agricultural regions, as agricultural operations are one of the primary causes of peatland fires (Yulianti, Barbara, Firdara, 2014). These peatland fires have a direct effect on people, the environment, and economic

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development (Yulianti et al, 2020). One of the most serious effects of peatland fires on humans is the degree of air pollution in the burning core region and its environs, which is extremely poisonous to humans (Hayasaka et al. 2014, Yulianti, 2011). As a result, caution is required while managing peatlands as agricultural land.

FORMULATION OF THE PROBLEM

Kalampangan Village is a farming center and one of Palangka Raya City's main vegetable suppliers. The majority of farming is done on peat soil by the residents of Kalampangan Village. Utilization of peat swamp forest for the growth of food crop agriculture and plantations presents significant challenges, particularly in terms of land productivity management and maintenance. Because the majority of the inhabitants of Kalampangan Village are transients from the Indonesian island of Java, their peatland management practices vary. As stated previously, the research issues are as follows:

- What is the management pattern peat land so that it becomes agricultural landin the Kalampangan Village, Sabangau District, Palangka Raya City?
- What is the pattern of peat land use in Kalampangan Village, Sabangau District, Palangka Raya City?
- How much is the income and RCR of farmers on peat land in Kalampangan Village, Sabangau District, Palangka Raya City?

Purpose of study:

- Knowing management pattern peat land so that it becomes agricultural landin the Kalampangan Village, Sabangau District, Palangka Raya City;
- Analyze peat land use pattern in Kalampangan Village, Sabangau District, Palangka Raya City;
- Analyzing the magnitude income and RCR of farmers on peat lands in Kalampangan Village, Sabangau District, Palangka Raya City.

METHODS OF RESEARCH

The research was carried out in Kalampangan Village, Sabangau District, Palangka Raya City. Primary data collection was carried out for one month, starting from August to September 2019.

The selection of Kalampangan Village as the research location was carried out purposively. The method used for sampling is Quota sampling, which is a sampling method based on a certain quota (quota) to ensure sample information from each RT. Of the 5 RWs in the Kalampangan sub-district, RW 3 was deliberately chosen as a research location with a population of 236 families, and has 6 RTs with the same consideration that the research was also carried out in RW 1 and RW 2. The number of samples was set at 30 people. The sampling technique was carried out using the Sampling Fraction Per Cluster formula as follows:

$$fi = \frac{Ni}{N}$$

Obtained the size of the sample per cluster:

$$ni = fi\ xn$$

Where:

Fi = Sampling Fraction Per Cluster;
Ni = Number of individuals in the cluster;
N = Total population;
n = The number of members included in the sample;
ni = The number of members included in the sub sample.

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Sampling calculation is as follows:

- $RT1 = \frac{37}{236}$ X $30 =$ 4,7 take 5 samples;
- $RT2 = \frac{45}{236}$ X $30 =$ 5,7 take 6 samples;
- $RT3 = \frac{49}{236}$ X $30 =$ 6,2 take 6 samples;
- $RT4 = \frac{42}{236}$ X $30 =$ 5,3 take 5 samples;
- $RT5 = \frac{38}{236}$ X $30 =$ 4,8 take 5 samples;
- $RT6 = \frac{25}{236}$ X $30 =$ 3,2 3 samples taken.

So from 6 The RT in RW 3 is taken 30 farmers with the consideration that the sample size of 30 farmers has met the criteria for a large sample which is estimated to have met the requirements for normal distribution.

The type of data used in this research is primary data. Primary data is data obtained by direct interviews with a questionnaire/questionnaire guide so that information is obtained from respondents.

To answer the first objective, namelyknowingmanagement pattern peat soil so that it becomes agricultural land and the second goal is to analyzepeat land use patterns,done in a descriptive way. To answer the second objective, which is to analyze the RCR income of farmers on peatlands, it is carried out as follows:

Income from Farming (on farm): Ion farm = TR – TC

Where:

I = Farmer's Income or Income (Rp);
TR = Total Revenue or Total Revenue (Rp);
TC = Total cost or Total Cost (Rp).

Total Cost (TC): TC = FC + VC

Where:

TC = Total Cost/Total Cost (Rp);
FC = Fix Cost/Fixed Cost (Rp);
VC = Variable Cost / Variable Cost (Rp).

Total Revenue (TR): TR = Y . Py

Where:

TR = Total Revenue/Total revenue (Rp);
Y = Big output;
Pyi = Output price (Rp).

To answer the third objective, which is to find out the level of efficiency of farming on peatlands in Kalampangan Village, Sabangau District, Palangka Raya City, use the following formula:

RCR = TR/(TC)

Where:

RCR = Revenue Cost Ratio;
TR = Total Revenue/Total Revenue (Rp);
TC = Total Cost / Total Cost (Rp);
If RCR = 1, then the farm is in a state of no profit or no loss (break even);
If RCR<1, then farming is not efficient;
If RCR > 1, then the farm is efficient or profitable.

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RESULTS AND DISCUSSION

Table 1 – Characteristics of Respondent Farmers Based on Age and Education Level in Kalampangan Village in 2019

No	Description	Number of Respondents (Person)	Percentage (%)
1	Age Level:		
	15 – 64	27	90
	> 65	3	10
	Amount	30	100
	Farmers' average age: 49.6 years		
3	Formal education:		
	Did not pass elementary school	2	6.7
	Graduated from elementary school	15	50
	Graduated Middle School	10	33.3
	High school graduate	3	10
	Amount	30	100
	Average Education: SD		

Source: Processed primary data, 2019.

Based on the data in Table 1 above, it is known that the age level of the sample farmers in the productive age, namely 15-64 years, totals 27 farmers and the sample farmers with non-productive age, namely >65 years, totals 3 farmers. The average education level of the sample farmers is elementary school graduates/equivalent.

The people of Kalampangan Village generally do farming on peat land to plant vegetables and cattle. The management of peatlands by the Kalampangan community has been going on for more than 38 years, starting from wilderness areas to becoming the most advanced vegetable center in Central Kalimantan.

The pattern of peatland management by farmers can be seen in the image below.

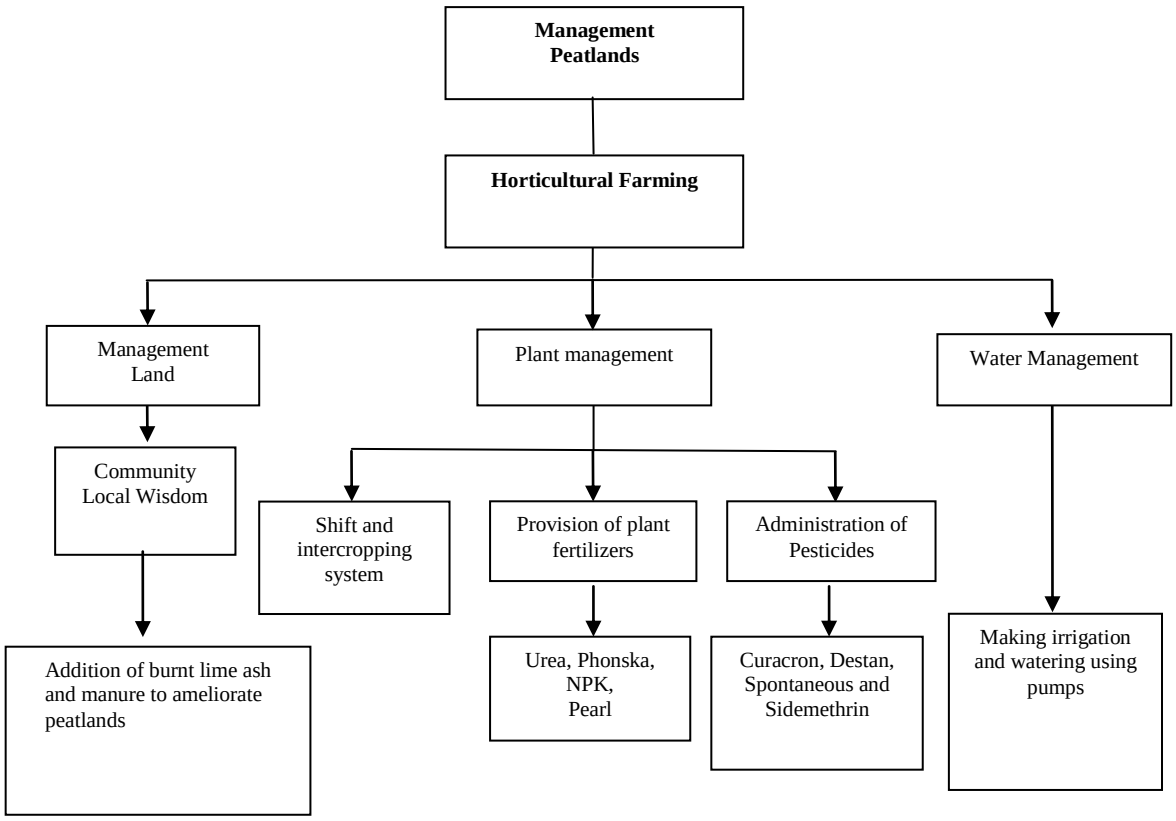

Figure 1 – Illustration of Peatland Management for Farming in Kalampangan Village, 2019

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The long journey of managing peatlands in the Kalampangan Village has resulted in a unique system of local wisdom so that peatlands are ready for planting. The local wisdom in managing peatlands is by burning or adding burnt ash to peatlands. Burnt ash is made by burning various weeds that grow around the land. Burnt weed ash is quite effective as an ameliorant or soil enhancer to improve acidity and toxicity in peat soil so that deep peat becomes productive. Until now, the combustion system and the addition of burnt ash are still applied by farmers in Kalampangan Village.

Generally, people burn peatlands in a limited, controlled, supervised manner, and there is anticipation of watering with the availability of water pumps or drilled wells. Burning is still a reliable method because their experience has proven that ash from burning residue is the most important fertilizer for agricultural crops on peat soil.

Based on the results of interviews with farmers, it is known that the procedure for managing peat soil so that it becomes agricultural land is carried out in several stages, namely as follows:

- *Land Clearing.* New peatland consists of a stretch of shrubs and trees growing on it, cleaning starts with bushes and then trees. The tools used by farmers for cleaning are machetes, sickles, saws, axes, and so on;
- *Scrub Burning.* Before burning is carried out, the farmers first make drilled wells whose function is to prepare water during burning and later when watering plants. Burning is controlled to only burn the area prepared for horticultural/vegetable cultivation and not to widen it, causing large-scale fires. Subsequent burning is carried out every time we start planting, but what is burned is only crop residues and 1st generation weeds without having to burn peat again;
- *Making Beds (Rolls).* Land that has been burned will be filled with burnt ash, then it is hoeed and shaped like a bed. The function of making these beds is so that the drainage of the land becomes good and when it rains or watering the water does not spread over the entire soil surface. Based on the results of interviews and observations in the field, the average height of the beds made by farmers is 5 cm with a width of 22 cm;
- *Provision of Soil Improvement Materials.* The provision of soil improvement materials (amelioration) is carried out by the farmers of Kalampangan Village for the peatlands they cultivate in the form of organic and inorganic materials. The table below shows the types of amelioration materials used by farmers.

Table 2 – Types of Soil Improvement Materials Used by Kalampangan Village Farmers in 2019

Type of Amelioration Material					
Manure		Ash		Chalk	
Source	Frequency (Person)	Source	Frequency (person)	Source	Frequency (Person)
Buy	24	Buy	0	Buy	21
Make Your Own	6	Make Own	30	Do not use	9
Amount	30	Amount	30	Amount	30

Source: Processed primary data, 2019.

Based on Table 2, it can be seen that there are three types of soil amendments provided by farmers to increase peat soil fertility, namely manure, ash, and lime. Every farmer in the Kalampangan Village is registered in the farmer group, from the farmer group the farmers buy the lime they use.

This repairing material is given after the soil is hoeed and a bed is formed (bundles), the first fixing material given is lime which is sprinkled over the entire surface of the bed (bundles) then followed by manure which is also sown over the entire surface of the beds (rolles). After the two ingredients are sown, then hoe again so that it is evenly distributed throughout the beds (rolls).

The people of Kalampangan Village are very aware of environmental sustainability, because they know the consequences of environmental damage which will threaten their

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income and life. Therefore, farmers save on the use of burnt ash and lime. Giving ash and lime is not done every time planting, but once given for 3-4 times planting.

land used by farmers in carrying out government production business which is distributed to trans-Kalampangan residents. Currently, the average area of land used for farming is 0.7 Ha with the types of crops and livestock being cultivated can be seen in Table 3.

Table 3 – Types of Peat Farmers Farming in Kalampangan Village in 2017

No	Commodity	Frequency (Person)	Reception	
			Biggest	Smallest
1	Kale	23	9,750,000	2,000,000
2	Corn	17	13,600,000	1,000,000
3	Spinach Pull	16	3,000,000	675,000
4	Mustard	12	12,000,000	1,400,000
5	Sliced Spinach	9	18,000,000	1,200,000
6	Chili	7	13,750,000	1,750,000
7	Cattle	6	54,000,000	17,500,000
8	Basil	5	4,500,000	900,000
9	Celery	5	7,500,000	1,250,000
10	Onion Prey	4	17,000,000	8,000,000
11	Lettuce	2	2,250,000	1,500,000
12	Eggplant	2	10,000,000	2,250,000
13	Chickens	2	1,400,000	1,200,000
14	Cassava leaves	1	450,000	-
15	Pare Leaves	1	4,200,000	-

Source: Processed primary data, 2019.

Based on Table 3, it can be seen that there are 15 agricultural commodities that are cultivated consisting of 13 types of horticultural crops (vegetables) and two types of livestock. Farming revenue in Kalampangan Village is divided into two, namely horticulture (vegetables) farming and livestock farming. The largest horticultural (vegetable) farming revenue is cut spinach, which is Rp. 18,000,000 and the smallest revenue was found in cassava leaves of Rp. 450,000. The largest revenue from livestock farming is the cattle commodity of Rp. 54,000,000 and the smallest revenue for chicken livestock is Rp. 1,200,000.

Farming in the village of Kalampangan does not know the season, because they grow vegetables throughout the year. The rotational cropping pattern which is usually carried out by farmers for one year is to first plant vegetables that have a growing period of approximately one month, such as kale, which can be harvested 25 days after planting, spinach, and mustard greens.

Plants that have a harvest period of more than one month, such as corn, are carried out with an intercropping system. The land is first planted with spinach, then after the spinach is 20 DAP, then corn is planted between the spinach mixtures. The purpose of this cropping system is to utilize the land as much as possible and get a variety of plant products, so that vegetable stocks do not become scarce and farmers' incomes increase. On average, farmers plant corn at the end of October with a harvest period of 2.5 months. So if farmers plant corn in October, the harvest is done at the end of December. This was planned because the demand for corn was higher at the beginning of the year.

In addition to fertilizing the soil, fertilizing plants is also important to increase plant fertility and productivity. The fertilizer used is inorganic (artificial). Inorganic fertilizers that are often used are urea, phonska and NPK pearls. It can be seen in the table below the 5 dominant plant types, the type of fertilizer, the time of application and the dose used by the farmer.

Application of urea fertilizer is carried out when the plants are one week old or 7 days after planting (HST), usually the farmers mix urea with phonska fertilizer which is then spread between the plants. The frequency and dose of administration varies for each plant, for example for kale, spinach, mustard greens, giving 2-4 times in each planting while for

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corn plants it is given 2 (two) weeks for each planting. The frequency and dose given differ depending on the needs and types of plants. The average farmer spends 5 quintals on all types of fertilizers annually.

Table 4 – Type, Time of Giving and Dosage of Fertilizer Used by Farmers in Kalampangan Village, 2017

No	Plant Type	Fertilizer Type	Giving Time	Frequency and Dosage of Administration	Way of giving
1	Kale	Urea, Phonska	7 HST	According to the needs	Spread among the plant
2	Corn	Urea, NPK Pearl	10-15 HST	According to the needs	Spread among the plant
3	Spinach Pull	Urea, Phonska	7 HST	According to the needs	Spread among the plant
4	Mustard	Urea, Phonska	7 HST	According to the needs	Spread among the plant
5	Sliced Spinach	Urea, Phonska	7 HST	According to the needs	Spread among the plant

Source: Processed primary data, 2018.

In doing vegetable farming can not be separated from the dangers of pests and diseases that can threaten plant growth. Therefore, giving poison (pesticide) is often done by farmers. Pesticides are applied only when plants are attacked by pests or diseases. The provision of poison (pesticide) is carried out with different doses depending on the type of pest or disease and the area of land planted.

The types of poisons (pesticides) that are often used by farmers are Curacron, Destan, Spontan and Sidemethrin. The source of the poison is that farmers buy from the farmer groups they manage.

Water management on peatlands needs to be carried out as well as possible, considering that peatlands are always in a state of water saturation and the nature of peat is irreversible or dry. Therefore, drainage arrangements are very necessary on peatlands. In addition, making beds on peatlands can also reduce the danger of acid sulfate on the soil surface.

Table 5 – Types of Tools and Water Sources Used for Watering in Kalampangan Village in 2019

Tool Type	Frequency (person)	Water sources
Engine Water Pump (Diesel Engine)	21	
Electric Engine Pump (Hitachi)	9	Groundwater (bore well)
Amount	30	

Source: Processed primary data, 2019.

In Table 5 above, it is known that the types of equipment used by farmers to carry out plant watering activities are engine water pumps (diesel) and electric water pumps. irrigation is carried out by means of pumping using ground water for irrigation of their agricultural land. For non-garden agricultural land, water is sourced from drilled wells which are sucked using a diesel pump engine. Meanwhile, for the yard, irrigation is sourced from an electric pump machine at home. Watering is done every day, namely in the morning and evening, but if in the rainy season, watering is only done once every 2 days.

Farmers have two types of land, namely yard land and non-yard land. The average farmer uses his yard as a place to cultivate vegetables and annual crops such as rambutan, mango, banana, jackfruit, coconut and so on. In addition to their own consumption, the results of this annual crop can also increase farmers' income, for example at the time of harvesting rambutan; farmers can sell the fruit to the market.

Kalampangan Village farmers also do a side business, namely raising livestock. The average livestock cultivated are cows and native chickens. The cattle business carried out is beef cattle, generally grouped into two business patterns, namely breeding and rearing.

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Kalampangan Village, with its tenacity and perseverance, utilizes peatlands so that the results obtained have improved the living standards and welfare of farmers. Illustration of peat land use can be presented in the picture

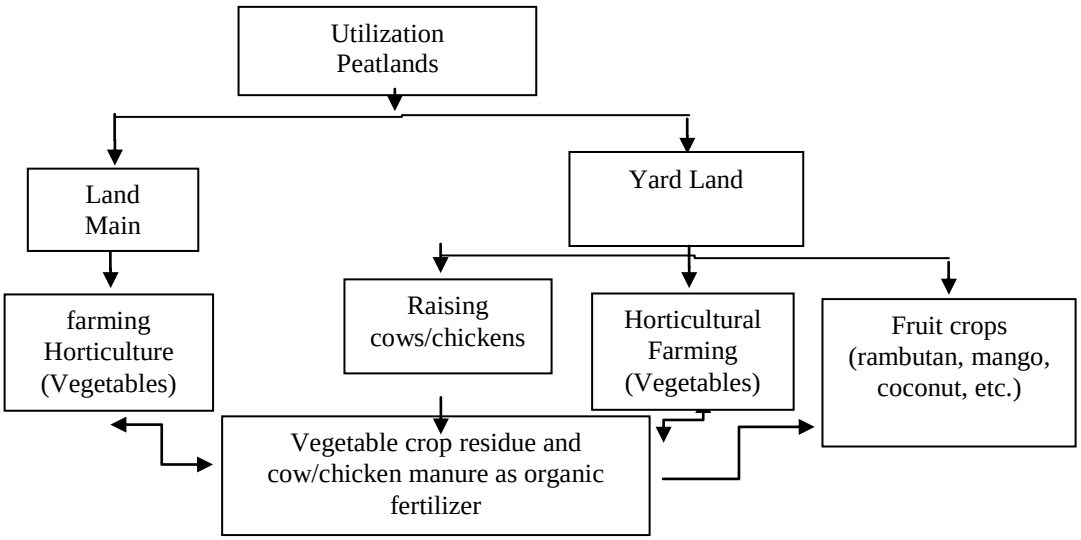

Figure 2 – Illustration of Peatland Utilization in RW.03 Kelurahan Kalampangan, 2019

Based on the illustration above, it can be explained that the peatland is divided into two types, namely the main land and the yard. The main land is land that is only used by farmers for horticulture (vegetables) farming, while the garden land is used by farmers for various types of activities such as raising chickens/cows, horticultural (vegetable) farming and fruit crops. Utilization of land is carried out optimally by farmers, in this process the results from damaged plants, unsold crops and manure from livestock are not wasted, but crop residues and manure from cattle/chicken are used as organic fertilizer to fertilize vegetables and other crops. the fruit trees they cultivate.

Income analysis needs to be done in order to obtain a measurable value of income. While the RCR needs to be calculated to find out whether a farm is feasible to cultivate. The income calculation and RCR of peatland farmers in Kalampangan Village are as follows:

Before calculating the income of peatland farmers in Kalampangan Village, the income, costs and income are first calculated. The calculations are as follows:

The average production, selling price and annual farming income of various kinds of vegetable and livestock commodities cultivated by farmers in Kalampangan Village can be seen in the table below.

Table 6 – Average Production, Selling Price, and Income of Kalampangan Village Farmers in 2019

No	Commodity	Production Average	Average Selling Price (Rp)	Average Revenue (Rp)
1	Kangkung (tie)	3.047	1.017	3,936,000
2	Corn (fruit)	1983	1.050	3,566,667
3	Spinach Pulled (bundled)	583	800	874,500
4	Mustard (bundled)	900	933	2,030,000
5	Spinach Cut (bundled)	1.317	567	2,475,000
6	Chili (kg)	64	5.833	1,600,000
7	Cattle (tail)	2	3,566,667	7,133,333
8	Basil (bundled)	200	317	350,000
9	Celery (bundled)	100	833	500,000
10	Prey Onions (kg)	80	2,667	1,600,000
11	Lettuce (bundled)	83	100	125,000
12	Eggplant (kg)	83	317	408,333
13	Chickens (kg)	2.3	2,500	86,667
14	Cassava Leaves (bundled)	10	50	15,000.
15	Pare Leaves (bundled)	20	233	140,000
	Amount	8,390	3,586,860	24,840,500

Source: Processed Primary Data, 2019.

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In Table 6 above, it can be seen that on average the largest income of farmers is sourced from cattle farming with an income of Rp. 7,133,333/ year. for horticultural (vegetable) farming, the largest revenue is from kale, which is Rp. 3,936,000/year. Farming revenue is obtained by multiplying all the production produced by the selling price at the farm level, so the average income from farming in Kalampangan Village is Rp. 24,840,000/year.

Table 7 – Number of Farmers with Total Revenue Based on Criteria, Year 2019

Amount Farmer	Percentage	Criteria Reception	Amount Revenue (Rp)
1	3.3	Very high	63,541,000 to 77,300,000
2	6.7	Tall	49,781,000 to 63,540,000
1	3.3	Currently	36,021,000 to 49,780,000
12	40.0	Low	22,261,000 to 36,020,000
14	46.7	Very low	8,500,000 to 22,260,000
30	100	Average Acceptance	Rp. 24,840,500

Source: Processed primary data, 2019.

In the table above, it can be seen that the annual income of farmers is classified into 5 (five) acceptance criteria, namely very high, high, medium, low, and very low. The highest number of farmers is in the low criteria as many as 14 farmers with an income of Rp. 22,261,000/year up to Rp. 36,020,000/year. This is because land use is less than optimal and the selling price of production is very low.

Farming costs calculated are fixed costs and variable costs. Fixed costs consist of depreciation costs for equipment, while variable costs consist of costs for seeds/seedlings, costs for buying fertilizers, costs for buying pesticides, costs for buying lime, costs for watering, costs for animal feed and medicines, and labor costs. The average total costs incurred by farmers for 1 year can be seen in the table below.

Table 8 – Average Total Cost of Peat Farmers in Kalampangan Village in 2019

	Description	Average Value Per Farmer (Rp)
1.	Fixed cost	
a.	Tool Shrink	76,883
2.	Variable Cost	
a.	Plant Seeds	848,467
b.	Beef Seeds	1,250,000
c.	Pesticide	440,500
d.	Fertilizer	2,027,033
e.	Chalk	998.000
f.	Sprinkling	451,667
g.	Cattle Feed and Medicine	206,300
h.	Labor	215,000
Average		6,513,849

Source: Processed primary data, 2019.

In Table 8. it can be seen that the total cost for farming activities is an average of Rp. 6,513,849/year which consists of depreciation costs for tools used for farming, costs for buying plant seeds, costs for buying cattle seeds, costs for buying pesticides, costs for buying fertilizers, costs for buying lime, costs for watering plants, costs for cattle feed and medicine, and costs for labor wages.

Household income from farming activities is obtained by reducing the amount of revenue by the total cost incurred.

Table 9 – Income of Peat Farmers in Kalampangan Village in 2017

No	Description	Average Value Per Farmer (Rp)
1	Reception	24,840,500
2	Total Cost	6,513,849
	Income	18,326,651

Source: Processed primary data, 2019.

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Average total income received by farmers from vegetable and livestock farming is Rp. 24,840,500/year while the total cost is Rp. 6,513,849/year. Thus, the average income of farmers in 2017 is Rp. 18,326,651/year with the following calculation:

ion farm = TR – TC = Rp. 18,326,651

Where:
I = *Income* or Farmer's Income (Rp)
TR = *Total Revenue* or Total Revenue (Rp)
TC = *Total cost* or Total Cost (Rp)

Table 10 – RCR Enterprises in Kalampangan Village in 2017

No	Description	Average Value(Rp)
1	Reception	24,840,500
2	Total cost	6,513,849
3	Farming Efficiency (RCR)	3.81

Source: Primary Data Processed, 2018.

Based on Table 5.8, it can be seen that the average farming RCR value obtained is 3.81, which means for every Rp. 1.00 the costs incurred by the farmer received an income of Rp. 3.81. The RCR value is more than 1 so that farming on peat land in Kalampangan Village is feasible to run.

CONCLUSION

The management pattern carried out by the farmers of Kalampangan Village in farming activities on peat land is by applying the local wisdom that they do. The local wisdom that they apply is the addition of soil ameliorants (amelioration) in the form of lime, ash, and manure. Land burning is not carried out on a large scale but only burns the remaining shrubs on the surface of the peat soil.

On average, farmers have land that is used for farming is 0.7 ha and the land used consists of yard and non-yard land. Yard land used for agriculture consists of horticultural crop cultivation. livestock business (cows and chickens), and fruit crops. Meanwhile, non-yard land is only used for horticultural cultivation.

The average total income of peatland farmers in Kalampangan Village is Rp. 18,326,651/ year.The RCR value is 3.81, so the farming is feasible to run.

Based on the conclusions above, it is recommended:

- In managing peatlands, especially with a local wisdom system, it is very important to do based on planned and sustainable activities so that land productivity is maintained;
- For the government, it is expected to further improve development, empowerment programs for farmers through counseling on the latest innovations related to agriculture on peatlands.

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