

# BUKTI KORESPONDENSI

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**PAPER EVALUATION**

Paper Title: An income analysis of beef cattle fattening system and its contribution to the total household income in Central Java Province

Comments (please use additional paper if more space is needed)

No	Comments	Author's response
<b>A Editor</b>		
1	We have checked the similarity indication of your manuscript by using plagiarism detection software as the initial procedure. However, there are 21% similarities between your manuscript and other published articles (attached). Please rewrite the major highlight sentences, especially in the Methods.	We have paraphrased the highlighted sentence.
<b>B Reviewer I (MB1)</b>		
1	Please re-arrange the description in the Introduction, so that it will be more systematic. The introduction is too long. Please shorten to the main topics and add the novelty of your research compared to previous studies before resuming the objectives.	We have revised and shortened the introduction
2	To using regression should be using 30 respondents, You are using 150 so the samples requirements is enough to do the analysis	.We have revised
3	Conclusion is too long. Conclusion should be written briefly, but reflects the experimental results obtained and answer the objectives.	We have revised and shortened the conclusion
4	The paper needs English revision.	We have proofread the article
5	More in-depth comments could be seen in the text	1. As suggested by the reviewer, we have changed the title to "An income analysis of beef cattle fattening system and its contribution to the total household income in Central Java Province"
6	Please see other comments in the text	
<b>C Reviewer II (MB2)</b>		
1	All results have to be supported and compared with the other or previous research results in the Discussion. Major revision is needed	As suggested by the reviewer, we have elaborated with more previous research results
2	The manuscript requires correction from the English editor	We have proofread the article
3	References a) Please ensure that every reference cited in the text is also present in the reference list (and vice versa). We suggest authors to use reference manager applications, such as EndNote, Mendeley, etc., to prepare	Have been revised

	citations and the list of references. b) References should be the last 10 year publication, with minimum 80% of journal.	
4	Please see other comments in the text	

**Comment of Reviewer I**

- It is not so easy to interpret the flow of discussion, especially concerning with the background of study. The gap analyse and novelty of study have to be clearly stated.
- Improve the readability of manuscript by using proper English sentences.
- Use only relevant reference from internationally reputable publications.
- Please revised the title " An income analysis of beef cattle fattening system and its contribution to the total household income in Central Java Province\*"
- See other comments in the text.

*The contribution of beef cattle income to total income of farmer household (Prasetyo et al.)*

**The analysis of beef cattle fattening farm income and its contribution to the total income of farmer household in Central Java Province**

**ABSTRAK**

Usaha ternak sapi potong pola penggemukan banyak diusahakan oleh peternak rakyat di Jawa Tengah, namun orientasi usahanya belum mengarah ke profit. Tujuan penelitian adalah menganalisis kontribusi pendapatan usaha ternak sapi potong pola penggemukan terhadap total pendapatan rumah tangga peternak, dan menganalisis faktor-faktor yang mempengaruhi pendapatan usaha ternak sapi potong. Penelitian dilakukan pada lima kabupaten sentra produksi sapi potong di Jawa Tengah. Penelitian dilakukan dengan metode survai, 150 sampel responden ditentukan dengan metode *Multi Stage Quota Sampling*. Data dianalisis dengan Analisis Pendapatan dan Regresi Linier Berganda. Hasil penelitian menunjukkan bahwa pendapatan usaha ternak sapi potong sebesar Rp 6.736.824,21/2,31 ekor/6,32 bulan atau Rp 1.065.953,20/bulan, dan pendapatan peternak dari luar usaha ternak sapi potong sebesar Rp 29.401.533,00/tahun atau Rp 3.516.080,95/bulan. Kontribusi pendapatan usaha ternak sapi potong terhadap pendapatan total rumah tangga peternak sebesar 30,32%. Hasil uji *paired t test*, pendapatan peternak dari usaha ternak sapi potong berbeda nyata lebih kecil dibandingkan dengan pendapatan dari luar usaha ternak sapi potong. Hasil analisis regresi linier berganda, bahwa biaya produksi tidak tetap dan jumlah ternak berpengaruh terhadap pendapatan usaha ternak sapi potong, sedangkan biaya produksi tetap tidak berpengaruh terhadap pendapatan usaha ternak sapi potong.

Kata kunci: kontribusi, pendapatan total rumah tangga, usaha ternak sapi potong,.

### ABSTRACT

Beef cattle fattening is cultivated by farmers in Central Java, but the orientation of farm has not been profit yet. The aims of this research was to analyze beef cattle fattening farm income and its contribution to the total income of farmer household and analyze the factors that influence beef cattle farm income. Research was carried out in five regencies in Central Java Province namely Blora, Rembang, Grobogan, Wonogiri and Boyolali. Survey was used among 150 beef cattle farmers, while multistage quota sampling was used as sampling method. Income analysis and multiple linear regression were used for data analysis. Research result showed that income of beef cattle is IDR 6,736,824.21/2.31 head/6.32 month or IDR 1,065,953.20/month and income of non-beef cattle farm is IDR 29,401,533.00/year or IDR 3,516,080.95/month. The contribution of beef cattle farm to farmer's income is 30.32%. Based on the t test, the contribution of beef cattle farming had significant different to the contribution of non-beef cattle farming and the income from beef cattle was lower than non-beef cattle. Multiple linear regression analysis showed that variable cost and number of livestock have a significant effect on beef cattle farm income, while the fixed cost has no significant effect.

keywords: beef cattle farm, contribution, total farmer income

### INTRODUCTION

Program Kecukupan Daging (PKD) or beef self sufficiency program is one of strategies from the government to align between demand and national supply of meat. Beef cattle have been played as one of important income for villagers in Indonesia as well as family nutrient sources. Meat consumption from beef product have been increased, however national meat production have not been fulfil national consumption. Widiati (2014) said that more than 90% of local beef supply comes from less efficient community farms, so the growth of local beef production has not been able to meet national demand. Hence, there was gab between supply and demand of beef product (Mersyah, 2005; Setiyono *et al.*, 2007). It need collaboration efforts from all stakeholders to improve production, marketing and distribution of beef production (Bamualim *et al.*, 2008).

Beef cattle farming system have been raised by the farmers and their family in Central Java, and it occupied both lowland and highland with most of the farmers had average of 3.49 head/cattle (Prasetyo *et al.*,

**Comment [T1]:** You should discuss more why the regency was chosen

**Comment [T2]:** Please discuss more why meat consumption increase

2012). Tawaf and Kuswaryan (2006) told that beef cattle smallholder farming system had low productivity with 2-4head/cattle. In addition, it is based on traditional farming system relied on family labour and have not been intensively developed to improve income. Beef cattle population in Central Java Province from 2011-2015 were 1,937,551 head/cattle, 2,052,407 head/cattle, 1,500,077 head/cattle, 1,592,638 head/cattle, and 1,628,093 head/cattle, respectively. It had average growth rate of -3.14%/yearor low growth rate (Dinas Peternakan dan Kesehatan Hewan Jawa Tengah, 2015). Farmers' orientation in beef cattle production system was as secondary income with poor management practices and resources allocation have not been optimally allocated. Prasetyo *et al.* (2006) told that farmers have not been thinking about commercial farming. Meanwhile Putri *et al.* (2014) stated that efforts to increase beef cattle business production and increase farmers' income can be done with the agribusiness system.Schimmelpfennig *et al.* (2006) said that farmers faced problem related to low access to production process (marketing, credit, genetics). This condition gave effects on low income and economic efficiency of production.

**Comment [T3]:** Why in Central Java, farmers just only raised 2-4 heads only, why short of feed

Discuss more

**Comment [T4]:** Please renewed this data

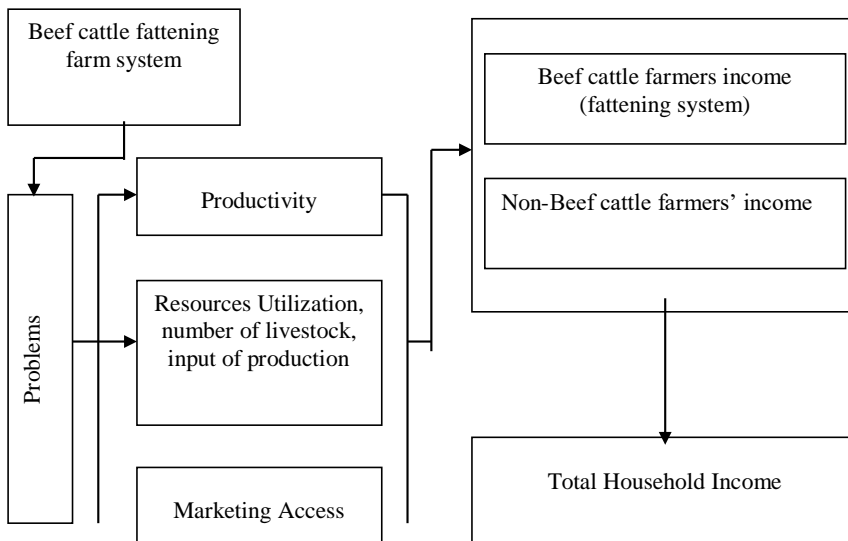
**Comment [T5]:** What condition

**Comment [T6]:** The objective need explanant and what the relationship between regression and this factor

The aims of this research was to analyze income from beef cattle fattening farm and its contribution to the total income of the farmer household, and to analyze the factors (the number of beef cattle, fixed production costs, variable production costs)that influence the beef cattle farm income. The result of the study can be used for decision makers to improve productivity of smallholder farming system and the development of knowledge related with social economic agriculture.

## MATERIALS AND METHODS

### Theoretical Framework





### Illustration1. Theoretical Framework

Beef cattle farming activity is a secondary source of income apart from other rural farm activities and it is based on smallholder farming system. The beef cattle farming system have not been intensively developed, hence it has led to farmers' difficulties to increase income. Farmers' faces several problems such as low management in farming system or new technonogy as well as bargaining position dan bargaining power. Government have been developed policy to improve implementation technology and optimization of resources allocation. Verscheldeet *al.* (2013) describe that on on farm activities, the resources owned by farmers in developing countries are small and the agricultural environment is limited and varied, such as the area of land, fertility and types of plants and their livestock breed. This research have tried to give recommendation for development of smallholder farming system in Central Java Province in order to improve income and farmers' welfare.

#### Research object

Beef cattle fattening farm system was a unit elementer in the reseach. Research was carried out in May-August 2017 in five regencies in Central Java Province (Blora, Rembang, Grobogan, Wonogiri, dan Boyolali). The location was choosen because it has biggest population of beef cattle in Central Java Province.

**Comment [T7]:** Central Java is the beef cattle development, what is the evidence

#### Reseach Methodology and Sampling Determination

Survey method was used in this research. The respondents were choosen based on Multi Stage Quota Sampling Methods among 30 farmers in each regency. The five regencies was choosen based on five biggest beef cattle population in Central Java Province. Moreover, quota samping is a sampling method without having consideration a sampling frame (Wirartha, 2006). It is a method to decide sampling based on special quota in a particular area. In total there were 150 respondents (5 regencies x 30 respondents).

#### Data Collection and Data Analysis

Data collection is an activity to gather data and measure information based on research variables in order to analyze research objective and hipotesis (Daniel, 2002). The primary data were collected throughcross section data and interview method using questionnaire. The secondary data was used to improve

data analysis. Data were analyzed through editing, koding, dan tabulating. Moreover, data were analyzed using

Income Analysis, the Paired t Test and Multiple Linear Regression analysis.

**Comment [T8]:** Why using t test analysis

1. Beef cattle farmers income analysis

$$TC = TVC + TFC \quad (\text{Ekowati } et al., 2014)$$

where

- TC : Total cost (IDR)
- TVC : Total variable cost (IDR)
- TFC : Total fixed cost (IDR)
- TR :  $\sum (Q_i \cdot Hq_i)$
- TR : Total revenue (IDR)
- Q<sub>i</sub> : product quantity (kg)
- Hq<sub>i</sub> : Price (IDR)

$$\pi = TR - TC$$

where

- $\pi$  : Income (IDR)
- TR : Total Revenue (IDR)
- TC : Total Cost (IDR)

2. Income from Non-Beef cattle farming activities:

$$\pi_{it} = TR_{(1-n)} - TC_{(1-n)}$$

where

- $\pi_{it}$  : Total income (IDR)
- TR<sub>(1-n)</sub> : Total revenue (IDR).
- TC<sub>(1-n)</sub> : Total cost (IDR).

3. The contribution of beef cattle farming activities to household income.:

$$K = \{\pi : \pi_{th}\} \times 100\%$$

where

- K : the contribution of beef cattle farming activities to household income.(%)
- $\pi$  : Total income from beef cattle farming activities (IDR)
- $\pi_{th}$  : Total income of the farmer household(IDR)

4. The effect of the number of beef cattle, fixed production costs and variable production costs on

beef cattle farm income is analyzed using Multiple Linear Regression, with the formulation:

**Comment [T9]:** Why using regression

$$Y = f (X_1, X_2, X_3, e)$$

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Where :

- Y : Beef cattle farm Income (IDR).
- A : *Intercept*
- b<sub>i</sub> : Regression coeffisien.
- X<sub>1</sub> : Number of beef cattle (head)
- X<sub>2</sub> : Fixed production cost (IDR).
- X<sub>3</sub> : Variable production cost (IDR)
- E : Stochastic deviation

## RESULTS AND DISCUSSION

Data analysis found that there were three types of cattle breeds to raised in Central Java. Ongole



Crossbreed or *peranakanongole*(PO)was the biggest cattle breed to raise (46%), it followed by Simmental – Ongole Crossbreed or *simmental-peranakanongole* (SPO) (32.66%) and limousine-Ongole Crossbreed or *limousine-peranakan ongole* (LPO) (21.34%). Most of the farmers had 2.31 head/cattle and it was raised for 6.32 months and average daily gain equal to 0.648 kg/cattle/day. The average daily gain was lower than two researches by Daryanti *et al.* (2002) and Subiharta *et al.* (2000). Daryanti *et al.* (2002) stated that the average daily gain of Ongole Crossbreed (PO) was 0.72 kg/cattle/day when the cows were fed by the ammoniated rice straw and feed concentrate of 4 kg/cattle/day. In his research, Subiharta *et al.* (2000) concluded that average daily gain was amounted to 1.18 kg/cattle/day for LPO and 0.90 kg/cattle/day of SPO. This condition is also partly due to the fact that the management of beef cattle farm has not been based on a commercial orientation. Dzanja *et al.* (2013) stated that farmers with low managerial ability could not utilize technology in raising livestock, so that farmers would get a small profit and economic conditions would remain poor. The low productivity of fattening farming system in Central Java can be explained by the low feed quality resources, limited access to high-quality genetics, cattle feed efficiency, and the age of cattle (Soeparno and Davies, 1987).

The income or profit of the fattening beef cattle farm with an average scale of 2.31 head per production period (an average of 6.32 months) is IDR 6,736,824.21 (equivalent to IDR 1,065,953.20/month). The ability of livestock capital to generate income (profitability) is 19.29 percent. The profitability value when compared to the interest rate of small-scale farmer loans, for example: Food and Energy Security Credit (KKPE), People's Business Credit (KUR) with interest rates of 6.00 percent, then beef cattle farm is feasible to be undertaken. Total Cost, total revenue and income shows in Table 1.

The farmers income was higher than a research among PO cattle breed farmers in Eromoko District Wonogiri Regency by Prasetyo *et al.* (2005). The research in 2005 told that (i) The cows had 100% ad libitum of forage and mixed with three times feed concentrate per day would gained 0.785 kg/day with farmers' income amounted to IDR 637,230.95/head/3months; (ii) The cows had 100% ad libitum of forage and mixed with twice feed concentrate per day would gained 0.629 kg/day with farmers' income amounted to IDR 613,153.25/head/3 bulan; (iii) The cows had twice feed resources per day would gained 0.547 kg/day with farmers income amounted to IDR 412,739.97/head/3 bulan. The difference in the value of income is of course due to the difference in research time, so it affects the price of production inputs and production output.

**Comment [T10]:** You need more explanation the profit more clear

**Comment [T11]:** Why 3 month

??

However, if it is based on a comparison of body weight gain, beef cattle farm which in reality is not managed intensively is sufficient to provide good productivity (body weight gain 0.648 kg/head/day).

Meanwhile, the farmers income from non-beef cattle farming activities was IDR29,401,533.00/year (or equal to IDR 2,450,127.75/month). The main income were from crop production, goat or sheep farmactivities, salary as government institution or private sector, or as entrepreneurs were showed at Table 2.

Winarso and Basumo (2013) told that beef cattle farming system based on smallholder farming system and integrate with other farming system, crop production, for instance. Based on the result, the contribution of beef cattle farming system to household income was 30.32%. The research from Hartono dan Rohaeni (2014) found contribution of beef cattle farming system to household income will be equal 15-25%.

The farmers income from non-beef cattle farming activities in these research was higher than a research by Sugiarto and Syarifudin Nur (2015) in Banjarnegara. It found that the farmers in Banjarnegara owned 3 head/cattle with farmers income from beef cattle farming system were IDR 6,626,868.00/year; and non-beef cattle farming system were IDR 19,891,410.00/year, respectively. The total income of the farmer household that comes from the sum of beef cattle farm income and non-beef cattle farm income, which is calculated on average in one month is IDR 3,516,080.95. Based on the value of the income it can be calculated that the beef cattle fattening farm contributes to the total income of farmer household 30.32%. This condition is slightly higher than the results of Hartono and Rohaeni's (2014) research, which states that the contribution of people's beef cattle farm income to total family income ranges from 15-25 percent.

Based on t test analysis or paired t test, the contribution of beef cattle farming activities had significant different to the contribution of non-beef cattle farming activities ( $P < 0.05$ ). It concluded that the income from beef cattle farming activities was lower than non-beef cattle farming activities in smallholder farming system level. It can be said that beef cattle fattening farming activities in Central Java Province was a secondary income. It need efforts from many stakeholders to develop strategies on how to improve the productivity. According to Anggraini (2003), smallholder farming system need to intensively developed in a more sustainable way in the future based on farmers income. Beef cattle farm can be classified into four groups, namely: (i) side farm in addition to the main farm (contribution of livestock farm revenue  $< 30\%$  of total income); (ii) livestock farm as a branch of farm (livestock farm revenue contribution 30 - 70% of total income); (iii) livestock farm as the main farm (contribution of livestock business income 70-100% of total income); (iv) livestock farm as an industry, where livestock are specifically cultivated.

**Comment [T12]:** You need more explanation why beef cattle farming should be integrated

**Comment [T13]:** You need more discussion

**Comment [T14]:** T test for comparison  
What factor you would compared

**Comment [T15]:** Why if the contribution less than 30% was small, discuss more

The contribution of the beef cattle fattening farm to the total income of the farmer household is 30.32 percent, reflecting that the beef cattle farm has not yet started a main business. Efforts can be implemented to increase beef cattle farm income, one of which can be done by analyzing the factors that affect livestock farm income. It presented on Table 3.

The results of the regression analysis showed that coefficient of determination ( $R^2$ ) was 0.619, which means that the variation contained in the dependent variable ie livestock farm income can be explained by variations in the independent variables of 61.90 percent. The independent variable number of cattle being cultivated and the variable production costs significantly influence the dependent variable of farmer income, while the fixed costs have no significant effect. The number of cattle has a positive correlation with beef cattle farm income, while variable costs are negatively correlated. [This shows that if the number of cattle being cultivated is increased in number (assuming constant variable costs) it will be able to increase the income of farmers, but if the variable costs are increased in number (assuming the number of cattle being cultivated is fixed), then it will actually reduce the income of farmers]. Of the two independent factors that have significant influence, reducing the amount of variable costs (efficiency of production costs) is the main priority to increase farmers' income, then followed by an increase in the number of cattle being cultivated.

**Comment [T16]:** You should discuss more about income

### CONCLUSION

**Comment [U17]:** It is not just a rewrite of study results.

[The income from beef cattle fattening activities was amounted to IDR 6,736,824.21 or IDR 1,065,953.20/month]. Moreover, the farmers income from non-beef cattle farm was IDR 31,201,533.00/year or IDR 2,600,127.75/month. The income from beef cattle fattening farm was significantly different and smaller compared to income from non-beef cattle farming farm. The contribution of beef cattle farming farm to household income was 30.32%. Variable cost of production and the number of beef cattle being cultivated have a significant effect on beef cattle farm income, while the fixed costs of production have no significant effect.

**Comment [T18]:** Explained more briefly

### RECOMMENDATION

**Comment [U19]:** Is there any suggestion other than increasing number of cattle???

Efficient use of variable cost of production and an increase in the number of beef cattle being cultivated have real potential to increase the income of smallholder beef cattle businesses.

#### ACKNOWLEDGMENTS

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**Comment [T20]:** Please use 10 years old references

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Tabel 1. Total Cost, Total Revenue and Income of Beef Cattle Fattening on an Average Farm Scale of 2.31 head/6.32 monts inCentral Java

No.	Detail	IDR	IDR
1.	Variables Cost:		33,962,495.83
	▪ Feeder cattle price	22,740,655.83	
	▪ Forage costs	2,015,519.00	
	▪ Feed concentrat cost	4,101,732.00	
	▪ Complete feed cost	1,534,459.00	
	▪ Cost to buy salt	414,46.00	
	▪ To buy medicine	42,036.00	
	▪ Labour cost	2,040,648.00	
	▪ Marketing cost	267,000.00	
	▪ Credit interest value	806,000.00	
2.	Fixed Cost		952,679.96
3.	Revenue:		41,652,000.00
	▪ Main product (the cows)	37,080,722.14	
	▪ Other product (manure)	419,273.46	
	▪ Labour (Cows)	4,152,004.40	
4.	Income		6,736,824.21

Table 2. The Average of Non-Beef Cattle Farmers Income

No.	Source of Income	IDR/year	Percentage (%)
1.	Food crop farming	12,749,866.67	43.36
2.	Farming plantations	3,866,000.00	13.15
3.	Livestock farm besides beef cattle	1,434,333.33	4.88
4.	State Civil	3,615,333.33	12.30
5.	Army and police	200,000.00	0.68
6.	Village officials	967,333.33	3.29
7.	Merchant	1,672,000.00	5.69
8.	Entrepreneur	4,896,666.67	16.65
	Amount	29,401,533.00	100.00

Table 3. The Effects of the Amount of Beef Cattle, Fixed Costand Variable Cost to the Beef Cattle Farmers Income.

Model	Unstandardized Coefficients		Stand. Coef.	T	Sig.
	B	Std. Error	Beta		
Constant	3209032.736	2405928.063		1.334	0.184
Number of beef cattle	13480847.551	1112147.862	0.781	12.121	0.000
	-0.077	0.949	-0.005	-0.081	0.936
Fixed cost	-0.856	0.060	-0.915	-14.375	0.000

Variable cost					
<i>Dependent Variable: Beef cattle farmers income (IDR).</i>					

**The analysis of beef cattle fattening farm income  
and its contribution to the total income of farmer household  
in Central Java Province**

**KOMENTAR/Comment Reviewer II**

**MAJOR REVISION**

**Comment:**

1. Overall this paper only "reports" the conditions of beef cattle farming in Central Java. This paper will be more interesting if it is processed into a "model", so that strategies will emerge that can be recommended to improve or improve the conditions of smallholder livestock.
2. English is still bad. The use of the word "said, told" in written language is very disturbing, as is the use of the term "cattle, cow and etc"
3. The paired t-test seems imprecise. Paired t-test is usually used for the same object / material that is treated (such as before vs after). While in this study, this does not exist (not pictured?)
4. Very poor discussion (just report the results and confirm with other references). There is no knowledge sharing "know-how". Suggestions, dismantled and rewritten in the direction of "modeling", then the influence factors will become clear and highly recommendable. The sample size is sufficient for a simple but powerful modeling process



**This manuscript is written without format of JITAA (Guide for Authors, Template for Manuscript). It should be revised.**

**THE ANALYSIS OF BEEF CATTLE FATTENING FARM INCOME AND ITS CONTRIBUTION TO THE TOTAL INCOME OF FARMER HOUSEHOLD IN CENTRAL JAVA PROVINCE**

**(Analisis Pendapatan Usaha Ternak Sapi Potong Pola Penggemukan dan Kontribusinya Terhadap Pendapatan Total Rumah Tangga Peternak di Provinsi Jawa Tengah)**

**E. Prasetyo<sup>1</sup>, T. Ekowati<sup>1</sup>, S. Gayatri<sup>1</sup>**

<sup>1</sup>Faculty of Animal and Agricultural Sciences, Diponegoro University, Tembalang Campus, Semarang 50275, Indonesia

\*Corresponding E-mail: [edyprsty@yahoo.com](mailto:edyprsty@yahoo.com)

**ABSTRACT**

Beef cattle fattening is cultivated by farmers in Central Java, but the orientation of farm has not been profit yet. The aims of this research was to analyze income from beef cattle fattening farm and its contribution to the total income of the farmer household, and to analyze the factors that influence the beef cattle farm income. The research were carried out in five regencies in Central Java Province Indonesia (Blora, Rembang, Grobogan, Wonogiri, and Boyolali). Beef cattle fattening farming system was a unit elementer. Survey was used among 150 beef cattle farmers. Multi stage quota sampling was used as sampling method. Income analysis, paired t test and multiple linear regression were used for data analysis. Based on result analysis, it found that the average beef cattle ownership in Central Java Province were 2.31 head/farmer. Most of the farmers will raised their cattle for 6.32 month/periode with total income amounted to IDR 6,736,824.21 (or equal to IDR 1,065,953.20/month) and the income of farmers from non-beef cattle farm is IDR 29,401,533.00/year (equivalent to IDR 3,516,080.95/month). The contribution of beef cattle farm income to the total income of farmers is 30.32%. Moreover, the farmers income from non-beef cattle farming activities was IDR 31,201,533.00/year (IDR 2,600,127.75/month). Based on the paired t test analysis, the contribution of beef cattle farming activities had significant different to the contribution of non-beef cattle farming activities. The farmers' income from beef cattle farming activities was lower than non-beef cattle farming activities. Hence, it need more efforts from all stakeholders to work together to improve the condition of smallholder beef cattle farming system in Central Java Province. Based on multiple linear regression analysis, that variable production costs, and the number of livestock have a significant effect on beef cattle farm income, while the fixed production costs has no significant effect.

keywords: contribution, beef cattle farm, total farmers income

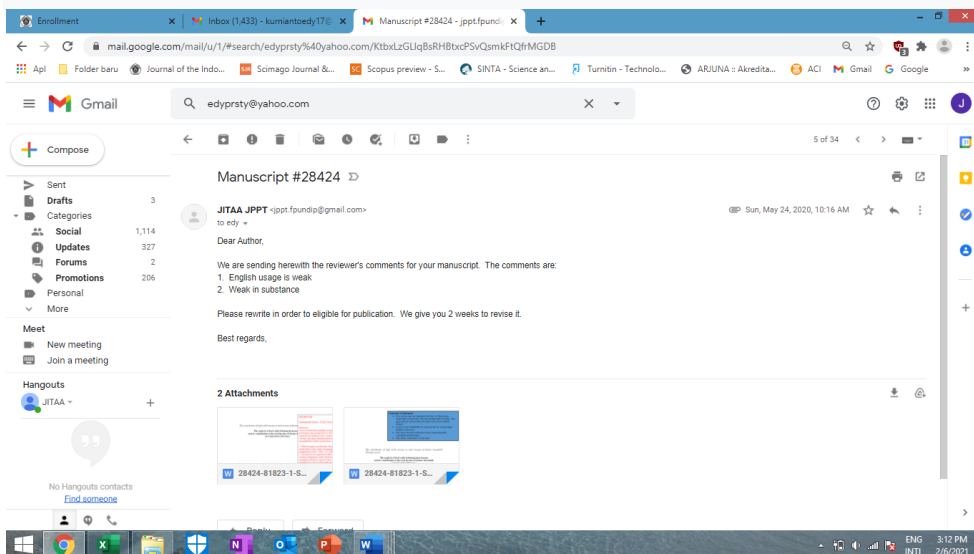
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The manuscript has received for review process but the author seems conduct the effort to improve the English writing and please write as guidelines as you can see in author guideline in the journal URL or you can click this link: <https://ejournal.undip.ac.id/index.php/jitaa/about/submissions#authorGuidelines>

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## March 25, 2020: Request for revision of the manuscript from the editor to the author



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**Comments from Rev 1 was provided,  
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*The contribution of beef cattle income to total income of farmerhousehold*

**The analysis of beef cattle fattening farm income  
and its contribution to the total income of farmerhousehold  
in Central JavaProvince**

**ABSTRAK**

Usaha ternak sapi potong pola penggemukan banyak diusahakan olehpeternak rakyat di Jawa Tengah, namun orientasi usahanya belum mengarah keprofit. Tujuan penelitian adalah menganalisis kontribusi pendapatan usaha ternaksapi potongpolapenggemukanterhadaptotalpendapatanrumahtanggapeternak,dan menganalisisfaktor-factoryangmempengaruhipendapatanusahaternaksapi potong.Penelitiandilakukanpadalimakabupatensentraproduksisapipotongdi Jawa Tengah. Penelitian dilakukan dengan metode survai, 150 sampelresponden ditentukan dnegan metode *Multi Stage Quota Sampling*. Data dianalisisdengan Analisis Pendapatan dan Regresi Linier Berganda. Hasil penelitianmenunjukkan bahwapendapatanusahaternaksapipotongsebesarRp6.736.824,21/2,31 ekor/6,32bulanatauRp1.065.953,20/bulan,danpendapatanpeternakdariluar usaha ternak sapi potong sebesar Rp 29.401.533,00/tahun atau Rp

30 3.516.080,95/bulan. Kontribusi pendapatan usaha ternak sapi potong terhadap  
31 pendapatantotalrumah tanggapeternaksebesar30,32%.Hasilujipairedttest,  
32 pendapatan peternak dari usaha ternak sapi potongberbedanyata lebihkecil  
33 dibandingkan dengan pendapatan dari luar usaha ternak sapi potong. Hasilanalisis  
34 regresilinierberganda,bahwabiayaproduksitidaktetapanjumlahternak  
35 berpengaruh terhadap pendapatan usaha ternak sapi potong, sedangkanbiaya  
36 produksi tetap tidak berpengaruh terhadap pendapatan usaha ternak sapi potong.  
37 Kata kunci: kontribusi, pendapatan total rumah tangga, usaha ternak sapi potong,.

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#### ABSTRACT

40 Beef cattle fattening is cultivated by farmers in Central Java, but the orientation of  
41 farm has not been profitable. The aims of this research was to analyze beef cattle  
42 fattening farm income and its contribution to the total income of farmer household  
43 and analyze the factors that influence beef cattle farm income. Research was carried  
44 out in five regencies in Central Java Province namely Blora, Rembang, Grobogan,  
45 Wonogiri and Boyolali. Survey was used among 150 beef cattle farmers, while  
46 multistage quota sampling was used as sampling method. Income analysis and  
47 multiple linear regression were used for data analysis. Research result showed that  
48 income of beef cattle is IDR 6,736,824.21/2.31 head/6.32 month or IDR  
49 1,065,953.20/month and income of non-beef cattle farm is IDR 29,401,533.00/year  
50 or IDR 3,516,080.95/month. The contribution of beef cattle farm to farmer's  
51 income is 30.32%. Based on the t-test, the contribution of beef cattle farming had  
52 significant difference to the contribution of non-beef cattle farming and the income

53 from beef cattle was lower than non-beef cattle. Multiple linear regression analysis  
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56 keywords: beef cattle farm, contribution, total farmer income  
57

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10 *The contribution of beef cattle in come to total income of farmer household*  
11 *(Prasetyo et al.)*

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13 **The analysis of beef cattle fattening farm income**  
14 **and its contribution to the total income of farmer household**  
15 **in Central Java Province**

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#### **ABSTRAK**

23 Usaha ternak sapi potong pola penggemukan banyak diusahakan oleh peternak  
24 rakyat di Jawa Tengah, namun orientasi usahanya belum mengarah ke profit.  
25 Tujuan penelitian adalah menganalisis kontribusi pendapatan usaha ternak sapi  
26 potong pola penggemukan terhadap total pendapatan rumah tangga peternak, dan  
27 menganalisis faktor-faktor yang mempengaruhi pendapatan usahaternak sapi  
28 potong. Penelitian dilakukan pada lima kabupaten sentra produksi sapi potong di  
29 Jawa Tengah. Penelitian dilakukan dengan metode survei, 150 sampel responden  
30 ditentukan dengan metode *Multi Stage Quota Sampling*. Data dianalisis dengan  
31 Analisis Pendapatan dan Regresi Linier Berganda. Hasil penelitian menunjukkan  
32 bahwa pendapatan usahaternak sapi potong sebesar Rp 6.736.824,21/2,31  
33 ekor/6,32 bulan atau Rp 1.065.953,20/bulan, dan pendapatan peternak dari luar  
34 usaha ternak sapi potong sebesar Rp 29.401.533,00/tahun atau Rp

35 3.516.080,95/bulan. Kontribusi pendapatan usaha ternak sapi potong terhadap  
36 pendapatantotalrumah tanggapeternaksebesar30,32%.Hasilujipairedttest,  
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40 berpengaruh terhadap pendapatan usaha ternak sapi potong, sedangkanbiaya  
41 produksi tetap tidak berpengaruh terhadap pendapatan usaha ternak sapi potong.  
42 Kata kunci: kontribusi, pendapatan total rumah tangga, usaha ternak sapi potong,.

43

#### 44 **ABSTRACT**

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59 showed that variable cost and number of livestock have a significant effect on beef  
60 cattle farm income, while the fixed cost has no significant effect.

61 keywords: beef cattle farm, contribution, total farmer income

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422 **Comment from Reviewer**

- 423 • It is not so easy to interpret the flow of discussion, especially  
424 concerning with the background of study. The gap analysis and  
425 novelty of study have to be clearly stated.
- 426 • Improve the readability of manuscript by using proper English  
427 sentences.
- 428 • Use only relevant reference from internationally reputable  
429 publications.
- 430 • See other comments in the text. Major revision is required.

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**Revisi keempat dari reviewer kedua  
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komentar secara global diberikan di akhir  
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**This is the final process of substantial review. Editor will send this to the copy editor to do the further process. However, the revision is still required and please revise as our comments.**

*The contribution of beef cattle income to total household income*

**An income analysis of beef cattle fattening system and its contribution to the total household income in Central Java Province**

**E. Prasetyo<sup>1</sup>, T. Ekowati<sup>1</sup>, S. Gayatri<sup>1</sup>**

<sup>1</sup>Faculty of Animal and Agricultural Sciences, Diponegoro University,  
Tembalang Campus, Semarang 50275, Indonesia

\*Corresponding E-mail: [edyprsty@yahoo.com](mailto:edyprsty@yahoo.com)

**ABSTRAK**

Usahaternaksapipotongpolapenggemukanbanyakdiusahakanolehpeternakrakyatdi JawaTengah,namunorientasiahanyabelummengarahkeprofit.Tujuanpenelitian adalahmenganalisispendapatanusahaternaksapipotongpolapenggemukan dan kontribusiyaterhadaptotalpendapatanrumah tanggapeternak,danmenganalisis pengaruhbiayaproduksidanjumlahternaksapipotongyangdiusahakanterhadap pendapatan usaha ternak. Penelitian dilakukan pada lima kabupaten sentra produksi sapi potong di Jawa Tengah. Penelitian dilakukan dengan metode survai sebanyak150 responden, sedangkan penentuan responden menggunakan metode *Multi Stage Quota Sampling*. Datadialisis menggunakan analisis pendapatan, paired t-test dan regresi linier berganda. Hasil penelitian menunjukkan, bahwa pendapatan peternak dari usahaternaksapi potong pola penggemukan pada skala usaha rata-rata 2,31 ekor selama satu periode penggemukan (6,32 bulan) adalah sebesar Rp6.736.824,21 (setara dengan Rp 1.065.953,20/bulan), dan pendapatan peternak yang berasal dari luar usahaternaksapi potong sebesar Rp 29.401.533,00/tahun (setara Rp 3.516.080,95/bulan). Kontribusi pendapatan usahaternaksapi potong terhadap pendapatan total rumah tanggapeternak sebesar 30,32%. Hasil uji statistik dengan *paired t test*, bahwa besarnya pendapatan peternak yang berasal dari usahaternaksapi potong secara signifikan berbeda dengan pendapatan peternak yang berasal dari luar usahaternaksapi potong, dimana pendapatan yang berasal dari luar usahaternaksapi potong lebih besar dibandingkan pendapatan usaha ternaksapi potong. Biaya produksi variabel, dan jumlah ternak berpengaruh nyata terhadap pendapatan usahaternaksapi potong, sedangkan biaya produksi tidak berpengaruh nyata.

Kata kunci: kontribusi, pendapatan, usaha ternak sapi potong

**ABSTRACT**

50 BeefcattlefatteningisraisedbyfarmersinCentralJava,howeverthefarmorientationis  
51 noteconomicallyviable.Theaimsofthisresearchweretoanalyzethefarmer'incomeof  
52 beefcattlefatteningssystemanditscontributiontothetotalhouseholdincomeandto  
53 analyze the influence of production costs and farm size toward beef cattle farincome.  
54 Research was carried out in five regencies in Central Java Province namelyBlora,  
55 Rembang,Grobogan,WonogiriandBoyolali.Surveywasusedamong150beefcattle  
56 farmers,whilemultistageclusterquotasamplingwasusedassamplingmethod.Income  
57 analysis, paired t test and multiple linear regression were used for data analysis.Research  
58 result showed that the average farm size was 2.31 head for fattening period of 6.32month  
59 aswellasincomeofbeefcattlefarmerwasIDR6,736,824.21orequaltoIDR  
60 1,065,953.20/month. Moreover, average of net income of farm households fromnon-beef  
61 cattlefarmwasIDR29,401,533.00/yearorequaltoIDR3,516,080.95/month.The  
62 contributionofbeefcattlefarmtohouseholdfarmer'sincomewas30.32%.Basedonthe  
63 paired t test, the contribution of beef cattle farming had significant different tothe  
64 contribution of non-beef cattle farming and the income from beef cattle was lowerthan  
65 non-beefcattle.Multiplelinearregressionanalysisshowedthatvariablecostandnumber  
66 oflivestockhadasignificanteffectonbeefcattlefarincome,whilethefixedcosthadno  
67 significanteffect.

68 keywords: beef cattle farm, contribution, farmer' income

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**INTRODUCTION**

72 Program Kecukupan Daging (PKD) or beef self sufficiency program isone of  
73 strategiesfromthegovernmenttoalignbetweendemandandnational supplyofmeat. Beef  
74 cattlehavebeenplayedasoneofimportantincomeforvillagersinIndonesiaaswellas  
75 family nutrient sources. Meat consumption from beef producthave been increased,  
76 howevernationalmeatproductionhasnotbeenfulfillingnationalconsumption.Aresearch  
77 by Widiati (2014) concluded that more than 90% of local beef supply comesfrom  
78 smallholderfarmingsystemwhoowned1-5headofcattle,sothegrowthoflocalbeef  
79 productionhasnotbeenabletomeetnationaldemand.Hence,therewasgabbetween  
80 supplyanddemandofbeefproduct(GayatriandVaarst,2015).Hence,itneedcollaboration  
81 effortsfromallstakeholderstoimproveproduction,marketinganddistributionofbeef  
82 production (Bamualim *et al.*,2008).

83 Beefcattlefarmingsystemhavebeenraisedbythefarmersandtheirfamilyin  
84 CentralJava,anditoccupiedbothlowlandandhighlandwithmostofthefarmershad  
85 averageof2,95head/cattle(Prasetyo*et al.*,2012).TawafandKuswaryan(2006)statedthat  
86 beef cattle smallholder farming system had low productivity with 2-4head/cattle.In  
87 addition,itisbasedontraditionalfarmingsystemreliedonfamilylabourandhavenot  
88 beenintensivelydevelopedtoimproveincome.BeefcattlepopulationinCentralJava  
89 Provincefrom2014-2018were1,937,551head/cattle,2,052,407head/cattle,1,500,077  
90 head/cattle, 1,592,638 head/cattle, and 1,628,093 head/cattle, respectively. It had average  
91 growthrateof-3.14%/yearorlowgrowthrate(OfficeofAnimalHusbandryandAnimal  
92 Health,CentralJavaProvince,2015).Farmers'orientationinbeefcattleproductionssystem  
93 wasassideincomewithpoormanagementpracticesandresourcesallocationalsohavenot  
94 been optimally allocated. Farmers have not been thinking about commercialfarming  
95 (Prasetyo *et al.*, 2006). Meanwhile Putri *et al.* (2014) stated that efforts to increasebeef  
96 cattle business production and increase farmers' income can be done with theagribusiness  
97 system.Farmersfacedproblemrelatedtolowaccesstoproductionprocess(marketing,  
98 credit,genetics)(Schimmelpennig*et al.*,2006).Thisconditiongaveeffectsonlowincome  
99 and economic efficiency of production (Dzanja *et al.*,2013).

100 The aims of this research were to analyze the farmer's income of beef cattle  
101 fattening system and its contribution to the total household income and to analyze the  
102 influence of production costs and farm size toward beef cattle farm income. The result of  
103 the study can be used for decision makers to improve productivity of smallholder farming  
104 system and the development of knowledge related with social economic factors.

394 **Notification to author :**

- 395 1. This is final step of review and editor will assign to copy editing process,  
396 however the manuscript should be written as guideline and please see further  
397 inquiry as our comment
- 398 2. The submission should be conducted within 14 weeks otherwise the manuscript  
399 should be resubmitted as new article
- 400 3. Please provide the revised manuscript through online system using journal URL  
401 or send by email to editor
- 402 4. If you have any inquiries regarding this manuscript or editor comments, please  
send us e

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Best regards,

Yours

The recommendations of the article are removed to avoid nuance of research imperfection.



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