



## Analysis of White Mushroom Production in Eamo Center Ermera Municipality

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### ABSTRACT

This study aims to determine the motivation of producers in the production of white oyster mushrooms (*Pleurotus ostreatus*), the investment costs of producers in their production and the input and output of the company in the production of oyster mushrooms. The methodology used in this practice is a descriptive analysis method such as direct observation to collect data in the field, interviews are a method of collecting data in the form of a list of questions according to systematics, documentation methods as data collection techniques through primary data and the appointment of secondary data with documentation. Through the results of this practice, it can be seen that the income from the porcini mushroom business is positive for the development of the Fatuquero community, because EAMO can produce porcini mushrooms of six to ten thousand per serving with a market price of \$ 0.85, so that each price multiplied by the number of mushrooms reaches seven to eight thousand. This shows that the annual income of \$8,890.00, \$7,788.55, \$6258.55 from the total annual income of white mushrooms divided by the total production budget of \$4,704.00 \$3,456.00 \$5,100.00 with a fixed cost of \$8,201,010 activity 0 returns the R/C ratio of 6.087, 5.858, and 2.427 and this means that the R/C value is greater than >1 is a profitable tree breeding activity for the Fatuquero community which is a priority for development by EAMO

## **INTRODUCTION**

The development of the agricultural sector in Timor-Leste is really going on but slowly because in the process of planning elaboration does not see two important basic problems such as; most farmers in Timor-Leste are called Peasants not Farmers. As a sociologist named James Scott, (1985) states, Peasant means that, the farmers who are using the principles of risk minimization and safety first (small production capacity, subsistence, not having vast land, not market oriented and produce not seek economic income). Simply put, planting to sustain the needs of the family economy. Farmer means that farmers who use the principle of profit maximization and market orientation (large production capacity, modern, on large land and produce with market orientation to obtain economic income). Simply plant today to make a profit. Political will to develop integrated agricultural development is not yet maximum because the development of the agricultural sector is not participatory. There is no adjustment based on constraints such as; lack of basic agricultural infrastructure, farmers do not have good access to the credit system in banks, lack of access to technology especially modern mechanics to increase agricultural production, production quantity is unstable because there is no possibility to use abandoned land government ownership and the agribusiness chain died because Timor-Leste was obsessed with market neoliberalism.

Given the above two basic problems, the direct involvement of farmers in the development of the agricultural sector is very important. Development must be based on (needs, resources, skills and management) in the whole process of agricultural sector development. As some arguments say, the process of transformation of the agricultural sector that we all dream of according to the vision of PEDN 2011 and 2030 will not happen when farmers become objects and non-participants.

In the constitution of the RDTL article 138, talks about public, private and cooperative companies as well as economic organizations. The intervention of the article, that is, gives opportunities to socio-economic groups to carry out activities to increase productivity in the country. Therefore, as we all know, the approval of the general state budget in each year approved with a very limited amount of budget in the Ministry of Agriculture and Fisheries, actually in the approval of the general budget for 2024 with % 2 only in the ministry of MAP. It means that, with the budget is not conditional on the ministerial activity to give economic growth in the country, called Gross Domestic Product. In Timor Leste there are production groups that carry out entrepreneurial activities for agricultural production in the country to give economic growth to families, such as in the municipality of Ermera there are entrepreneurial groups including Ermera Ai-Kulat Organic Mushroom (EAMO) with its production character is the product White mushroom (*Pleurotus ostreatus*) which has its nutritional and economic value in society.

White mushroom vegetation (*Pleurotus ostreatus*) according to Maulana (2012), states that; in botany called "fungi" category with its simple physical growth, because it does not have chlorophyll and has good nutrition. Therefore, production is an activity that is carried out to result in its final result with its

economic value and increase products or (input) and create jobs so as to obtain (output).

Mushroom varieties (jamur tiram) give results and many are developed in agricultural production, because; mushrooms have many health benefits, through vegetable protein that does not contain cholesterol, can prevent high blood pressure, heart disease, weight loss, and diabetes, anemia as well as anti-tumor drugs (Suriawiria, 2006).

Business investment is part of economic activity to generate income. If individuals come from their salaries and investments, while companies come from the money that we get from transactions for people to buy goods or people use our services. The money people pay to our company is considered income. Agricultural business is a place where individuals or groups of producers to intervene and manage natural products and workers to get their results in the field of agriculture.

According to Yuliana Sudemi (2007:133), that is, income comes from all the revenue from a person's work in the production process. The following work may result; interest and profit, depending on the factors of production in the production process. White mushroom production will influence the producer's profit, when mushroom farmers create the most optimal conditions to optimize production, so that the producer's revenue is stable. What we need to study is the level of income obtained by mushroom farmers viably to improve the yield and profit of the producer.

## LITERATURE REVIEW

Variety of white mushroom (*Pleurotus ostreatus*), white mushroom in Malay means; "cendawan" and in botany called "fungi" category with its physical growth is simple, because it is not chlorophyll physically and it has good nutrition, it lives from the mediation of organic materials that contain nutrients that give growth to white mushroom variety (Maulana 2012).

The oyster with the Latin name *Pleurotus ostreatus* belongs to the family Pleurotaceae and the genus *Pleurotus* (Cahyana et al., 2002). Aikulat has a smooth and slightly oily face when wet, a slightly curved edge, a lateral position besides the tudón, including white meat (Suriawiria, 1993).

White mushroom (*Pleurotus ostreatus*, L) is a plant of the family Agaricaceae that can be seen growing in some species of plants that have dried up during the rainy season, (Alexopolous CJ, 1996). White mushrooms are part of the white heterotrophic plant family Techolomataceae.

According to scientist Soekartawi (2002), agricultural business needs production factors to perform work in a process so as to give results.

According to Mosher (2011), it is stated that; agricultural business is agricultural society that is often called farm in English. Dr. Mosher defines the word farm as a place or as a space for farmers to carry out activities and also manage the place.

According to Soekartawi (2013), that, agricultural business analysis is an activity to make economic calculations in agricultural business itself. This count will provide an overview of whether the business you are doing has economic

value or not. The parts that need to pay attention in the analysis of agricultural business activities is the use of production factors, the use of production costs, the focus of production that has its results and also seen from the level of acceptance of own income (income).

Definition of cost according to Mulyadi (2014:8), cost is the investment of economic resources calculated from the financial that happened or will happen in the future according to the target. And according to Baldrice, et al (2013:36), cost is the investment of economic resources to produce goods or services that are expected to provide benefits in the short term and in the future and become essential in a business activity related to profitability, efficiency and effectiveness in a production.

According to Soekartawi (2001), production costs are defined as all the expenses that are published to obtain production and other results that follow to use so that the planned production obtains materials better.

## **METHODS**

Explain your methodologies in this chapter. You should explain your research instruments, data collection processes, data analysis processes or hypothesis testing processes, and data di Bazeia ba metodu ne'ebé utiliza ba iha Peskija ne'e maka metodu analiza deskriptivu, mak desidi hodi solusiona problema sira aktual ba tempu agora. Dadus ne'ebé rekoila hahu forma, esplika depois analiza (Surakhmad, 1985) dalam (Anggraeni R. et al, 2012).

Data collection used: 1). Observation method is a method of data collection through direct observation of the problem object, 2) interview method is a method of data collection in the form of a list of questions according to systematic, then submitted to the respondent and direct interview to obtain primary data, 3). Documentation method is a technique of data collection through primary data and secondary data appointment with documents.

Primary data is information obtained from the first party (researcher) who becomes the original, information from the first party or respondent. To collect the first data, it requires the researcher's valuation of the object being investigated, especially to obtain information with qualitative characteristics and Secondary data is information obtained from books, documents, internet, newspapers and others.

According to Sugiyono (2011). Population is an area of generalization that consists of subjects that have qualities or characteristics that are determined by the researcher to study and draw conclusions. Based on the 2015 Census, the total population of Fatuquero is (1511) inhabitants composed of women and men.

The sample is part of the population to be taken as a respondent in the research area (Sugiyono, 2011). With the classification of the population to be selected according to the model with the characteristics that exist. The technique used by the researcher to take representatives of the sample is the technique of purposive sampling, that is, the questions prepared will be directed to people who know or have knowledge about the process of breeding

white mushrooms. The number of people to be sampled in this research is 5 with the names in the following table:

Table 1. The Number of People to be Sampled

Nu	Name of respondent	Position	Total
1	Julio Soares	Director EAMO	1
2	Anjuanata Soares	Assistant of Teknik	1
3	Jacob de Jesus Nunes	Technik of Logistic	1
4	Noezemia C. X Salsinha	Finance	1
5	Domingos de Deus Maia	Marketing	1
<b>Total respondents</b>			5

The data analysis technique in this research is quantitative descriptive data. Quantitative descriptive data is used to analyze, to describe and clarify data that we get in practice, whether data that we get from primary data or secondary data. The data that we obtain will go through the process of editing, data classification, data tabulation, data interpretation, and finally draw conclusions to the problems through economic analysis and significant transformation through linear program analysis to see the advantages and disadvantages.

#### **Total Yield**

Total income obtained from the business of white mushrooms, in this research the researcher analyzed with the formula as follows:

TR: Total Income (production period) Y: White mushroom production (production period) PY: White mushroom price (production period).

Net income (lace) / Net Income

The liquid income of the agricultural business of white mushrooms is analyzed using the following formula:

Π: White mushroom liquid lace (production period)

TR: Total Revenue / gross income of white mushrooms (production period)

TC: Total Cost / Total cost of production (in the production period).

Break Event Point (BEP)

#### **Farm business efficiency (RC/R)**

Total reception (TR) = Revenue/Cost ratio; Value  $R / C > 1$  is the business activity carried out can be said to be favorable because the business activity carried out can give greater acceptance of expenditure or expenditure. Value  $R / C = < 1$  means that the business activity carried out can be said to be unprofitable and also lose money, because the acceptance received is the same as the financing withdrawn or spent. The yield equal to the  $R/C$  value  $C = 1$  indicates that the activity of breeding white mushrooms is not profitable.

### **RESULTS AND DISCUSSION**

According to a scholar by name (Angraeni et al., 2014). It is said that the income of the white mushroom business is the difference between the receipt

and the total price spent or the income from the cultivation of white mushrooms is the result of selling the white mushrooms.

Table 2. Money Spent Per Month on Daily Activities in Eamo Period 2021

No	Material	Prices	Total
1	Sawdust	\$20.00	\$10.00
2	Rice bran	\$75.00	\$40.00
3	CaCo3	\$50.00	\$40.00
4	Packeting	\$35.00	\$35.00
5	Rubber band	\$12.00	\$12.00
6	Transportation	\$108.00	\$155.00
7	PP plastic	\$125.00	\$100.00
<b>Grand Total</b>			<b>\$ 392.00 Per Month</b>

Table 3. Financial Income from the Sale of White Mushrooms (Year 2021)

No	Month	Money	Total
1	January	\$550.00	\$550.00
2	February	\$765.00	\$765.00
3	Marcu	\$850.00	\$850.00
4	April	\$875.00	\$875.00
5	May	\$950.00	\$950.00
6	July	\$955.00	\$955.00
7	Jumho	\$625.00	\$625.00
8	August	\$400.00	\$400.00
9	September	\$534.00	\$534.00
10	October	\$756.00	\$756.00
11	November	\$770.00	\$770.00
12	December	\$950.00	\$950.00
	<b>Grand total</b>	<b>\$ 8,890.00</b>	<b>\$ 8,890.00</b>

2021 Fund: Revenue \$8,890, Expenditure \$ 4,704.00 Balance \$4,186.00.

The 2021 period spending money is \$4,704, so:

= \$392.00 (production period) × 12 (months)

= \$4,704 (2021 period spending money)

$\Pi = TR - TC$  (Period yield 2021)

= \$8,890 - \$4,704

= \$4,186

= revenue / total budget

= \$8,890 - \$4,704

Balance = \$4,186

Table 4. Money Spent Per Month on Daily Activities in Eamo

No	Material	Price	Total
1	Sawdust	\$20.00	\$20.00

2	Rice bran	\$75.00	\$25.00
3	CaCo3	\$50.00	\$18.00
4	Packeting	\$35.00	\$10.00
5	Rubber band	\$12.00	\$10.00
6	Transportation	\$108.00	\$110.00
7	PP plastic	\$125.00	\$95.00
<b>Grand total</b>		<b>\$ 288.00 per month</b>	

Table 5. Financial Income from the Sale of White Mushrooms (2022)

No	Month	Money	Total
1	January	\$686.80	\$ 686.80
2	February	\$779.90	\$ 779.90
3	Marcu	\$1.283.1	\$ 1.283.1
4	April	\$1.014.75	\$ 1.014.75
5	May	\$942.1	\$ 942.1
6	July	\$661.50	\$ 661.50
7	Jumho	\$811.65	\$ 811.65
8	August	\$502.1	\$ 502.1
9	September	\$479.6	\$ 479.6
10	October	\$210.05	\$ 210.05
11	November	\$154.4	\$ 154.4
12	December	\$262.55	\$ 262.55
<b>Grand total</b>		<b>\$7.788.50</b>	<b>\$ 7.788.50</b>

Fund 2022 income from mushroom products amounted to \$ 7,788.50  
 Expenditure \$ 3. 456. Balance \$ 4,329.50

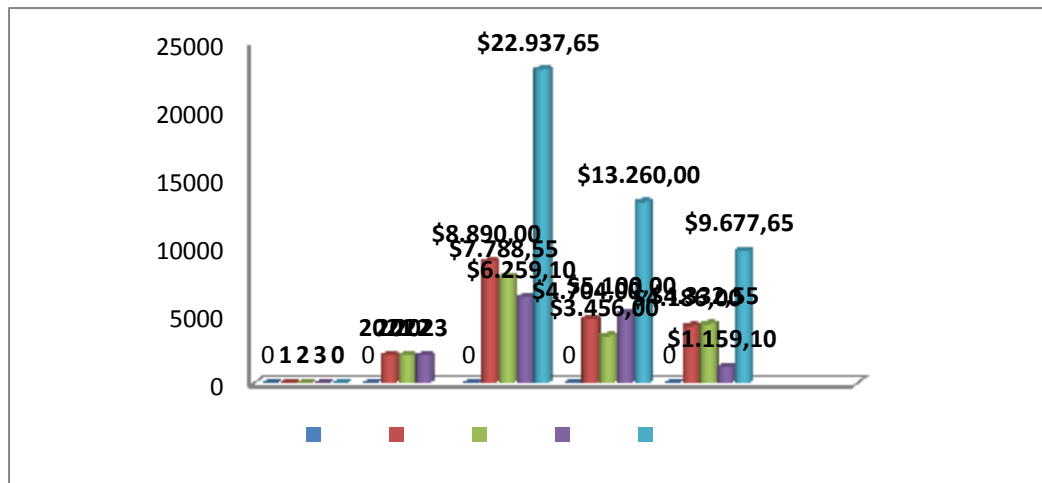


Chart 1. Total Investment Revenues and Expenditures Period 2021

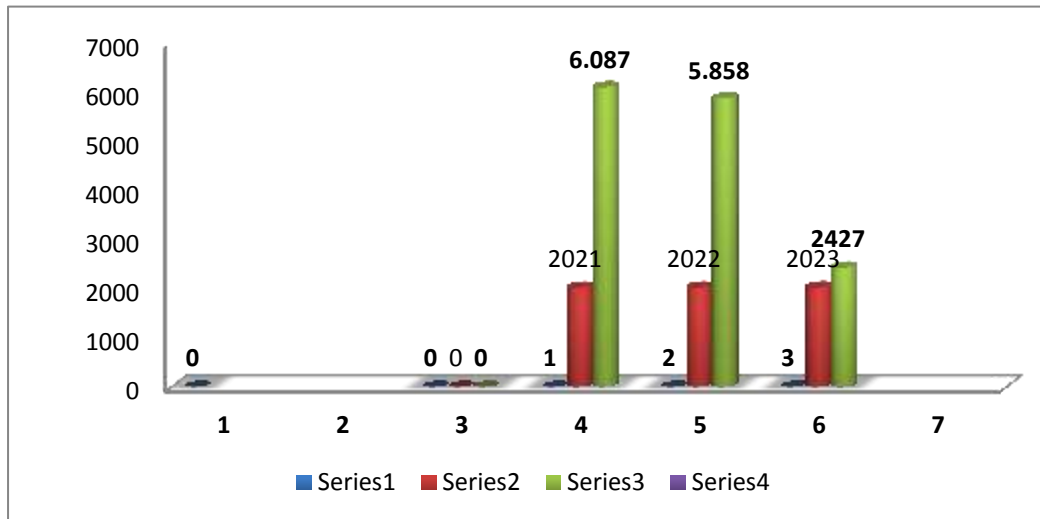


Chart 2. Total Investment Revenues and Expenditures Period 2021

According to a scholar named Suliyanto, (2009) said that by counting the viability of white mushroom business, R / C Ratio or Income per year divided by the total budget \$ is obtained the value of R / C Ratio is greater than >1 means that the white mushroom breeding activity is favorable or serves Ermera Organic White Mushroom (EAMO) and the Suku community Fatuquero can be developed.

The process of producing white mushroom varieties is a very scientific process with its raw materials from the island such as: straw, wheat straw, wood, water become the main save in the process of propagation of white mushrooms. Technically to produce white mushrooms are mixed or mixed from wood, wheat straw, wood and water, when mixed all will be covered with tarpaulin for three or four days after processing back to the press or fill the plastic. After filling the plastic, we take to the process sterilization in the fire for 8 or 9 hours after we remove to the inoculation room ensures for two weeks or 14 days to fill the seeds into the plastic, so we then take it to the general room or growth room of the white mushroom to wait for its growth process so that we can harvest its results.

It is true that in the period of production of white mushrooms during 2021 to 2023 its production is different in its production cost and its income from the activity of selling white mushrooms, as we know that, in 2021 to 'o 2023's production cost comes with a budget as follows: Year 2021's investment cost is \$.392.00 (per month) x (production period) \$392.00 x 12 \$4,704 (2021 expenses), \$8,890 - \$4,704 = \$4,186 (2021 period balance sheet).

In the production period of 2021, the production of each month comes with a difference in income or results, due to its production of mushrooms that can influence production is naturally from the climate and fungi that can attack the product and come from the climate in the period July to August can give a heat impact to prevent the growth of the variety.

Fund 2022 revenue from mushroom products amounted to \$ 7,788.50 Expenditure \$ 3,456. Balance \$ 4,329.5. The expenditure for the 2022 period is \$288.00 per month, which means: \$288.00 x 12 (months) \$3,456 (2023 period



expenditure)  $\Pi = TR - TC$  (2023 period income)  $\$7,788.50 - \$3,456 = \$4,332$ , total income / budget  $7,788.50 / \$3,456$  Balance =  $\$4,332.5$ .

To say that, in the production period of 2022 for white mushroom products seen from its investment costs and its revenues from production as in its balance that differs with expenditures or expenditures in production in the period of 2022. Get the maximum balance because we know that EAMO is a youth company that comes with the empowerment of young women and children so as to increase and develop domestic products with this is the financial support that comes from agencies and the government through large budget assistance to increase mushroom products as a target for EAMO's production activities. Fund 2023 income from mushroom products amounted to \$ 6258.55 Expenditure \$ 5,100 Balance \$ 1158.55 Expenditure for the period 2023 \$ 425.00 per month, meaning that:  $= \$ 425.00 \times 12$  (month)  $= \$ 5,100$ .  $TR - TC$  (2023 Period Income)  $= \$6,259.1 - \$5,100$  Balance =  $\$1158.55$

In the production period of 2023, we see through its investment costs and revenue that shows a significant balance, that the balance obtained from increasing the production of white mushrooms in the period is very viable to yield. And in 2023 its balance is very different from the balance of income from the production period of 2021 and 2022 because, looking at the situation and condition of the company *Ermera Ai-kulat Mutin Organico (EAMO)* production site coding so they received government support for the construction of production houses and they focused on the construction of production sites and the implications and effects of climate for the growth of the variety so as to reduce the quantity of product to the market.

## CONCLUSIONS AND RECOMMENDATIONS

Through the results of this practice shows that the income from the white mushroom business is positive for the community of Fatuquero to develop, because EAMO can produce white mushrooms from six to ten thousand per portion / box (label) with its market price is \$0.85, so each price multiplied by the number of mushrooms gets seven thousand to thousand eight. This shows that the income per year in the amount of \$8,890.00, \$7,788.55, \$6258.55 from the total income of white mushrooms per year divided by the total production budget \$4,704.00 \$3,456.00 \$5,100.00 from the fixed cost of \$8,200 activity. \$6,900.00 \$11,040 received R/C ratio values of 6,087, 5,858, and 2,427, which means that R/C values greater than  $>1$  are favorable tree breeding activities for the Fatuquero community, priority for EAMO to develop.

### Declaration of Conflicting Interest

The authors declare that there is no conflict of interest in this work.

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