International Journal of Technology and Education Research

https://e-journal.citakonsultindo.or.id/index.php/IJETER

E-ISSN: 2986-0733

The Contribution of Red Onion Farming to Farmers' Income in Tampabulu Village, North Poleang Subdistrict, Bombana Regency

Anisah[1], Azhar Bafadal[2], Samsul Alam Fyka[3]

[1] Alumnus of Agribusiness, Faculty of Agriculture, Halu Oleo University, Kendari City, Indonesia
[2] Lecturer, Faculty of Agriculture, Halu Oleo University, Kendari City, Indonesia

Corresponding Author: anisahnisah174@gmail.com

Abstract

This research was motivated by the challenges faced by shallot farming in Tampabulu Village, North Poleang District. These challenges include a longer cultivation time and increased labor costs due to seeding, transplanting, and preventing Fusarium wilt during the rainy season. These factors influence productivity and income, prompting farmers to seek income sources other than shallots. Based on these conditions, this study aims to analyze the contribution of shallot farming to farmers' incomes, the extent to which these farms support their economic needs, and their relative importance compared to other sources of income. The research location was purposively selected based on the consideration that Tampabulu Village relies on shallot farming as its primary source of income. The number of respondents in this study was 12 shallot farmers. Data analysis used income analysis and farm income contribution. The results showed that shallot farming requires production costs of Rp21.107.472 per planting season, with income obtained of Rp115.017.528 per season. Income from shallot farming provides a high contribution to the total income of farmers by 82 %, which means that shallot farming is one of the main sources in supporting the economic needs of farmers in Tampabulu Village

Keyword: ***Production Costs, Income, Contribution, Red Onions***

INTRODUCTION

From an agronomic perspective, shallots are a crop that requires specific environmental conditions for optimal growth, such as fertile, loose, humus-rich soil, as well as temperatures ranging from 25–32°C with sunlight intensity of around 70% (Asaad, 2016). Shallot cultivation can be carried out using two types of planting materials, namely bulbs and botanical seeds or

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

True Shallot Seeds (TSS). The use of TSS offers several advantages, including cost efficiency, freedom from diseases—particularly viruses—and the production of bulbs with better quality and higher yield potential compared to bulb seeds (Permadi, 1993; Putrasamedja & Permadi, 1995). However, the adoption of TSS among farmers remains relatively low due to limited knowledge and technical skills.

Despite its great potential, red onion production in Indonesia still faces various challenges. Seasonal production leads to supply instability, meaning domestic demand remains unmet and the country still relies on imports. Data indicates that Indonesia continues to import tens of thousands of tons of red onions to meet domestic needs (Nurhaedah et al., 2023). Additionally, national red onion productivity remains relatively low and has not yet reached its optimal potential of over 20 tons/ha. This decline in productivity is influenced by various factors such as declining soil fertility, climate change, pest and disease outbreaks, and the use of low-quality seeds (Ministry of Agriculture, 2020; Adam et al., 2021).

At the regional level, particularly in Southeast Sulawesi Province, shallot production shows significant fluctuations across regions and years. Bombana Regency, as one of the production centers, has experienced production dynamics, reaching 399 quintals in 2021, declining in 2022, and rising again in 2023 to 455 quintals (BPS Southeast Sulawesi, 2023). This situation indicates that shallot production remains unstable, necessitating efforts to improve agricultural productivity and efficiency.

In addition to production factors, the economic aspects of farming are also a major concern. Red onion farmers' income is heavily influenced by their ability to manage production factors efficiently, including the use of fertilizers, labor, and cultivation technologies. The use of organic fertilizers, such as manure, is known to enhance soil fertility and crop productivity because they contain the macro- and micronutrients required by plants (Suswadi & Prasetyo, 2022). Consequently, increased productivity is expected to lead to higher income and improved farmer welfare.

On the other hand, red onion farmers also face various technical challenges in the cultivation process, such as the length of the production cycle, high labor requirements, and plant disease outbreaks like Fusarium wilt (*Fusarium oxysporum*), which can significantly reduce crop yields. These conditions necessitate innovations in cultivation technology, efficient farm management, and integrated pest and disease control strategies to ensure sustainable production.

Previous studies have shown that red onion farming contributes significantly to farmers' household income. Oktafiani's (2022) study in Grobogan Regency showed that red onion

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

farming contributes 60.33% to farmers' household income. Similar findings were reported by Sakinah et al. (2021) in Enrekang Regency, where red onion farming's income contribution ranged from 70.51% to 80.35%. Meanwhile, Dahlianawati et al. (2020) found that red onion farming is viable, yielding income higher than the minimum wage and a B/C ratio exceeding one. Another study by Puspitawati et al. (2019) added that household income ( ) and family size influence household well-being, while economic pressure has a negative impact.

Nevertheless, these studies were generally conducted in regions with socioeconomic and agroecological characteristics different from those of Tampabulu Village, Poleang Utara Subdistrict, Bombana Regency. Therefore, research specifically examining the contribution of shallot farming to farmers' income in this region is needed. This study is important to determine the extent to which red onion farming supports farmers' household economies, as well as to serve as a basis for formulating more effective agricultural development policies and strategies.

Thus, this study focuses on analyzing the contribution of shallot farming to farmers' income in Tampabulu Village, North Poleang Subdistrict, Bombana Regency, to provide an empirical picture of the role of this commodity in improving farmers' welfare.

METHOD

This study was conducted in Tampabulu Village, North Poleang Subdistrict, Bombana Regency, which was selected through purposive sampling because it is an area that applies plastic mulch technology in shallot cultivation as a source of farmers' income, with the research period running from December 2024 to September 2025. The study population consisted of all 12 red onion farmers, who were simultaneously used as the sample via a saturated sampling technique (census) due to the relatively small population size. The data used were quantitative, sourced from both primary and secondary data; primary data were obtained through direct interviews and field observations, while secondary data were derived from literature and relevant agencies. Data collection techniques included observation, structured interviews using a questionnaire, and documentation to ensure the completeness of the research data.

According to Soekartawi (2006), the income derived from red onion sales can be calculated using the formula:

$$Pd = TR - TC$$

$$TR = P - Q$$

$$TC = FC + VC$$

Notes:

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

Pd : Onion Farming Income (Rp/ha/growing season)
TR : Total Revenue (Rp/ha/growing season)
TC : Total Costs (IDR/ha/growing season)
P : Production Price (Rp/kg)
Q : Production Volume (kg/ha/growing season)
FC : Fixed Costs (Rp/ha/growing season)
VC : Variable Costs (Rp/ha/growing season)

To analyze costs, the following formula can be used:

$$TC = FC - VC$$

Notes:
TC : Total Cost (Rp/ha/growing season)
FC : Fixed Costs (Rp/ha/growing season)
V C : Variable Cost (Rp/ha/growing season)
Meanwhile, to analyze revenue, the following formula can be used:

$$TR = P\ x\ Q$$

Note:
TR : Total Revenue (IDR/ha/growing season)
P : Production Cost (IDR/kg)
Q : Red Onion Farm Production (kg/ha/growing season)

To calculate the contribution of red onion farming income, use the following formula:

$$\text{Kontribusi } \% = \frac{\text{Pendapatan Petani Bawang Merah}}{\text{Total Pendapatan Petani Bawang Merah}} \times 100\%$$

RESULTS AND DISCUSSION

An analysis of production costs and income from red onion farming is used to determine the extent of production costs incurred by farmers. This analysis also aims to determine the income generated from this intercropping system.

Production Costs

The production cost analysis in this study was used to determine the efficiency of input use and the amount of expenditures incurred during the production process of the corn and

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Technology and Education Research

https://e-journal.citakonsultindo.or.id/index.php/IJETER

E-ISSN: 2986-0733

groundnut intercropping system. Production costs in this study are divided into two categories: *fixed costs* and *variable costs*.

Table 1. Average Total Production Costs of Red Onion Farming in Tampabulu Village, Poleang Utara Subdistrict, Bombana Regency, in 2025

No	Description	Per Farm (IDR/farm/growing season)
1	Fixed Costs	4,111,806
2	Variable Costs	16,995,667
Total		21,107,472

Based on Table 1 regarding total production costs, it can be seen that the total production cost of shallot farming in Tampabulu Village for one growing season is Rp21,107,472 per farm. The largest average cost incurred is the variable cost of Rp16,995,667 per farm. The amount of these variable costs is influenced by the volume of production; the higher the production volume, the greater the variable costs that must be incurred by farmers cultivating red onions, whereas fixed costs remain constant and are not affected by production volume. Fixed costs must still be paid even if production volume changes, such as equipment depreciation.

Income

Income from red onion farming in this study refers to the profit or earnings obtained by farmers from this farming activity. This farming income is calculated by subtracting total costs incurred in operating the red onion farm from total revenue received.

Table 2. Average Total Revenue from Red Onion Farming in Tampabulu Village, Poleang Utara Subdistrict, Bombana Regency, in 2025

Production (kg/farm/growing season)	Price (Rp/kg)	Revenue (Rp/farm/growing season)
6,000	22,917	136,125,000

Table 2 shows that the average red onion production reaches 6,000 kg per farm at an average price of Rp22,917 per kg, resulting in total farmer revenue of Rp136,125,000 per farm per growing season. Production volume is influenced by the area of cultivated land; the larger the area, the greater the potential yield, especially when supported by good management and adequate use of production inputs. Additionally, farmers' income is influenced by the form and

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Technology and Education Research

https://e-journal.citakonsultindo.or.id/index.php/IJETER

E-ISSN: 2986-0733

timing of crop sales, which are typically sold while still attached to the plant after harvesting. Sales decisions are not solely determined by market prices but also by time constraints and labor shortages during harvest, as well as urgent cash needs, leading farmers to sell their crops sooner even if prices are not yet optimal.

Table 3. Average Farm Income from Red Onion Production in Tampabulu Village, Poleag Utara Subdistrict, Bombana Regency, in 2025

No	Description	Per Farm (IDR/farm/growing season)
1	Average Revenue	136,125,000
2	Average Total Costs	21,107,472
Average Revenue		115,017,528

Table 3 shows that the revenue from shallot farming in Tampabulu Village during a single growing season reached Rp115,017,528 per farm, derived from average revenue of Rp136,125,000 and average total costs of Rp21,107,472 per farm. The amount of income is not only determined by high revenue but is also influenced by the amount of production costs incurred; thus, efficiency in cost management is a critical factor for increasing profits. In practice, farmers in Tampabulu Village frequently employ non-family labor, which contributes to higher production costs, with these labor costs included in the total farm operating expenses.

Non-Red Onion Farming Costs

Every farming operation inevitably incurs costs to support its activities; these costs consist of fixed and variable costs. Non-shallot farming is undertaken by shallot farmers, with 9 out of 12 surveyed farmers engaging in this practice. To support their farming, particularly chili farming in , farmers require variable costs for chili, which include seeds, fertilizer, pesticides, and labor, while fixed costs include tractors, cultivators, lawn mowers, and tanks. To understand the total cost of chili more clearly, refer to Table 4

Table 4. Average Costs for Chili Peppers in Tampabulu Village, Poleang Utara Subdistrict, Bombana Regency, in 2025

No	Description	Per Farm (IDR/Farm/Growing Season)
1	Variable Costs	
	Seeds	357,143
	Fertilizer	440,714

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Technology and Education Research

https://e-journal.citakonsultindo.or.id/index.php/IJETER

E-ISSN: 2986-0733

	Pesticides	873,571
	Labor Costs	1,874,286
2	Fixed Costs	
	Cultivation	707,143
	Lawn Mower	32,143
	Tank	134,524
3	Total Cost	
	Fixed Costs	873,810
	Variable Costs	3,545,714
Total		4,419,524

The data in Table 4 shows that the costs for chili peppers—specifically the total variable costs per farm—average Rp3,545,714 per farm, with total fixed costs of Rp873,810 per farm, and an average total cost of Rp4,419,524 per farm. Regarding variable costs, the largest expense is labor costs, amounting to Rp1,874,286. The magnitude of labor costs in chili farming is influenced by land area. The larger the cultivated land area, the more labor is required, which directly impacts the increase in total variable costs.

Differences in variable costs among respondents are primarily due to variations in the land area they manage. Larger plots require more production inputs, such as seeds, fertilizers, pesticides, and other production labor. This causes total variable costs to rise as the scale of farming operations increases.

Table 5. Average Costs for Rice in Tampabulu Village, North Poleag Subdistrict, Bombana Regency, 2025

No	Description	Per Farm (IDR/Farm/Crop Season)
1	Variable Costs	
	Fertilizer	3,025,000
	Pesticides	1,640,000
	Labor Costs	5,500,000
2	Fixed Costs	
	Tractor	714,286
	Tank	162,500
3	Total Cost	
	Fixed Total Cost	876,786

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Technology and Education Research

https://e-journal.citakonsultindo.or.id/index.php/IJETER

E-ISSN: 2986-0733

	Total Variable Cost	10,165,000
Total		11,041,786

The data in Table 5 shows that the costs for rice cultivation—specifically the total variable costs per farm—average Rp. 10,165,000 per farm, with total fixed costs of Rp. 876,786 per farm, and an average total cost of Rp. 11,041,786 per farm. The highest cost is labor during cultivation due to the large land area, meaning that every cultivation process requires labor costs, while the lowest cost is for the tank at Rp. 325,000 because farmers only own one tank and prefer to hire labor for land management and sowing, resulting in higher labor costs.

Income and Revenue from Non-Red Onion Farming

Non-shallot income refers to the gross income received by farmers who have engaged in agricultural activities other than shallot farming. Meanwhile, non-shallot agricultural income refers to the net income received by farmers from non-shallot agricultural activities, namely chili peppers and rice, where the income has been reduced by costs incurred during the cultivation period.

Table 6. Average Farmer Income from Chili Peppers and Rice in Tampabulu Village, Poleang Utara Subdistrict, Bombana Regency, in 2025

No	Description	Production (kg/farm/growing season)	Price (Rp/kg)	Income (Rp/farm/growing season)
1	Chili	457	40,000	18,285,714
2	Rice	3,465	6,500	22,522,500

The data in Table 6 shows that chili pepper revenue was obtained from 7 respondents who cultivated chili peppers with a production of 457 kg/farm/growing season at a price of Rp.40,000/kg, resulting in total revenue of Rp.18,285,714 per farm, and rice income was derived from a total of 2 farmer respondents who cultivated rice with a production of 3,465 kg/farm/growing season at a price of Rp. 6,500/kg, resulting in an average total income of Rp. 22,522,500 per farm. The amount of production is influenced by the area of land cultivated; the larger the land area, the greater the potential yield, especially when supported by good management and adequate use of production inputs. Land area is a critical factor as it determines the number of plants that can be cultivated, thereby directly affecting the harvest yield

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Technology and Education Research

https://e-journal.citakonsultindo.or.id/index.php/IJETER

E-ISSN: 2986-0733

Table 7. Average Income from Chili Peppers and Rice in Tampabulu Village, Poleang Utara Subdistrict, Bombana Regency, 2025

No	Description	Per Farm (IDR/Farm/Growing Season)	
		Chili	Rice
1	Revenue	18,285,714	22,522,500
2	Total Expenses	4,419,524	11,041,786
3	Revenue	13,866,190	11,480,714
4	Total Non-Onion Revenue	25,346,905	

The data in Table 7 shows that in Tampabulu Village, chili pepper revenue was generated by a total of 9 farmers who cultivated 457 kg of chili peppers per growing season at a price of Rp. 40,000 per kg, resulting in total chili pepper revenue of Rp. 18,285,714 per farm, and total costs amounting to Rp.4,419,524 per farm, resulting in an average total income from chili peppers of Rp.13,866,190 per farm. Meanwhile, rice income is derived from a total of 2 farmers cultivating rice, with a production of 3,465 kg at a price of Rp. The average total income from rice was Rp.6,500 per kg, resulting in chili income of , totaling Rp.22,522,500 per farm, with total costs of Rp.11,041,786 and total revenue of Rp.11,480,714. The average combined income from chili and rice was Rp.25,346,905 per farm. Farmers in Tampabulu Village employ non-family labor in their farming operations, which affects production costs. Labor costs in this study were included in the production cost calculations.

Analysis of the Contribution of Red Onion Farming Income to Farmers' Income

Income from farming activities is a key component of the rural economy. The red onion farming system is a common strategy used to increase production. By understanding the contribution of income generated from these activities, one can appreciate the vital role of the agricultural sector in supporting farmers' well-being and meeting their daily needs.

Farmers in Tampabulu Village do not rely solely on income from red onion farming to sustain their livelihoods; they also depend on non-red onion farming income sources. The non-red onion farming income sources referred to in this study are the income farmers earn from activities other than red onion farming. The income farmers earn comes not only from red onion farming but also from non-red onion farming activities that are still related to the agricultural sector.

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Technology and Education Research

https://e-journal.citakonsultindo.or.id/index.php/IJETER

E-ISSN: 2986-0733

Table 8. Contribution of Onion Farming Income to Farmers' Income in Tampabulu Village, North Poleang Subdistrict, Bombana Regency, in 2025

No	Income Source	Income (Rp)	Contribution (%)
1	Onion Farming	115,017,528	82
2	Non-Red Onion Farming	25,346,905	18
Total		135,021,655	100

Table 8 shows that the contribution of shallot farming to the total income of farmers in Tampabulu Village during the 2025 growing season reached 82%, with an average income of Rp115,017,528 per farm. Meanwhile, the contribution from non-red onion farming was only 18% with an average income of Rp25,346,905, bringing the total farmer income to Rp135,021,655 per farming h . This high contribution indicates that red onion farming is the primary source supporting the economy of farmers in Tampabulu Village. These results align with Ekaria's (2018) study, which found that red onion farming contributes 61.66% to farmers' socioeconomic conditions, as well as Lestari et al.'s (2024) study, which indicates that red onion farming is viable with an R/C Ratio of 2.36 for cash costs and 1.30 for total costs.

Furthermore, the study by Prasetyo et al. (2025) reinforces these findings by showing that red onion farming has a very high level of viability with an R/C Ratio of 6.00, meaning that every Rp1.00 in production costs generates Rp6.00 in revenue. This success is influenced by fertilization efficiency and the optimization of labor use, which directly impact increased productivity and profits. Based on the criteria of Fauziah and Soejono (2019), a contribution of 82% falls into the high category (Pa > 70%), confirming that shallot farming plays a very important role and is even the primary source of income for farmers, particularly for those with limited access to income sources outside the agricultural sector.

CONCLUSION

Based on the research findings regarding red onion farming in Tampabulu Village, Poleang Utara Subdistrict, Bombana Regency during the 2025 growing season, it can be concluded that red onion farming requires an average production cost of Rp21,107,472 per growing season per farm, with an average income of Rp115,017,528. This income contributes significantly to farmers' total income, amounting to 82%, indicating that red onion farming is the primary source of support for the economic needs and well-being of farmers in the region.

Based on the research findings regarding the contribution of red onion farming in Tampabulu Village, Poleang Utara Subdistrict, Bombana Regency, it is recommended that

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

farmers continue to increase production since this farming activity has proven to significantly contribute to income, by adopting more efficient cultivation techniques, selecting high-yielding varieties, and managing land optimally. Furthermore, future researchers are encouraged to expand the study by analyzing external factors influencing the success of red onion farming, such as climate change, market access, and institutional support, as well as examining the long-term socioeconomic impacts on the well-being of farmers and the surrounding community.

REFERENCE

Adam TF, AM K, Millah Z. 2021. Respons Hasil Varietas Bawang Merah (*Allium Ascalonicum L.*) Asal Biji (*True Shallot Seed*) Terhadap Tingkat Konsentrasi Pupuk Majemuk Berteknologi Nano pada Berbagai Varietas. *Jurnal Ilmu Pertanian Tirtayasa*. *3*(2): 351–362.

Asaad M, Tenggara S. 2016. Uji Adaptasi Empat Varietas Bawang Merah di Kabupaten Kolaka Timur , Sulawesi Tenggara The Adaptation Of Four Shallot Varieties In East Kolaka District, Southeast Sulawesi . The Komoditas Utama Bernilai Ekonomi Tinggi , Daya Adaptasinya Yang Luas. 89, 243–252.

Badan Pusat Statistik. 2021. Statistik Produksi Tanaman Hortikultura di Provinsi Sulawesi Tenggara Tahun 2021. Badan Pusat Statistik Provinsi Sulawesi Tanggara

Badan Pusat Statistik. 2022. Statistik Produksi Tanaman Hortikultura Provinsi Sulawesi Tenggara Tahun 2022. Badan Pusat Statistik Provinsi Sulawesi Tanggara

Badan Pusat Statistik. 2023. Statistik Produksi Tanaman Hortikultura Provinsi Sulawesi Tenggara Tahun 2023. Badan Pusat Statistik Provinsi Sulawesi Tanggara

BPS Sulawesi Tenggara 2015. Sulawesi Tenggara dalam Angka 2010.

Dahlianawati D, Sofyan S, Jakfar F. 2020. Analisis Pendapatan Usahatani Bawang Merah (*Allium ascalonicum L.*) di Kecamatan Banda Baro Kabupaten Aceh Utara. *Jurnal Ilmiah Mahasiswa Pertanian*. 5(4): 31–44.

Fauziah FR & Soejono D. 2019. Analisis Pendapatan Usahatani Jamur Merang dan Kontribusinya Terhadap Pendapatan Rumah Tangga Petani di Kelurahan Sempusari Kecamatan Kaliwates Kabupaten Jember. *SEPA: Jurnal Sosial Ekonomi Pertanian Dan Agribisnis*. 15(2): 172–179.

Herien Puspitawati, Artika Chandra Julian Putri, Anadia Titipani, M. N. K. (2019). *Dan Keluarga Buruh Tani Bawang Merah Women ' s Economic Contribution , Economic Pressure , and Family Welfare of Fisherman ' s and Onion Farm Laborer's Families Abstract*. *12*(2): 87–99.

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.

Nurhaedah N, Irmayani I, Ruslang R, Jumrah J. 2023. Analisis Pendapatan dan Tingkat Kesejahteraan Rumah Tangga Petani Bawang Merah di Kelurahan Mataran Kecamatan Anggeraja Kabupaten Enrekang. *Jurnal Ilmiah Pertanian Dan Peternakan*. 1(1): 9–18.

Oktafiani, V. T. (2022). Contribution of Shallot Farming To Farmer's Household Income. *Ekonomi Pertanian dan Agribisnis (JEPA)*. 6(1): 142–153.

Oktaviani, Setiawan R, Irawati H, Hatta D, Suryaningsih, Masniah A. 2024. Analisis Pendapatan Industri Rumah Tangga Keripik di Kota Tarakan. *Jureka: Jurnal Ekonomi Pembangunan.* 3(1): 176-199.

Permadi, AH 1993, Growing Shallot from True Seed. Research Results and Problems. *Onion Newsletter for the Tropics. NRI. Kingdom*. 5: 35–8

Soekartawi. 2006. *Analisis Usahatani*. Jakarta. UI Press.

Soekartawi. 2010. *Agribisnis: Teori dan Aplikasinya*. Jakarta. PT Raja Grafindo Persada.

Sakinah S, Rosada I, Amran FD. 2021. Kontribusi Pendapatan Usahatani Bawang Merah Terhadap Pendapatan Rumah Tangga Petani di Kabupaten Enrekang. *Wiratani: Jurnal Ilmiah Agribisnis*. 4(1): 70.

Copyright to the author of some rights reserved This work is licensed under aCreative Commons Attribution-ShareAlike 4.0 International License.