



## Feasibility Analysis of Superior Local Commodity Agroindustry to Increase Farmers' Income Around Forests

Sri Jumiyati

Magister of Agricultural Sciences, Postgraduate, University of Muhammadiyah Palu, Jl. Rusdi Toana No. 1 Palu, Central Sulawesi, Indonesia

---

### Article Info

#### Article history:

Received 27 Sep, 2025

Revised 24 Oct, 2025

Accepted 29 Oct, 2025

---

#### Keywords:

Feasibility; Local Commodity;  
Agroindustry; Farmers Income;  
Around Forests

---

### ABSTRACT

The production of shallots is abundant at certain times, namely during the harvest, causing the price of shallots to be relatively cheap and conversely at a time when shallot production decreases, the price is relatively high. This study aims to find out the non-financial aspects as well as analyze the financial aspects of the local Palu fried onion processing business. The determination of the local fried onion agroindustry in Palu is carried out purposively, while the selection of respondents of business actors/farmers is carried out by census with saturated samples because it involves all members of the group totaling 20 people. The data analysis methods used in this study are qualitative analysis and quantitative analysis. Qualitative analysis was used to find out the general picture of the Palu fried onion agroindustry from non-financial aspects related to business profiles and processing processes which were then described descriptively. Meanwhile, financial analysis is related to Income Analysis, Feasibility Analysis, Break Even Point Analysis and Return on Investment Analysis. The results of the study describe the Organizational Structure and Production Process of local fried onions in Palu. Meanwhile, based on the analysis of financial aspects, it shows that the income of the local fried onion agroindustry in Palu has an income of Rp. 3,540,000 for 1 (one) production, the feasibility value is 1.36. Furthermore, the value of BEP consisting of BEP production of 289 packs and the value of BEP of receipts is Rp. 5,780,000 and a value of 35.54% which means that investment through the local Palu fried onion agroindustry will provide a profit of 35.54%.

---

### Corresponding Author:

Sri Jumiyati

Magister of Agricultural Sciences, Postgraduate, University of Muhammadiyah Palu, Jl. Rusdi Toana No. 1 Palu, Central Sulawesi, Indonesia

Email : [srijumiyati1068@gmail.com](mailto:srijumiyati1068@gmail.com)

---

### INTRODUCTION

The cultivation and processing of local shallots in Palu into fried onions is one of the businesses that can increase farmers' income. Wombo Kalonggo Village, Tanantovea District, Donggala Regency, Central Sulawesi is a village on the edge of the forest with the status of community forest (HKm) to be managed. their forest management areas. Even to the east of Wombo Kalonggo village, it is included in the protected forest area that borders Parigi Moutong Regency and is the last village that borders directly with the forest. The existence of community forest status minimizes the encroachment of forests to take rattan and black wood that results in flooding. Through the status of community forests, forest utilization and land management are carried out optimally which prioritizes the principle of sustainability (Djafar et al., 2023). Land management around the forest by community groups of community forest managers is carried out by cultivating local Palu onion commodities and carrying out processing efforts into local Palu fried onions.

The production of shallots is abundant at certain times, namely during the harvest, causing the price of shallots to be relatively cheap and conversely at a time when shallot production decreases, the price is relatively high (Basuki et al., 2021). Given the perishable nature of shallot products, it is necessary to handle shallots well and appropriately. Poor post-harvest handling of shallots during abundant production, where

after harvest, shallots are left alone will undergo physiological changes (Siswanto et al., 2022). Shallots will be easily damaged and difficult to maintain for a long time in fresh form, and can even result in spoilage or premature sprouting, besides that it can cause problems with the supply of onions throughout the season.

Processing yields to provide added value can increase farmers' income, which is easy for farmers themselves or groups to do both on a small scale (household industry) and on a large scale (commercial industry). Fried shallots are a processed form of shallots that can be used by household consumers as a complement to daily cooking spices that are useful for adding flavor and enjoyment to food (Chavan & Alam, 2020). With the increasing benefits of fried shallots, it makes the fried shallot business even more attractive and has a great opportunity to be marketed (Tulipa et al., 2019). Based on this, the purpose of this research is to find out the non-financial aspects as well as analyze the financial aspects of the Palu local fried onion processing business.

## RESEARCH METHODS

The initial stage of the research was carried out through a location survey to determine the condition of the target village and the potential supporters to complete the needs of secondary data (Sjaf et al., 2022). The determination of the local fried onion agroindustry in Palu is carried out purposively, while the selection of respondents of business actors/farmers is carried out by census with saturated samples because it involves all members of the group totaling 20 people. The data analysis methods used in this study are qualitative analysis and quantitative analysis. Qualitative analysis was used to find out the general picture of the Palu fried onion agroindustry from non-financial aspects related to business profiles and processing processes which were then described descriptively. Meanwhile, financial analysis is related to:

Income analysis, with the formula:

$$I = TR - TC$$

Dimana : I = Income; TR = Total Revenue; TC = Total Cost

$$TC = FC + VC$$

Feasibility Analysis with the formula:

R/C Ratio

Where:

R = Revenue; C = Cost

With the criteria:

- If  $R/C > 1$ , it means that the farming is profitable.
- If  $R/C = 1$  means that the farming is breakeven
- If the  $R/C < 1$ , it means that the farming is a loss.

Break Even Point Analysis with the formula:

- Production BEP (BEPQ) =  $FC / (P \text{ per unit} - VC \text{ per unit})$

With the criteria:

- If (BEPQ) > the Amount of Production, then the agroindustry loses
- If (BEPQ) < the Amount of Production, then agro-industry profits

- Revenue BEP (BEPR) =  $P \text{ per unit} \times (BEPQ)$

With the criteria:

- If (BEPR) > Total Revenue, agroindustry loses
- If (BEPR) < Total Revenue, agroindustry will profit

Return on Investment Analysis, with the formula:

$$ROI = (Total\ Sales - Investment) / Investment \times 100\%$$

## RESULTS AND DISCUSSION

### Non-Financial Aspects

#### Profile of Palu Local Fried Onion Agroindustry

The agroindustry of processing Palu local fried onions is carried out jointly by a group of 20 people. The raw materials for local Palu shallots are obtained from production products from local farmers. Fried onion harvesting is carried out after harvest but the production capacity is relatively low due to the land area and planting that are not simultaneous so that there are relatively few raw materials (Johnson et al., 2019). The fried onions produced are marketed through several souvenir shops and some are sold to the market. The Palu Local Fried Onion Processing Agroindustry is a group consisting of local Palu shallot farmers with an organizational structure consisting of: Group Chairman, Secretary, Treasurer and Sections (Production Section and Processing Section). The number of units depends on the needs and type of activities carried out. Each part of the structure has both duties and responsibilities that are the result of a mutual agreement to be

carried out (Sharma et al., 2025). The process of preparing tasks and responsibilities is carried out through group meetings. The description of the organizational structure of the Palu local fried onion agro-industry group is as follows:

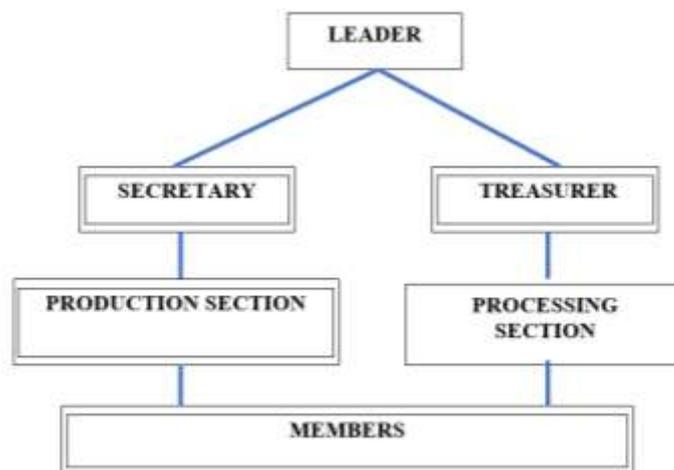


Figure 1. Group Organizational Structure  
Palu Local Fried Onion Agroindustry

Based on the organizational structure, the duties of each management are as follows:

The Chairman of the Group Chair's Task includes, among others, coordinating, organizing and being responsible for all group activities, with the following details: chairing meetings, both management meetings and member meetings, signing correspondence, representing the group in meetings with government agencies, private parties, academics and regulating the implementation of group management and operations (Choudhary et al., 2024). If the chairman is unable to carry out his duties or attend the meeting, he will be represented to the Secretary, Treasurer or Chairman of the Section related to the duties and responsibilities of the chairman of the Section concerned.

### Secretary

The task of the group secretary is to be responsible for the implementation of the administration which includes correspondence, meeting preparation, follow-up on the results of the meeting, conveying the results of the meeting by making minutes and submitting them in the next meeting, making reports (monthly reports and annual reports). As well as coordinating the administration of each section (Nomaini et al., 2020).

### Group Treasurer

The Group Treasurer's duties are responsible for handling all group financial administration activities with the following details of duties: receiving payments on behalf of the group and keeping them properly, making payments with the approval of the group chairman, keeping and maintaining archives of financial transactions, organizing and maintaining group financial administration and compiling financial reports periodically (monthly and yearly).

### Sections

#### Production Section

In order for production activities to take place properly, the production section is responsible for directing profitable shallot farming production activities in accordance with the recommendations of the relevant agencies, facilitating the application of technology (materials, tools, methods) of group farming in accordance with Gapoktan's activity plan, establishing cooperation/partnerships with other related parties, evaluating joint activities and anticipating future production needs, increasing productivity sustainability and natural resource sustainability (Fallah Shayan et al., 2022).

#### Processing Section

In order for processing activities to take place properly, the processing section prepares plans for the needs of local fried onion processing equipment in Palu, establishes cooperation/business partnerships with the government, the business world and fellow groups engaged in the agricultural sector, develops members' ability to carry out fried onion processing activities and organizes members' production activities for processing activities (Tangdilintin, 2024).

### Group Members

Each member of the group has rights and obligations. Each member has the right to submit proposals/suggestions/opinions to the management both in meetings and outside the meeting forum, to choose and be elected as group administrators, to obtain the same services according to the field of activities carried out in the group, and to obtain benefits in the form of material benefits obtained from groups. Meanwhile, the obligations of group members include agreements in the group, complying with the meeting decisions, attending and being active at each meeting (2 weekly meetings and monthly meetings), paying group dues and actively utilizing the services provided by the group for mutual progress.

### Palu Local Fried Onion Processing Process

The business of processing shallots into fried shallots, will help farmers in marketing shallots, and can increase the selling value when compared to selling shallots in fresh form (Susanawati et al., 2020). The stages of the process of processing shallots that are practical into crispy, savory and durable local fried shallots in Palu are as follows:

The ingredients needed are: local Palu shallots, wheat flour, cooking oil, salt, seasonings, water to wash the peeled shallots. While the tools used are: knives, scales, cutting boards, semi-mechanical slicing machines, baking sheets, stoves, frying pans, large spoons, bamboo trash, plastic packaging. The processing process to make local fried onions in Palu is as follows:

Choose good shallots and separate them from rotten shallots

Peel the onion skin and cut off the tip of the onion bulb

Wash the shallots then drain

Slice the shallots to a thickness of 1 mm on a cutting board using a sharp knife. Try to cut and thicken the slices more.

Next, the shallots are given salt, seasoning to give a savory taste and add flour with a maximum amount of 10% of the weight of the raw materials (the less the better). The purpose of adding the flour is so that the shallot slices are not sticky/clumpy, drier and make the frying process easier and more even, so that the resulting fried onions will be evenly yellow, dry (crispy), and durable.

Mix the sliced shallots that have been given salt, spices and flour evenly and let it sit for a while

Fry the shallot slices in hot oil at an oil temperature of 160-2000 C. Try to use enough cooking oil so that the entire shallot slices are submerged in cooking oil.

The shallots are stirred so that the doneness is even and the color is uniform, the frying temperature must be stable by regulating the size of the flame.

Remove the shallots from the fryer if the fried onions have browned yellow, and drain to reduce excess oil which will make the appearance of the product less manic and rancid quickly. The driesque from the oil is carried out using a trash made of woven bamboo that has been lined with oil paper.

Furthermore, the fried shallots are cooled and ready to be packaged using plastic packaging of various sizes. After being filled with fried shallots, the plastic packaging is glued using a sealer so that air does not enter.

The source of raw materials in the manufacture of Palu local fried onions is obtained from special raw materials, namely local Palu shallots which only grow in the Palu valley, Donggala Regency, Sigi Regency and Parigi Moutong regency. The raw materials obtained in the manufacture of fried onions are sometimes difficult to obtain in certain seasons because the supply from farmers is not routine. The price of local shallots in Palu always goes up and down between 45 thousand to 90 thousand/kg but if the supply of shallots exceeds the normal price, then the profit can reach 2 to 3 times.

### Financial Aspects

The financial analysis which includes the Analysis of Revenue, Feasibility, Break-even Point and Return on Investment of the Palu Local Fried Onion Agroindustry is presented in Table 1 below:

Table 1. Analysis of Income, Feasibility, Break-even Point and Investment Return of Palu Local Fried Onion Agroindustry (1 Production Time)

| Description                  | Unit    | Value (IDR) | Sum (IDR)         |
|------------------------------|---------|-------------|-------------------|
| <b>Total Acceptance (TR)</b> |         |             |                   |
| <b>Production</b><br>100 gr  | 675 bks | 20.000      | 13.500.000        |
| <b>Total</b>                 |         |             | <b>13.500.000</b> |
| <b>Total Cost (TC)</b>       |         |             |                   |
| <b>Fixed Fee (FC)</b>        |         |             |                   |

|                                |            |         |                  |
|--------------------------------|------------|---------|------------------|
| - Knife                        | 20 pieces  | 20.000  | 400.000          |
| - Scales                       | 2 pieces   | 150.000 | 300.000          |
| - Chopping board               | 4 pieces   | 25.000  | 100.000          |
| - Slicing Machine              | 2 unit     | 150.000 | 300.000          |
| - Pan                          | 5 pieces   | 25.000  | 125.000          |
| - Stove                        | 5 pieces   | 150.000 | 750.000          |
| - Frying pan                   | 5 pieces   | 75.000  | 375.000          |
| - Large Spoon                  | 5 pieces   | 20.000  | 100.000          |
| - Bamboo Trash                 | 10 pieces  | 50.000  | 500.000          |
| - Gas Cylinder                 | 5 pieces   | 75.000  | 375.000          |
| - Depreciation Costs           |            |         | 665.000          |
| <b>Total</b>                   |            |         | <b>2.660.000</b> |
| <b>Variable Cost (VC)</b>      |            |         |                  |
| - Shallot                      | 150 kg     | 30.000  | 4.500.000        |
| - Tepung                       | 25 kg      | 20.000  | 500.000          |
| - Salt                         | 15 kg      | 15.000  | 225.000          |
| - Spices                       | 10 kg      | 20.000  | 200.000          |
| - Cooking oil                  | 30 litres  | 25.000  | 750.000          |
| - Plastic packaging            | 375 sheets | 3.000   | 1.125.000        |
| <b>Total</b>                   |            |         | <b>7.300.000</b> |
| <b>TC = FC + VC</b>            |            |         | <b>9.960.000</b> |
| <b>Revenue (I = TR - TC)</b>   |            |         | <b>3.540.000</b> |
| <b>Eligibility (R/C Ratio)</b> |            |         | <b>1,36</b>      |
| <b>BEP Production ((BEPQ)</b>  |            |         | <b>289</b>       |
| <b>Admission BEP (BEPR)</b>    |            |         | <b>5.780.000</b> |
| <b>KING</b>                    |            |         | <b>35,54%</b>    |

Source: Primary Data (2025).

### Income

Revenue is the difference between the revenue from the sale of the product and the total cost incurred to produce the product (Sausan Nabilah R, 2020). Meanwhile, revenue is the result of multiplying the selling price of local fried onion products in Palu and the amount of production produced. Based on Table 1, it can be seen that the number of local fried onions in Palu for 1 (one) production time is 675 packs/100 gr with a selling price of IDR. 20,000/pack. So that the revenue from the sale of products is IDR. 13,500,000, with production costs (fixed costs and variable costs) of IDR. 9,960,000, the income of the local fried onion agroindustry in Palu is IDR. 3,540,000 for 1 (one) time of production.

### Feasibility of Palu Local Fried Onion Agroindustry

The Feasibility Value (R/C Ratio) of the local fried onion agroindustry in Palu can be determined by dividing the revenue from the total cost. Based on Table 1, it is known that the revenue is IDR 13,500,000 and the total cost incurred is IDR 9,960,000. Thus, the feasibility value of the local fried onion agroindustry in Palu is 1.36, meaning that every cost expenditure of IDR. 1.00 will generate revenue of IDR. 1.36. Furthermore, the R/C Ratio value of 1.36 greater than 1 indicates that the local fried onion agroindustry in Palu is feasible to be implemented because it is profitable.

### Break-even Point (BEP) of Palu Local Fried Onion Agroindustry

Based on table 1, it can be seen that the break-even point of the local Palu fried onion agroindustry reached a Production BEP of 289 packs. This means that in the production of 289 packs, the local Palu fried onion agroindustry is in a state of unprofit and has no loss. However, because the BEP value of production (289) is lower than the amount of production (675), the local fried onion agroindustry of Palu is profitable. Similarly, BEP The revenue of the local fried onion agroindustry in Palu reached IDR. 5,780,000, meaning that in the production of receipts of IDR. 5,780,000, Palu local fried onion agroindustry is in a state of unprofit and no loss. However, because of the value of the BEP of receipts (IDR. 5,780,000) lower than the total receipt (IDR. 13,500,000) then the local fried onion agroindustry in Palu profits.

### Return on Investment (ROI) of Palu Local Fried Onion Agroindustry

Based on Table 1, it is known that the number of local fried onions in Palu for 1 (one) production time is as many as 675 packs/100 gr with a selling price of IDR. 20,000/pack. So that the revenue from the sale of products is IDR. 13,500,000, with production costs (fixed costs and variable costs) of Rp. 9,960,000. Thus,

the ROI value of Palu local fried onion agroindustry of 35.54% shows that every IDR. 1 cost or investment incurred will be able to generate 35.54% profit or profit.

## CONCLUSION

The Palu local fried onion agroindustry group is a forum for activities from people who work together in business with the aim of producing local Palu fried onion products. The business profile as a non-financial aspect is reflected in the organizational structure. The existing organizational structure can be said to have accommodated the needs of the group even with a relatively simple structure. Although the structure that has been formed is not complex, with the existing situation, the business that is carried out almost does not experience obstacles, all problems both internal and external can be handled and anticipated properly. This has proven to be more efficient than having an organizational structure that exceeds the needs which will lead to high costs on employee wages. An organizational structure that suits needs also causes the production process to be more efficient and effective. Meanwhile, based on the financial aspect, the local fried onion agroindustry Palu has an income of IDR. 3,540,000 for 1 (one) production so it is worth trying. In addition, in general, the use of capital to generate profits is declared profitable judging from the BEP value of production and revenue as well as the ROI value which reaches 35.54%, indicating that every IDR. 1 cost or investment incurred will be able to generate 35.54% profit or profit.

## REFERENCES

- Basuki, S., Eti Wulanjari, M., Komalawati, & Sahara, D. (2021). The Performance of Production, Price and Marketing System of Shallot in Central Java. *E3S Web of Conferences*, 316, 02004. <https://doi.org/10.1051/e3sconf/202131602004>.
- Chavan, P. P., & Alam, M. S. (2020). Opportunities of Doubling Farmers Income by Post Harvest Value Addition to Agricultural Produce. *NASS Journal of Agricultural Sciences*, 2(1). <https://doi.org/10.36956/njas.v2i1.78>.
- Choudhary, B., Dhar, V., & Pawase, A. S. (2024). Blue carbon and the role of mangroves in carbon sequestration: Its mechanisms, estimation, human impacts and conservation strategies for economic incentives. *Journal of Sea Research*, 199, 102504. <https://doi.org/10.1016/j.seares.2024.102504>.
- Djafar, E. M., Widayanti, T. F., Saidi, M. D., Muin, A. M., & Ratnawati. (2023). Forest management to Achieve Sustainable Forestry Policy in Indonesia. *IOP Conference Series: Earth and Environmental Science*, 1181(1), 012021. <https://doi.org/10.1088/1755-1315/1181/1/012021>.
- Fallah Shayan, N., Mohabbati-Kalejahi, N., Alavi, S., & Zahed, M. A. (2022). Sustainable Development Goals (SDGs) as a Framework for Corporate Social Responsibility (CSR). *Sustainability*, 14(3), 1222. <https://doi.org/10.3390/su14031222>.
- Johnson, L. K., Bloom, J. D., Dunning, R. D., Gunter, C. C., Boyette, M. D., & Creamer, N. G. (2019). Farmer harvest decisions and vegetable loss in primary production. *Agricultural Systems*, 176, 102672. <https://doi.org/10.1016/j.agsy.2019.102672>.
- Nomai, F., Thamrin, M. H., & Budiarto, G. (2020). THE EFFECTIVENESS OF COORDINATION ON DISASTER MANAGEMENT BY THE GOVERNMENT DISASTER AGENCY IN OGAN ILIR REGENCY. 4(2).
- Sausan Nabilah R, L. S. (2020). Effect of production Costs and Sales on the Company's Net Profit. *Jurnal Akuntansi*, 24(2), 169. <https://doi.org/10.24912/ja.v24i2.689>.
- Sharma, K., Aroor, M. S., Das, S., Bora, B., Gupta, M., & Srivatsan, V. (2025). Comprehensive review on the current scenarios in onion processing and addressing the grand onion challenge of India. *Scientia Horticulturae*, 345, 114152. <https://doi.org/10.1016/j.scienta.2025.114152>.
- Siswanto, N., Bintoro, N., Karyadi, J. N. W., & Rahayoe, S. (2022). Effect of postharvest handling of shallots in supporting the sustainability of the availability of shallot seeds. *IOP Conference Series: Earth and Environmental Science*, 1059(1), 012072. <https://doi.org/10.1088/1755-1315/1059/1/012072>.
- Sjaf, S., Sampean, Arsyad, A. A., Elson, L., Mahardika, A. R., Hakim, L., Amongjati, S. A., Gandi, R., Barlan, Z. A., Aditya, I. M. G., Maulana, S. A. B., & Rangkuti, M. R. (2022). Data Desa Presisi: A new method of rural data collection. *MethodsX*, 9, 101868. <https://doi.org/10.1016/j.mex.2022.101868>.
- Susanawati, Fauzan, M., & Widodo. (2020). A strategy for development of shallot Agribusiness Sub Terminal (STA) in Brebes. *IOP Conference Series: Earth and Environmental Science*, 518(1), 012048. <https://doi.org/10.1088/1755-1315/518/1/012048>.
- Tangdilintin, E. A. (2024). Value Chain Analysis and Strategy to Increase Value Added of Fried Onion Business in Kendari City (Case Study in KWT Matahari). 02(04).
- Tulipa, D., Rachmawati, D., Ellitan, L., & Srianta, I. (2019). Market research and cost analysis of production of fried shallot as local superior product in Semaui Island, East Nusa Tenggara, Indonesia. *Food Research*, 4(2), 343–348. [https://doi.org/10.26656/fr.2017.4\(2\).250](https://doi.org/10.26656/fr.2017.4(2).250).