

PAPER • OPEN ACCESS

Analysis of organic rice farming contribution to farmer household income in Andong Village, Boyolali Regency

To cite this article: Suswadi *et al* 2021 *IOP Conf. Ser.: Earth Environ. Sci.* **905** 012078

View the [article online](#) for updates and enhancements.

You may also like

- [Competitive and comparative advantages analysis of organic rice farming in Sumberjambe sub-district Jember regency](#)
L E Widyatami, D K Wardani and A A Wiguna
- [Environmental efficiency of semi-organic rice farming in Bantul Regency](#)
N Rahmawati and Sriyadi
- [Technical efficiency of organic rice farming in Ngawi Regency \(The case of the Komunitas Ngawi Organic Center\)](#)
R Krisdiyanto, M Harisudin and H Irianto

PRIME
PACIFIC RIM MEETING
ON ELECTROCHEMICAL
AND SOLID STATE SCIENCE

HONOLULU, HI
Oct 6–11, 2024

Abstract submission deadline:
April 12, 2024

Learn more and submit!

Joint Meeting of
The Electrochemical Society
•
The Electrochemical Society of Japan
•
Korea Electrochemical Society

Analysis of organic rice farming contribution to farmer household income in Andong Village, Boyolali Regency

Suswadi*, A S Vinolia, A Prasetyo, R D Kartikasari, and Mahananto

Agribusiness Study Program, Faculty of Agriculture, Tunas Pembangunan University.
Jl. Balekambang No. 01 Manahan, Surakarta, Central Jawa, Indonesia

Correspondent author: suswadi_slo@yahoo.com

Abstract. This study was aimed to determine the income of organic rice farming in Andong Village, Boyolali Regency, and find out how much organic rice farming contributes to household income. The location was determined purposively and sampling was done by random method. Data were analyzed on farm income, non-farming income, and the contribution of organic rice farming to family income. The result of this study shows that the contribution of organic rice farming to farmer household income is 65.45%, while income generated from other job is only contribute to 34.55%. According to the analysis, it can be concluded that rice organic farming is feasible to be applied and resulting better income to the farmer.

1. Introduction

The agricultural sector in Indonesia is considered important in encouraging national economic development since the agricultural sector has become an important sector in national economy. The sector has growth around 0.26%. The potential for natural resources is large and diverse, indicating that the agricultural sector has bright prospects. The Indonesian population, who mostly work in the agricultural sector, can take advantage of the existing potential to be developed [1].

The agricultural sector has important role in the nation's economic recovery and long-term economic development, due to able to absorbs more labor compared to the other sectors. In 2018, the number of people who work in agricultural sector is 35,703,074 out of 124,004,950 [2]. The agricultural sector consists of several sub-sectors, namely the food crops, horticulture, plantation, fishery, livestock, and forestry sub-sectors. The increasing demand for food encourages agricultural people to increase crop productivity and develop food diversity. However, people do not realize that the unwise use of inorganic fertilizers and inorganic pesticides will result in the changes of environmental balance which could harm the human life. Based on these conditions, humans are trying to find good farming techniques that are safer for both environment and humans, and the choice is organic farming systems.

Organic farming is a model of sustainable agricultural system to increase long-term production that is sustain and in harmony with nature. Recognition of the importance of developing organic agriculture has been stated in the Revitalization of Agricultural Development launched by President Susilo Bambang Yudhoyono in August 2005 [3]. According to Prihandarini [4], organic farming is part of the latest efforts to promote a socially and ecologically sustainable agricultural system. It is a holistic system in which production management aims to improve the health of agroecosystem,



including biodiversity, biological cycles, and soil biological activities to optimize crop production. Moreover, this farming system is belonged to agricultural businesses which has important role in supporting the national economy. In addition, organic farming is also very supportive to environmental conservation and can minimize the negative impact of global warming. One of the most important organic farming businesses is organic rice farming [5]. According to the National Standardization Agency [6], organic is as system that produce a product under standard organic system and certified by an accredited organic certificate agency. Paddy is a food crop that produces rice as a staple food for most Indonesia people.

Andong Village is one of the villages in Andong District, Boyolali Regency which has potential for rice cultivation. This area has large land, good climatic conditions, as well as labor resources that are quite a lot to support rice farming. In 2018, the Community Development farmer group in Andong Village received the organic certificate from the LESOS organic food certification agency. This certification is a third-party who guaranteed system that has been regulated in the Minister of Agriculture Regulation in 2016. Certified organic farming is an innovation for farmers in this area, therefore, Andong Village, has potential for the development of organic agriculture because of it natural resources and fertile land. Next, the organic system can be the source of income for the farmer. From the description above, the aim of the study is to investigate the amount of income from organic rice farmers and how much its contribution to the household income in Andong Village, Andong District, Boyolali Regency.

2. Research methods

The method of this study is descriptive-analytical, and location was determined purposively in the Community Development Farmers Group, Andong Village, Andong District, Boyolali Regency. Data analysis of income was done as demonstrated in previous study [6], that are income is the difference between total revenue (TR) and total cost (TC), and expressed by the following formula:

$I = TR - TC$ Information

I (Income) = farm income (IDR)

TR (Total Revenue) = total farm revenue (IDR)

TC (Total Cost) = total cost of farming (IDR)

Farming contribution analysis

The contribution formula according to Suratiah [7] to find out the contribution of lowland rice farming, use the formula:

Contribution = (organic rice farming income) / (total family income) × 100%

3. Results and discussion

3.1. Organic rice farming income, total cost

The total cost of the production process is the sum of fixed costs with variable costs. Details of the total cost of organic rice farming in the Community Development Farmer Group of Andong Village, Andong District, Boyolali Regency was tabulated in Table 1.

Table 1. Details of the total cost of organic rice farming

No	Description	Per farm (0.34 ha) In IDR	Per hectare (IDR)
1	Fees paid		
a.	Production facilities	442,181.25	1,300,533.09
b.	Labor costs outside the family	1,562,000.00	4,594,117.65
c.	Fixed costs	57,190.87	145,636.61
	Total fees paid	2,061,374.12	6,040,287.35
2	Fees paid		
a.	Labor costs in the family	961,000.00	2,238,235.29
b.	Manure I	458,166.67	1,347,549.02
c.	Manure II	229,083.33	673,774.51
	Total costs not considered	1,648,250.00	4,259,558.82
	Total cost	3,709,624.12	10,299,846.17

Farming revenue is the result of selling organic rice prices multiplied by the amount of production. The average production and acceptance of organic rice farming in the Community Development Farmers Group of Andong Village, Andong District, Boyolali Regency can be seen in Table 2, and income revenue can be obtained by subtracting the income from the costs paid as shown in Table 3.

Table 2. The result of selling organic rice prices multiplied by the amount of production

No	Description	Per farm (0.34 ha)	Per hectare
1	Organic rice production price (IDR)	4,500/Kg	4,500/Kg
2	Total organic rice production (Kg)	2,210.03	6,500.09
Total Revenue (IDR)		9,945,150.00	29,250,441.18

Table 3. Income Revenue can be obtained by subtracting the income from the costs paid

No	Description	Per farm (0.34 ha)	Per hectare
1	Total revenue (IDR)	9,945,150.00	29,250,441.18
2	Total fees paid (IDR)	2,061,374.12	6,040,287.35
Total Revenue (IDR)		7,883,775.88	23,210,153.83

3.2. Cattle livestock as income outside organic rice farming

Cattle livestock is animals reared to support family needs. In the current study, the average cattle ownership is 2 cows/farmer. Income is obtained from total revenue minus the total costs incurred for 3 months of raising cattle. The amount of livestock income is influenced by the amount of revenue and costs. Total income from livestock sector is summarized in Table 4.

Table 4. Income is obtained from total revenue minus the total costs incurred for 3 months of raising cattle

No	Description	Per 2 cows	Per cow
1	Total revenue (IDR)	31,800,000.00	20,739,130.43
2	Total fees paid (IDR)	30,768,066.67	20,066,130.43
Total income (IDR)		1,031,933.33	637,000.00

Farmers in the study area also have side jobs, namely as builders, traders, and others. This job was practiced in the aim to increase the household income. Total income outside of organic rice farming in this study is all income received by respondents within one season of organic rice planting and expressed in IDR (Table 5).

Table 5. Total income outside of organic rice farming in this study

No	Source of Income	Income per month (IDR)	Income for 3 months (IDR)	Percentage
1	Livestock income	343,977.77	1,031,933.33	24.78%
2	Side income	1,043,944.45	3,131,833.33	75.22%
Total		1,387,922.22	4,163,766.66	100%

3.3. Contribution of organic rice farming to household income

The contribution referred in this study is the contribution of organic rice farming carried out in the research area using 30 farmers as sample who work as organic rice farmers. The result is presented in Table 6.

Table 6. The contribution referred to in this study is the contribution of organic rice farming

No	Source of Income	Amount (IDR)	Contribution (%)
1	Organic rice farming income	7,883,775.88	65.45%
2	Income outside organic rice farming	4,163,766.66	34.55%
Total revenue		12,047,542.54	100%

Based on the description above, it can be concluded that organic rice farming in the Community Development Farmers Group in Andong Village, Andong District, Boyolali Regency is feasible because it shows a contribution to a household income of 65.45%. This income used by farmers to fulfill the family needs, such as the cost of daily meals, children's school fees, etc. While income outside of farming activities only contributes 34.55% to household income. This because farmers were more focused on organic rice farming than the side job outside of agriculture sector.

4. Conclusion

Based on this study, it can be concluded that organic rice farming has 65.45% to household income, while the side job outside of agriculture sector is only contribute 34.55%. The organic rice farming in the current study is feasible to be applied, and the result measured in income is able support family needs.

References

- [1] Hasanah P N, Mahananto and Prasetyo A 2020 *Jurnal Ilmiah Agrineca* **20** 77–87
- [2] BPS 2019 *Statistics Indonesia 2019* (Jakarta: Badan Pusat Statistik)
- [3] Chouichom S and Yamao M 2010 *Journal of Organic Systems* **5** 25–35
- [4] Prihandarini R 2009 *Potential of organic farming In: Indonesian organic farmer field gathering* (Boyolali, Indonesia: Jamboree Organic Farmers)
- [5] Hildayani R, Raul R A and Sulaeman 2013 *e-Journal Agrotekbis* **1** 485–92
- [6] National Standardization Agency [BSN] 2013 *Sistem Pertanian Organik SNI 01-6729-2013 (Organic Farming System SNI 01-6729-2013)* (Indonesia: Badan Standardisasi Nasional)
- [7] Suratiyah K 2011 *Farming Science* (Jakarta: Self-Help Spreader)