

# Sosio-economic analysis of canary (*Canarium indicum* L) farmers income in Waikyon village, Pulau Makian district

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**Abstract.** Canary a native Indonesian plant that grows widely in eastern Indonesia, such as Sulawesi, Maluku, and Seram Island. Canary are a seasonal plant with a harvest season from March to August. Canary plants on Pulau Makian are a commodity that is a source of income for the people, but plants are not cultivated or left to grow by themselves. The aim of this research is to analyze the socio-economic of canary farmers income in Waikyon Village, Pulau Makian District. This research is included in non-experimental research by using observation and interview data collection methods. Analysis of the research results shows that managing the income of canary farmers requires very long stages to obtain maximum results, the canary farming community is able to produce canary of at least 7 kg and the largest amount of 14 kg per/month with selling price per/kg Rp100,000. The smallest total income of the canary farming community is around Rp340,000-500,000, while around Rp520,000-650,000 while the highest income is around Rp700,000 - 790,000 with an average value of Rp12,580,000.

**Keywords:** Canary farmers, income, sosio-economic

## 1. INTRODUCTION

Non-Timber Forest Products (NTFPs) are biological forest products, both vegetable and animal, along with cultivated derivative products except wood originating from the forest. Pohan, Purwoko & Martial (2014), stated that the economic value resulting from the use of NTFPs is much greater than wood and does not cause forest damage, so it will not result in the loss of the functions and service value of the forest. Seeing this, NTFPs provide multipurpose benefits for the community, especially local communities around the forest. Forest management needs to be carried out to provide adequate employment opportunities and provide access for communities around the forest to collect NTFPs (Puspitodjati, 2011).

Canary are a native Indonesian plant that grows widely in eastern Indonesia, such as Sulawesi, Maluku, and Seram island. In

Indonesia, canary plants are still forest plants and not many cultivated. Although it has not been cultivated intensively. Canary seeds are needed regularly (Risnawati, 2017). Canary are large trees that can grow up to 40 meters with a canopy diameter of 8 meters and the shape of a very large and shady tree is very suitable as a shade tree, especially when treated for reforestation programs and used as a shade plant on the edge of roads or parks (Dodo, 2005). The seeds contain high levels of fat and protein. Based on the fat content in canary seeds, this plant can be compared with several other plants whose seeds contain high fat, namely almonds, cashews, walnuts, brazilnuts, pecans, and macademia. All of these plants are included in the tree nut group, namely legume plants that are the dominant source of oil in trade. Canary oval (ovoid) to slightly round in shape, with morphological dimensions of 2-4 x 3-6 cm, and generally green

when still ripe, turning dark green from slightly dark to black when the fruit is ripe. The black color occurs due to degradation of chlorophyll in the fruit skin.

According to the farmers, the socio-cultural life of the community that forms around them is in the form of mutually beneficial community interactions and mutual cooperation, in this case the canary farmers provide benefits in making their work easier. Some people choose a part-time job to collect canary that have fallen from trees, meaning that farmers only hire people who are tasked with collecting ripe canary that have fallen from trees. Usually they work 2-3 times a week accordingly at the time specified by canary farmer. In relation to farming patterns, differences in a person's status in society are determined by patterns of land control, capital, technology, and the size of the owner's land (Sajogyo, 2001). Based on the background description previously stated, canary plants on Pulau Makian are a commodity that is a source of income for the community, but canary plants are not cultivated or left to grow by themselves. Canary farmers use walnut plants as an investment crop and use it as a business opportunity by selling canary seeds in the form of seeds that are still raw, dried, and processed into snacks or what is usually called "Halua Kanari".

## **2. RESEARCH METHODS**

### **2.1 Time and Place**

This research was carried out from August to September 2023. The research location was carried out in Waikyong Village, Pulau Makian District, South Halmahera Regency.

### **1.2 Research Objects and Tools**

1. Object of research. The object of research in this research is canary in the community forest located in Waykion village, Pulau Makian District, South Halmahera Regency.
2. Tools and materials. The tools used in this research are recorder for recording, stationery to record each respondent's information, camera for documentation, research materials are in the form of questionnaires.

### **2.3 Research Population and Sample**

The population in the research was the canary farming community in Waykion Village, there were 21 canary farmers. This number was obtained based on the results of field observations that had been previously carried out

on farmers who manages canaries in Waykion village.

### **2.4 Data Collection Techniques**

1. Observation is data collection carried out directly by asking direct questions about the object to be studied
2. An interview is collecting data by compiling a list of questions that the respondent will answer

### **2.5 Research Prosedures**

1. Observe the research location
2. Determine the number of respondents
3. Conduct interviews
4. Collect documentation
5. Data analysis

### **2.6 Data Types**

The data used in this research includes:

1. Primary data is collected through interviews and questionnaires for each respondent which includes identity, management, and income data.
2. Secondary data is obtained from related agencies as supporting data which includes geographical area and location, regional location, physical condition and population

### **2.7 Data Analysis**

The data obtained were tabulated and analyzed descriptively with the aim of obtaining an overview of the form of management of canary plants and the income of canary farmers in the location where the research was carried out. To calculate the amount of income of canary farmers in Waikyong village, Pulau Makian district, both from management results and income outside management is calculated using the following formula (Soekartawi, 2009):

$$P = TR - TC$$

$$P = \text{net income}$$

$$TR = \text{total receipts}$$

$$TC = \text{total costs}$$

## **3. RESULTS AND DISCUSSION**

### **3.1 Respondent Characteristics**

Respondent characteristics or respondent identity is a condition which describes the age condition of the respondent. Characteristics of the respondents discussed in the research gender, age level of education, and occupation of the respondents. There were 21 respondents in this study.

### **3.7 Age**

Classification of respondents based on age is an indicator in determining a person's productive period of work. In running a business,

young people may be more productive at work. Zagata (2015) stated that with young farmers, modern agriculture will be formed and agriculture will have greater efficiency. However, this must be accompanied by good farmer regeneration. Also, with a high level of education so that agriculture can develop better.

Based on age, respondents in this study were dominated by respondents aged 20-29 and 30-39 years as many as 6 respondents or 28.57% of the total number of respondents, while the fewest respondents were >60 years old with 1 respondent. This shows that those who work as walnut farmers are predominantly the younger generation.

### 3.3 Education Level

In a field of work, the level of education greatly influences development and progress because the higher the level of education, the higher the skills or skills a person's ability to increase work productivity. Andayani (2018), states that a low level of education will affect passive coordinators in agricultural planning, and will also affect other work that can be done by farmers in an effort to increase income.

Table 1. Respondent Identity Based on Education

Education Level	Respondent	Percentage
No school	2	9,52%
Elementary school	6	28,57%
Middle school	4	19,05%
High school	9	42,86%
Total	21	100%

Source: Primary Data Processed in 2023

Based on table 1 above, it shows that the majority have a high school education level with 9 people or 42.86% of the total number of respondents, compared to 2 respondents or 9.52% of farmers who have no education.

### 3.4 Canary in Waikyon village

Canary plant is a tropical fruit plant that is widely found in Indonesia (Mayut, 2007) and spreads in North Maluku, especially on Makian Island (Rahman, 2011). Local people always take canary flesh to market, but in general farmers still have emotional relationships, whether friendships or family relationships, so farmers tend not to hesitate to sell their canary products to traders.

Raw canary kernels are canary kernels that are produced by the community using the following processes:

1. Picking up canary from the tree. After picking up the canary, the next stage is carried out, namely removing the black skin, namely the outer skin until it comes off, then soaking it in water until clean, drying it is complete, then the next stage is carried out, namely the sales process takes four or five days depending on the weather. After the drying is complete, the next stage is carried out, namely the sales process
2. Canary sales activities are utilized by farmers, namely they are sold directly to local traders, usually in the form of per kilo
3. The jutting is complete, the next stage is carried out, namely the sales process for four or five days, depending directly to local traders, usually in the form of per kilo with the price on the inside after the inner skin is opened, and has been set at IDR. 50,000-100,000.

The people of Waikyon village take canary from their own gardens by poking them. The pole tool used is made of bamboo. People pick canary every day because canary have no season. People usually do the work in groups or individually. Meanwhile, the tools used for processing are two large and medium sized stones when splitting as a place for walnuts and a pounding tool. Rock The ones used come from the beach because they don't break easily so they can be used for years.

The income results obtained from canary farmers in Waikyon village with a total of 21 respondents, there are different amounts of income in production per month can be seen in Table 2.

Table 2. Income of canary farmers in Waikyon village

Respo ndent	Production per month	Price per kg (Rp)	Total revenue (Rp)
1	10 kg	70.000	700.000
2	14 kg	70.000	980.000
3	15 kg	50.000	750.000
4	8 kg	90.000	720.000
5	11 kg	90.000	990.000
6	10 kg	70.000	700.000
7	7 kg	70.000	490.000
8	7 kg	90.000	630.000
9	10 kg	70.000	700.000
10	14 kg	70.000	980.000
11	12 kg	70.000	840.000
12	7 kg	90.000	630.000

13	8 kg	90.000	720.000
14	10 kg	100.000	1.000.000
15	7 kg	90.000	630.000
16	10 kg	100.000	1.000.000
17	8 kg	90.000	720.000
18	7 kg	90.000	630.000
19	10 kg	100.000	1.000.000
20	7 kg	100.000	700.000
21	10 kg	100.000	1.000.00
Total			16.510.000

Source: Primary Data Processed in 2023

It can be seen from table 2 that the largest amount of income per month is IDR 1,000,000 there were 4 respondents with a production quantity of 10 kg with a selling price of IDR 100,000 per kilogram, while for the smallest income, namely IDR 490,000, there was 1 respondent with a production quantity of 7 kg with a selling price of IDR 70,000 per kilogram.

### 3.5 Net Income

The net income or profit of canary farmers from the difference between total income and expenditure per month can be seen in table 3.

Table 3. Net income of canary farmers in Waikyon village

Respo ndent	Total reseipts (Rp)	Total costs (Rp)	Income (Rp)
1	700.000	300.000	400.000
2	980.000	400.000	580.000
3	750.000	250.000	500.000
4	720.000	150.000	570.000
5	990.000	200.000	790.000
6	700.000	-	700.000
7	490.000	-	490.000
8	630.000	-	630.000
9	700.000	150.000	550.000
10	980.000	500.000	480.000
11	840.000	500.000	340.000
12	630.000	-	630.000
13	720.000	200.000	520.000
14	1.000.000	400.000	600.000
15	630.000	-	630.000
16	1.000.000	300.000	700.000
17	720.000	200.000	520.000
18	630.000	-	630.000
19	1.000.000	350.000	650.000
20	700.000	200.000	700.000
21	1.000.000	300.000	700.00
Total			12.580.000

Source: Primary Data Processed in 2023

From table 3, there are total costs (expense costs) which are monthly expenses such as labor rental costs. Meanwhile, total income is the result of community income per individual obtained from monthly sales. From the results of the table above, it shows that the largest monthly income is IDR 790,000, there is 1 respondent, while for the smallest income, namely IDR 340,000, there is 1 respondent for the overall average value, namely IDR 12,580,000. For labor costs, it depends on the agreement between both parties, usually they are rented for IDR 50,000 up to IDR 100,000 in a day. Meanwhile, labor costs from within their own family, namely their wives and children, will not be paid, this is because the results obtained will return to their own hands. Unless the labor used comes from non-family workers, the payment system they use is in accordance with the hired labor payment system.

### 3.6 Social, Economic, and Culture Aspects

Most of the people of Waikyon village choose to become canary farmers because for them being canary farmers is very profitable in meeting their daily needs. The market potential for canary in Waikyon village is considered very large. Currently, dried canary are priced at IDR100 thousand per kilogram, while local farmers are able to obtain up to one kilogram of canary per day, this amount outside the harvest season can produce tens, even hundreds of kilograms per farmer. Seasonal harvests are carried out twice a year.

## 4. CONCLUSION

1. Canary processing has several processes, namely; taking or collecting canary from trees, splitting the outer shell of the canary until they are clean, drying the canary for four or five days or even one week depending on the weather, after the drying stage is complete, the canary kernels are split to extract the canary flesh. After the canary pulp is harvested, the next stage is sold to local traders at a price of Rp 50,000 – 100,000 per kilogram.
2. Income of canary farmers in Waikyon village, from 21 respondents. The smallest amount of community income is around Rp340,000 – 500,000, there are 5 people, for medium range Rp520,000 – 650,000 there are 11 people, while the highest income is around Rp700,000 -790,000 there are 5 people with an average value of Rp12,580,000.

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