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FAMILY LABOR CONTRIBUTION TO VEGETABLE FARMING INCOME OF RAINFED LOWLAND FIELDS IN CENTRAL BENGKULU REGENCY

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ABSTRACT

Labor, whether within and outside family member, has an important contribution in the structure of farm costs. This study aims to analyse the contribution of family labor to vegetable farming with four different cropping patterns in rainfed lowland land and its effect on farming profits. The research was conducted in Pondok Kelapa District, Bengkulu Tengah Regency from May to October 2019. There are six vegetable cropping patterns in Pondok Kelapa District, namely (1) cucumber - paria - long beans, (2) cucumber - gambas - long beans, (3) cucumber - long beans - long beans, (4) long beans - pariah - long beans, (5) long beans - luffa - long beans, and (6) long beans - long beans - kale pulled - pulled kale. Data were collected through a census of 50 vegetable farmers and analyzed descriptively using the structure of farm costs and the R/C ratio. The results showed that the contribution of labor costs from within the family to the six cropping patterns was between 38.84 - 61.36% with an R/C ratio between 1.55 - 1.94. The highest labor contribution was obtained in cropping pattern 6, namely 61.36% with the lowest R/C ratio value of 1.55. However, if the family labor cost is assumed not to be taken into account the farm input costs, then the R/C ratio value in cropping pattern 6 is the highest, which is 4.06.

INTRODUCTION

Production costs are important in farming. BPS (2017a; 2017b) calculates the annual crop production costs only includes production activities to harvest (excluding post-harvest activities), includes estimates of rent for own land / free of rent, estimates of rent for own business tools / facilities / free of rent, estimated wages unpaid workers / family, and the estimated interest on own capital credit / interest free calculated by imputation. The cost of labor and agricultural services is the highest cost component in rice farming, reaching 48.79% (BPS, 2017a), corn (48.55%) and soybean (47.23%) (BPS, 2017b), and ranks second after the cost of feed in beef cattle business (30.09%) (BPS, 2017c).

Various studies on vegetable cultivation show that the contribution of labor costs to production costs is also quite large. The contribution of labor costs in extracting kale farming reached 22.89%, spinach pulled 20.04%, and mustard greens 21.92% (Firison and Ishak, 2018); kale pulled 51.27% (Putra et al., 2017); cucumber (33.36%), paria (28.61%), luffa (28.49%), and long beans 65.76% (Putra et al., 2018); cucumber 53.46% (Lestari et al., 2011); long beans 49.87% (Hermawan et al., 2015).

In practice, cultivating vegetables does not entirely use cash paid labor. The allocation of family labor that is not paid in cash for vegetable cultivation is also quite high. The participation rate of family members of farmers in vegetable farming above 0.25 ha is 4 people and 2 people below 0.25 ha are for family members over 10 years of age (Sari, 2011), especially female labor who cultivate vegetables in sideline. The role of female labor in family vegetable farming is quite important both in farming on land and in processing agricultural waste which brings added value (Syarif, 2017).

The use of labor in the family is getting higher, especially in the farming that have not implemented mechanization (Andajani et al., 2010). In addition, the use of productive labor in the family also depends on being busy working on farms. During busy periods (for example, during the planting and harvesting season), the outpouring of household labor is more directed at farming activities. Outside the busy farming period, more work is devoted to non-agricultural activities. This arrangement will have an impact on farming efficiency and increase farmer household income from activities outside of farming (Norfahmi et al., 2017).

The Vegetable farming is one type of business that is profitable, the harvest time is relatively fast on a relatively narrow land. The benefits obtained from vegetable farming vary. Cucumber farming, for example, produces an R / C ratio of 1.36 (Haryani et al., 2018), 2.63 (Endriani and Sunarti, 2016), and 3.90 (Lestari et al., 2011). Long bean farming produces an R / C ratio of 1.36 (Haryani et al., 2018), 1.80 (Hermawan et al., 2015), 2.52 (Wasdiyanta, 2016), and 4.44 (Paulus et al. , 2015). Meanwhile, kale pulled out produced an R / C ratio of 2.57 (Putra et al., 2017).

In general, vegetable farming with various cropping patterns is carried out in vegetable production centers, but this is different from vegetable farmers in Srikuncoro Village. Vegetable farming in Srikuncoro Village, Pondok Kelapa District,

Central Bengkulu Regency is carried out on less productive rainfed rice fields that are planted with vegetables with various different cropping patterns. This study aims to determine the contribution of labor in the family in vegetable farming on various cropping patterns in rainfed rice fields and their effect on farming efficiency.

RESEARCH METHODS

This research was conducted from May to October 2019. The location of the research was carried out in a vegetable center village in Pondok Kelapa District, namely Pekik Nyaring Village and Srikuncoro Village in rainfed lowland agro-ecosystems. Data collection using the census method. The total of responden in the census was 50 vegetable farmers, namely 42 people in Pekik Nyaring Village and 8 people in Srikuncoro Village. Data were collected by means of individual interviews using a questionnaire. In addition, field observations were made to check the accuracy of the information obtained from the census. Data were analyzed descriptively using the cost structure / farm costs to determine the contribution of family labor in farming activities and the R/C ratio to determine farming efficiency.

RESULTS AND DISCUSSION

Characteristics of Vegetables Farmers

The characteristics of farmers are a general description of the background of the farmers that will influence the mindset and behavior in the choice of vegetable cropping patterns in Pondok Kelapa District. Characteristics of farmers as variables in this study were farmer age, formal education, non-formal education, experience in vegetable farming, family dependents, and the area of vegetable farming. The characteristics of farmers are shown in Table 1.

Table 1. Characteristics of vegetable farmers in rainfed lowland in Pondok Kelapa District

Description	Age (Year)	formal education (Year)	non-formal education (Time)	Experience (year)	Family dependents (person)	Land area (ha)
Minimum	20	-	-	2	1	0,12
Maximum	68	16	7	30	4	0,50
Average	45	9	1	10	3	0,24

Source: Census data processing, 2019.

Farmers are in the age range of 20 to 68 years with an average of 45 years. This illustrates that the age range of farmers is quite wide, namely 45 years, indicating that farmers who cultivate vegetables from young to old age groups are generally still classified as productive. The population including the productive age

is in the age range between 15-64 years (Rusli, 2012). Vegetable farmers from various age groups illustrate that the interest of farmers to cultivate vegetables is quite high.

The high interest of farmers of all ages to the cultivation vegetables in Pondok Kelapa District is thought to be because this farming can be an alternative source of family income if cultivated on relatively narrow lands. The area of land for vegetable farmers is between 0.12-0.50 ha with an average of 0.24 ha. Land ownership like this is included in the category of gurem who have land area of less than 0.5 ha (Susilowati and Maulana, 2012). The small area of lowland rice agricultural land will not be able to be used by farmers to meet household needs from rice, corn and soybean farming. The area of land required per household of rice, corn and soybean farmers to obtain an income equal to or above the poverty line is at least 0.65 ha, 1.12 ha, and 0.74 ha (Susilowati and Maulana, 2012).

The vegetable farming is also a solution for farmers who have a low level of education who are unlikely to access other types of work in the formal sector because the average level of formal education of farmers is 9 years or only has completed junior high school. Informal education is also relatively low. The average farmer has only attended training vegetable technology once. Knowledge of vegetable cultivation technology is obtained from field experience because the average farmer has been cultivating vegetables for 10 years. description of the characteristics the vegetable farmers in Pondok Kelapa District above shows that farmers are rational to choose vegetable farming according to their internal conditions to optimize their income from rainfed lowland land with a relatively narrow area.

Vegetable Cropping Patterns

The area in rainfed rice fields that have been used by farmers for the vegetable cultivation is around 12 hectares, spread over two villages in Pondok Kelapa District, namely Pekik Nyaring and Srikuncoro Villages. Farmers plant a variety of vegetables such as cucumbers, string beans, paria, luffa and kale with various cropping patterns.

There are six vegetable cropping patterns the rainfed lowland rice fields in Pondok Kelapa District as shown in Table 2. Three cropping patterns of which are the main cropping patterns, namely: (1) cucumber - paria - long beans, (2) cucumber - luffa - kacang long beans, (3) cucumber - long beans - long beans, (4) long beans - pariah - long beans, (5) long beans - luffa - long beans and (6) long beans - long beans - kale pulled - kale pulled Pattern The main cropping pattern is the cropping pattern that is widely applied by farmers (> 20%). The number of farmers who apply the three cropping patterns is 38 people or 76% of the total number of vegetable farmers in Pondok Kelapa District.

The 1-5 cropping patterns using mulch. The use of mulch is intended to save weeding costs. According to Gustanti et al. (2014), one of the benefits of using mulch is to suppress weed growth. The vegetable farmers in Pondok Kelapa District started cultivating their land was uncertain. The consideration of farmers starting to

cultivate the land is as long as water is available which will be useful in plant maintenance, so it is estimated that farmers will start cultivating the land not in the dry season. Vegetable farmers make wells in the garden to collect rainwater. Cultivation of the land is carried out simultaneously with the manufacture of beds intended for a yearly cropping pattern.

Table 2. Vegetable cropping patterns in Pondok Kelapa District.

No.	Cropping Patterns (CP)	Number of farmers (people)	(%)	Information*
1.	Cucumber – pariah – long beans (CP. 1)	13	26	Main CP
2.	Cucumber – luffa – long beans (CP. 2)	12	24	Main CP
3.	Cucumber – long beans – long beans (CP. 3)	13	26	Main CP
4.	long beans - pariah - long beans (CP. 4)	5	10	-
5.	long beans - luffa - long beans (CP. 5)	3	6	-
6.	long beans – long beans – unplug kale – unplug kale (without mulch) (CP. 6)	4	8	-
	Total	50	100	

*Source: Census data processing, 2019; * The main cropping pattern applied by farmers is more than 20%.*

Vegetable Farming Costs

The cost of tillage and making beds

Land processing is carried out once at the beginning of the rainy season to facilitate the manufacture of beds. The beds are made with certain sizes, namely 80 cm wide, 25 cm high, and follow east to west. The distance between the beds is 1 m. Farmers use mulch to cover the beds for the entire cropping pattern, except for the cropping pattern for long beans - long beans - *kale* pull. This is because the use of mulch is not possible when planting *kale*. Vegetable cropping patterns in Pondok Kelapa District are shown in Table 3.

Table 3. Vegetable cropping patterns in Pondok Kelapa District.

No.	Cropping Patterns	Information
1.	Cucumber – pariah – long beans	With mulch
2.	Cucumber – luffa – long beans	With mulch
3.	Cucumber – long beans – long beans	With mulch
4.	Long beans - pariah - long beans	With mulch
5.	Long beans - luffa - long beans	With mulch
6.	Long beans – long beans – unplug kale – unplug kale	without mulch

Source: Census data processing, 2019.

The use of mulch in the beds during land preparation causes the costs of farming in cropping patterns 1, 2, 3, 4 and 5 to be higher than in cropping patterns

6. Vegetable planting patterns without mulch also use less compost. The cost of materials that are more efficient means that the cropping pattern 6 also uses less labor during land processing (Table 4).

Table 4. Costs of land processing and making beds for vegetable cultivation in Pondok Kelapa District.

No.	Description	Cost (thousand IDR per hectare)					
		CP I	CP 2	CP3	CP 4	CP 5	CP 6
A.	Making beds						
	Material cost						
	a) Mulch 120 cm x 500 meters	6.200	6.200	6.200	6.200	6.200	0
	b) Agricultural Lime	315	212,5	180	180	350	0
	c) Compost	10.550	8.775	10.000	8.970	9.750	2.600
	d) ZA fertilizer	400	250	0	0	100	0
	e) Fertilizer SP-36	172,5	115	115	0	0	0
	f) Phonska NPK fertilizer	312,5	250	250	0	750	0
	g) Stake	14.250	14.250	14.250	14.250	14.250	14.250
	h) Rope stick	800	800	800	800	800	800
	i) bamboo the binder attach mulch	200	200	200	200	200	0
	Total material cost	33.200	31.052,5	31.995	30.600	32.400	17.650
B.	Labor costs						
	a) Land processing, basic fertilization and making beds.	15.400	15.200	15.500	15.500	15.500	10.000
	b) Mulching erection and making planting holes	2.000	2.000	2.000	2.000	2.000	0
	c) Stakes and rope installation	1.000	1.000	1.000	1.100	900	1.000
	Total labor costs	18.400	18.200	18.500	18.600	18.400	11.000
	Total cost	51.600	49.252,5	50.495	49.200	50.800	28.650

Source: Census data processing, 2019. CP = Cropping pattern

Vegetable production costs

Description of the farming costs for cucumbers, luffa, paria, string beans, and kangkung pull is shown in Table 5. The cost of producing vegetables is very much influenced by the input given. Table 5 shows that the highest production costs (costs of production facilities and labor) were contributed by the cultivation of gambas in cropping pattern 2, namely IDR 30,148,000 / ha / planting season and the lowest was unplugged kangkung (second crop) which was IDR 12,520,000 / ha / planting season. The highest cost of vegetable production per cropping pattern is obtained in the cucumber - luffa - long bean cropping pattern, namely IDR 127,056,500 and the lowest was in the cropping pattern of long beans - long beans - kale unplug - IDR 96,145,000 / hectare.

Table 5. Contribution of production costs per plant type to the cost of vegetable cropping patterns in Pondok Kelapa District.

Description	Cost (thousand rupiah per hectare)																		
	With mulch																	without mulch	
	Cucumber			Luffa		Pariah		long beans								Long beans		Unplug kale	
	CP1 (GS-1)	CP2 (GS-1)	CP3 (GS-1)	CP2 (GS-2)	CP5 (GS-2)	CP1 (GS-2)	CP4 (GS-2)	CP1 (GS-3)	CP2 (GS-3)	CP3 (GS-2)	CP3 (GS-3)	CP4 (GS-1)	CP4 (GS-3)	CP5 (GS-1)	CP5 (GS-3)	CP6 (GS-1)	CP6 (GS-2)	CP6 (GS-3)	CP6 (GS-4)
1. Cost of production facilities																			
- Seed	3.250	3.250	3.250	7.500	7.500	7.500	7.500	4.550	4.550	4.550	4.550	4.550	4.550	4.550	4.550	4.550	4.550	1.800	1.800
- Compost	0	0	0	650	650	550	520	640	617	650	650	0	611	0	585	0	520	325	325
- NPK 16:16:16 fertilizer	850	775	800	1.070	1.000	1.080	900	1.000	955	800	800	870	870	750	750	0	0	0	0
- Urea fertilizer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250	250
- Insekticide	840	800	750	878	825	1.023	805	800	750	670	670	755	755	630	630	750	750	310	305
- Fungicide	1.051	931	900	1.345	1.000	1.100	1.015	872	675	415	415	350	350	500	500	0	0	0	0
- Herbicide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	500		
- Other ingredients	200	200	200	200	200	200	200	600	600	600	600	600	600	600	600	600	600	240	240
Total input costs	6.191	5.956	5.900	11.648	11.175	11.453	10.940	8.462	8.142	7.685	7.685	7.125	7.736	7.030	7.615	6.400	6.920	2.925	2.920
2. Labor costs																			
- Demolition of plants	0	0	0	900	900	950	900	900	950	950	950	0	1.000	0	1.000	0	1.000	1.500	0
- Addition of compost	0	0	0	900	900	950	950	900	800	800	800	0	900	0	900	0	700	500	500
- Planting	850	850	850	900	900	950	950	900	950	900	900	900	900	900	900	800	800	1.800	1.800
- Laying the vine rope	700	700	700	700	600	700	700	700	600	600	600	700	700	700	700	700	700	0	0
- Weeding clearing	600	600	600	800	900	800	800	750	750	800	800	800	800	800	800	1.600	1.600	1.000	1.000
- Fertilizer application	2,400	2,400	2,400	3.200	3.000	3.300	3.000	3.100	3.000	2.800	2.800	2.000	2.000	2.500	2.500	0	0	400	400
- Pesticide application	2.600	2.400	2.400	3.100	3.000	2.700	2.600	2.600	2.600	2.500	2.500	2.700	2.700	2.500	2.500	2.000	2.000	500	500
- Harvest	7.300	7.150	7.200	8.000	7.800	7.900	7.500	9.200	9.500	9.300	9.300	9.200	9.200	9.500	9.500	8.000	8.000	5.400	5.400
Total labor costs	12.050	11.700	11.750	18.500	18.000	18.250	17.400	19.050	19.150	18.650	18.650	16.300	18.200	16.900	18.800	12.100	14.800	11.100	9.600
Total production costs	18.241	17.656	17.650	30.148	29.175	29.703	28.340	27.512	27.292	26.335	26.335	23.425	25.936	23.930	26.415	19.500	21.720	14.025	12.520

Production cost per hectare

- **cropping patterns 1 Cucumber – pariah – long beans) Rp. 127.056**
- **cropping patterns 2 (Cucumber – luffa – long beans) Rp. 124.348,5**
- **cropping patterns 3 (Cucumber – long beans – long beans) Rp. 120.815**
- **cropping patterns 4 (Long beans - pariah - long beans) Rp. 126.901**
- **cropping patterns 5 (Long beans - luffa - long beans) Rp. 130.320**
- **cropping patterns 6 (Long beans – long beans – unplug kale – unplug kale) Rp. 96.145**

Source: Census data processing, 2019. GS = growing season, CP = Cropping Patterns.

Farming Cost Structure Based On Vegetable Cropping Patterns

Farming costs in the six planting patterns have different structures. These costs were contributed by the costs of cultivating land and making beds (Table 4) and production costs per cropping pattern (Table 5). Table 6 shows the structure of the farming costs for each of these cropping patterns.

Table 6. The structure of farming costs on vegetable cropping patterns in Pondok Kelapa District.

No.	Farming costs	Farming costs (thousand rupiah per hectare)					
		CP 1	CP 2	CP 3	CP 4	CP 5	CP 6
1	The cost of cultivating land and making beds						
	- Seed	0	0	0	0	0	0
	- Fertilizer	11.435	9.390	10.365	8.970	10.600	2.600
	- Pesticide	0	0	0	0	0	0
	- Other ingredients	21.765	21.662	21.630	21.630	21.800	15.050
	- Labor	18.400	18.200	18.500	18.600	18.400	11.000
	Total	51.600	49.252,5	50.495	49.200	50.800	28.650
B	Production cost						
	- Seed	15.300	15.300	12.350	16.600	16.600	12.700
	- Fertilizer	4.120	4.062	3.700	3.771	3.735	1.670
	- Pesticide	5.686	5.379	3.820	4.030	4.085	3.115
	- Other ingredients	1.000	1.000	1.400	1.400	1.400	1.680
	- Labor	49.350	49.350	49.050	51.900	53.700	47.600
	Total	75.456	75.091	70.320	77.701	79.520	66.765
C	Total biaya (A+B)						
	- Seed	15.300	15.300	12.350	16.600	16.600	12.700
	- Fertilizer	15.555	13.457	14.065	12.741	14.335	4.270
	- Pesticide	5.686	5.379	3.820	4.030	4.085	3.115
	- Other ingredients	22.765	22.662,5	23.030	23.030	23.200	16.730
	- Labor	67.750	67.550	67.550	70.500	72.100	58.600
	Total Cost	127.056	124.348	120.815	126.901	130.320	95.415

Source: Census data processing, 2019

Vegetable farming costs come from the cost of seeds, fertilizers (compost and inorganic), pesticides (insecticides, fungicides and herbicides), other materials (lime, mulch, stakes, ropes, etc.), and labor costs (land processing, manufacturing costs). beds, planting, weeding, fertilizing, controlling plant pests, and harvesting).

Labor costs contributed the greatest value to the cost structure of vegetable farming in all cropping patterns, namely between 53.32 - 61.36% (Figure 1). Planting pattern 6 (long beans - long beans - kangkung pull - kangkung pull) which does not use mulch provides the largest labor contribution compared to other cropping

patterns. This is because farmers need to carry out more intensive weed control due to not using mulch in this cropping pattern. One of the benefits of mulch is to reduce weed growth (Gustanti et al., 2014).

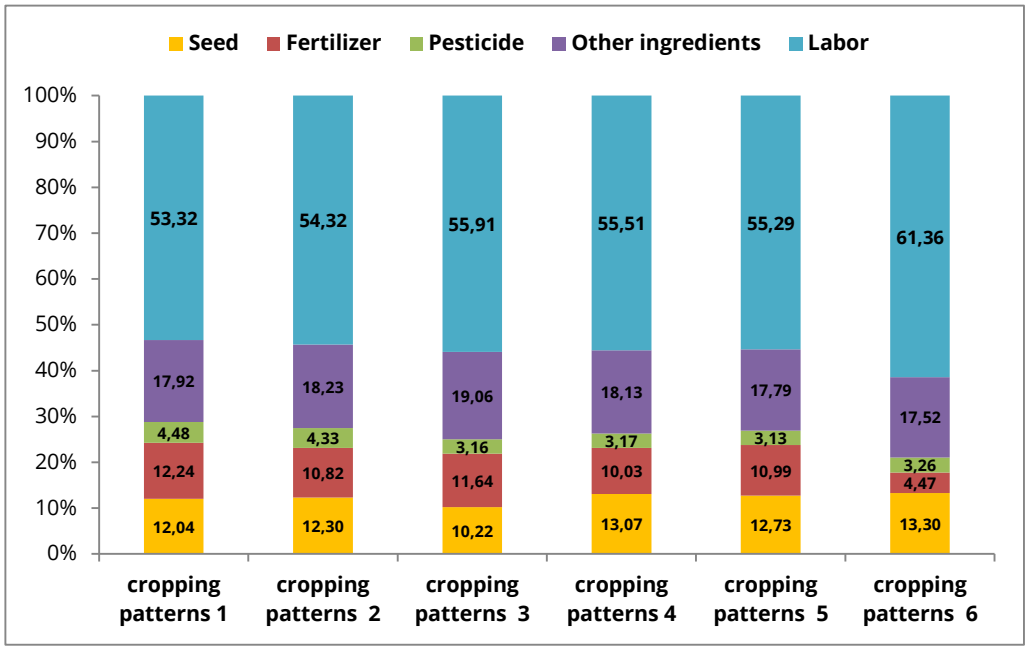

Figure 1.
Structure of the cost of farming different vegetable cropping patterns
in Pondok Kelapa District.

Farming Analysis of Vegetable Cropping Patterns

The analysis of four vegetable cropping patterns in Pondok Kelapa District is presented in Table 7. The R / C ratio value of the six cropping patterns was the highest in the cucumber - paria - long bean cropping pattern, namely 1.95, followed by the cucumber - luffa - long bean cropping pattern. , cucumber - long beans - long beans, long beans - pariah - long beans, long beans - gambas - long beans and long beans - long beans - kale pulled - kale pulled. The high profit of farming in the cucumber - paria - long bean cropping pattern is due to the crop yields of pariah and the relatively high selling price of this cropping pattern.

Table 7. Farming analysis per vegetable cropping pattern (thousand IDR/ha) in Pondok Kelapa District.

No.	Uraian	CP I	CP 2	CP 3	CP 4	CP 5	CP 6
A.	Farming Cost						
1.	The cost of cultivating land and making beds	51.600	49.252,5	50.495	49.200	50.800	28.650
2.	Cost production	75.456	75.096	70.320	77.701	79.520	67.765
3.	Equipment depreciation cost	180	173	165	110	90	85
	Total farming costs	127.236	124.521,5	120.980	127.011	130.410	96.500
B.	Acceptance of farming	247.300	230.600	199.500	197.000	202.000	150.000
C.	Profits	120.064	106.078,5	78.520	69.989	71.590	53.500
D.	R/C ratio	1,94	1,85	1,65	1,55	1,55	1,55

Source: Census data processing, 2019

Cropping patterns 4, 5 and 6 are vegetable cropping patterns without cucumbers. The three cropping patterns showed the lowest profit value, namely the R / C ratio of 1.55. The cost of producing cucumbers is relatively lower compared to the costs of other crops, so the benefits of planting cucumbers will also be relatively higher. The advantage of the main cropping pattern which is relatively more profitable causes farmers to often apply it. Profit orientation determines the choice of cropping patterns vegetable farmer on rainfed rice fields in Pondok Kelapa District, Bengkulu Tengah Regency. This is also evidenced from the results of other studies that the choice of combination of seasonal cropping patterns on rice fields is indeed oriented to increase profits (Tarbiah et al., 2010; Setiani et al., 2015).

Table 8. Labor costs per vegetable cropping pattern (thousand IDR/ha) in Pondok Kelapa District.

Uraian	Cost (IDR 000 per hektar)																	
	CP 1			CP 2			CP 3			CP 4			CP 5			CP 6		
	Other inputs	Labor		Other inputs	Labor		Other inputs	Labor		Other inputs	Labor		Other inputs	Labor		Other inputs	Labor	
		in	outside		in	outside		in	outside		in	outside		in	outside		in	outside
Farming Cost																		
a. Land cultvation and Bed making cost																		
- Mulch 120 cm x 500 meter	6.200			6.200			6.200			6.200			6.200			0		
- Dolomite lime	315			212,5			180			180			350			0		
- Compost	10.550			8.775			10.000			8.970			9.750			2.600		
- ZA fertilizer	400			250			0			0			100			0		
- fertilizer SP-36	172,5			115			115			0			0			0		
- fertilizer NPK Phonska	312,5			250			250			0			750			0		
- Stake	14.250			14.250			14.250			14.250			14.250			14.250		
- Rope stick	800			800			800			800			800			800		
- bamboo the binder attach mulch	200			200			200			200			200			0		
- Land processing, basic fertilization and making beds			15.400			15.200			15.500			15.500			15.400			10.000
- Installation of mulch and making planting holes			2.000			2.000			2.000			2.000			2.000			
- Installation of stakes and ropes			1.000			1.000			1.000			1.000			1.000			1.000
Total	33.200		18.400	31.052,5		18.200	31.995		18.500	30.600		18.600	32.400		18.400	17.650		11.000
Total land processing costs		**51.600**			**49.252**			**50.495**			**49.200**			**50.800**				**28.650**
b. Production cost																		
- Seed	15.300			15.300			12.350			16.600			16.600			12.700		
- Compost	1.190			1.267			1.300			1.131			1.235			1.170		
- NPK 16:16:16 fertilizer	2.930			2.800			2.400			2.640			2.500			0		
- Urea fertilizer	0			0			0			0			0			500		
- Insekticide	2.663			2.428			2.090			2.315		2.085			2.115			
- Fungicide	3.023			2.951			1.730			1.715			2.000			0		
- Herbicide	0			0			0			0			0			1.000		
- Other ingredients	1.000			1.000			1.400			1.400			1.400			1.680		
- Demolition of plants		1.850			1.850			1.900			1.900			1.900				.500
- Addition of compost		1.850			1.700			800			1.850			1.800				.700
- Planting		2.700			2.700			2.650			2.750			2.700				.200
- Laying the vine rope		2.100			2.000			1.900			2.100			2.000				.400
- Weeding clearing		2.150			2.150			2.200			2.400			2.500				.200
- Fertilizer application		8.800			8.600			8.000			7.000			8.000				00
- Pesticide application		7.900			8.100			7.400			8.000			8.000				.000
- Harvest		22.000			22.250			24.200			25.900			26.800				5.800
Total	26.106	49.350		25.746	49.350		21.270	49.050		25.801	51.900		25.820	53.700		19.165	7.600	
Total production costs			**75.456**			**75.096**			**70.320**			**77.701**			**79.520**				**66.760**
Total Cost (a + b)			**127.056**			**124.348**			**120.815**			**126.901**			**130.320**				**95.415**

Source: Census data processing, 2019

The contribution of labor from within the family in cropping patterns 1, 2, 3, 4 and 5 is relatively similar, namely around 38.84 - 41.18% of the farm cost structure. Meanwhile, cropping pattern 6 shows the contribution of labor from within the family of about 61.36%. If the contribution of labor costs from within the family is assumed not to be taken into account in production costs, the R / C ratio in farming for 6 vegetable cropping patterns in Pondok Kelapa District will change (Table 9).

Table 9. Analysis of vegetable farming patterns per hectare with the assumption that labor from within the family is not taken into account.

No.	Description	CP I	CP 2	CP 3	CP 4	CP 5	CP 6
A.	Farming costs						
1	cultivating land and making beds Cost	51.600	49.252	50.495	49.200	50.800	17.650
2	Production cost	26.106	25.746	21.270	25.911	25.910	19.250
3	Equipment depreciation cost	180	173	165	110	90	85
	Total farming costs	77.886	75.171	71.930	75.221	76.800	36.985
B.	Farm Revenue	247.300	230.600	199.500	197.000	202.000	150.000
C.	Farming profits	169.414	155.429	127.570	121.779	125.200	113.015
D.	R/C ratio	3.18	3.07	2.77	2.62	2.63	4.06

Source: Census data processing, 2019

Table 9 shows that the highest income from vegetable farming was obtained in cropping pattern 6 with an R / C ratio of 4.06 if the labor contribution from within the family was not taken into account in the analysis, whereas in the previous calculation (Table 7) had the lowest R / C ratio, namely amounting to 1.55. This shows that the contribution of labor costs to the family in cropping pattern 4 has an important role in vegetable farming in Pondok Kelapa District.

CONCLUSIONS

There are six vegetable cropping patterns on rainfed land in Pondok Kelapa District, Central Bengkulu Regency, namely cropping pattern 1 (cucumber - paria - long bean), cropping pattern 2 (cucumber - luffa - long bean), cropping pattern 3 (cucumber - long bean) - long beans), cropping pattern 4 (long beans - paria - long beans), cropping pattern 5 (long beans - luffa - long beans) and cropping pattern 6 (long beans - long beans - kale pulled - kale pulled). The contribution of labor costs within the family for the six cropping patterns was between 38.84 - 61.36%, the highest was in the 6 cropping pattern.Of the six vegetable cropping patterns applied, cropping pattern 1 (cucumber - paria - long bean) showed the highest profit with an R/C value of 1.94 compared to other cropping patterns. However, if the family labor costs are assumed not to be calculated into the farm input costs, then the highest R/C ratio value is obtained in cropping pattern 6 of 4.06. This means that the

workforce from within the family is very important in contributing to vegetable farming in Pondok Kelapa District.

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