

THE CONTRIBUTION OF GAMBIER (*Uncaria gambir* Roxb.) INCOME TO FARMERS' HOUSEHOLDS INCOME IN PESISIR SELATAN DISTRICT

KONTRIBUSI GAMBIER (Uncaria gambir Roxb.) PENDAPATAN TERHADAP PENDAPATAN RUMAH TANGGA PESISIR KABUPATEN PESISIR SELATAN

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ABSTRACT

Gambier productivity in Pesisir Selatan District is low, affecting gambier farmers' household income. Furthermore, the price of gambier fluctuates, especially between 2019 and 2022. This study aims to describe gambier cultivation carried out by farmers in Pesisir Selatan and analyze the contribution of gambier income to farmers' household income in Pesisir Selatan. This descriptive study used the survey approach on two districts of gambier-producing centers in Pesisir Selatan, namely Koto XI Tarusan and Sutera Sub-district. The sample size is sixty farmers, who were chosen using a purposive sampling strategy based on the criteria of farmers who have harvested their gambier. The data gathered include gambier farming activities, markets, production, revenue, costs, gambier income, and household income. The findings revealed that weeding and pest spraying were done three times each year on average. Farmers fertilize their crops between two and four times every year. Harvesting was also done 2-4 times a year. Gambier production averaged 899.83 kg each period, or 2,384.56 kg per year. The gambler's average selling price was Rp. 41,250, -/kg. The average gambier revenue each year was Rp 98,363,031.25, -. The annual income from the gambier business was Rp. 21,656,558.34, - or Rp. 1,804,713.19, - per month. Farmers' total annual revenue was Rp. 59,911,051.33, - or Rp. 4,992,587.61, - per month. Gambier contributed 36% of the total household income in Pesisir Selatan. Gambier farmers in Pesisir Selatan do not just grow gambier for a living. Rice farming and oil palm plantations provide additional household income.

Keywords: *contribution, farmer households, gambier, income, production*

INTRODUCTION

One of the agricultural commodities that has the potential to be developed is Gambier commodity. Gambier is one of West Sumatra's leading commodities because it can supply 80-90% of the total national Gambier production. Gambier plants are widely cultivated, especially in Limapuluh Kota and South Pesisir Districts. This plant

has an important role in the community's income, especially for farmers in the gambier production centers in West Sumatra. South Pesisir Regency is the second gambier production center after Limapuluh Kota Regency, contributing 42.5% of total gambier production in West Sumatra. Still, its productivity in 2020 was only 0.61 tons / Ha (Central Bureau of Statistics, 2021).

However, natural potential and market absorption capabilities have not been able to provide meaningful income contributions to individual and regional incomes. Until now, many problems have still been faced in the development of gambier. Gambier is included in crops with high economic value (*economic value commodity*), so it has potential as a source of income for farmers. However, the processing of gambier is quite intensive. It takes a long time, as well as uncertain market conditions which result in uncertainty in gambier prices at the farmer level, so that these conditions can have an impact on farmers' production and income (Silalahi, 2009), (Hendri, 2020); Masyrullahushomad *et al.*, (2017).

The gambier farmers' activities carried by society have sustained the community economy, but not evenly (Hansofino & Hardi, 2014). The prevailing culture of life among gambier farmers is generally mediocre (Rinaldo *et al.*, 2013).

The productivity and production of gambier will still need to affect gambier farmers' household income optimally. Low household income will affect the ability of farmers to meet the needs of farmer household members. Farmers will look for other sources of income or diversify their farming business to meet the needs of farmer households. The pattern of household income sources of Gambier farmers will affect their household income. This study aims to describe Gambier cultivation carried out by Gambier Farmers on the South Coast and Analyze Gambier income and its contribution to the household income of Gambier farmers on the South Coast.

MATERIALS AND METHODE

The study was conducted in the South Pesisir District. The location chosen is South Pesisir Regency because it is the second-largest gambling-producing area in West

Sumatra. The study was conducted from March 2023 to October 2023. This descriptive research uses a survey method of Gambier farmer households in two districts of Gambier production centers in South Pesisir Regency, namely Koto XI Tarusan and Sutera Districts.

This study used *cross-section data* sourced from primary and secondary data. Primary data were obtained through interviews with key informants and through questionnaires to farmers. Primary data includes the identity of farmers and farmer households, and farm business data consists of the use of inputs, labor, production, and income of farmers from agricultural and non-agricultural businesses. Secondary data is obtained from reports and data from several related agencies.

The population is Gambier farmers in two districts of Gambier production centers in the South Coast, namely District XI Koto Tarusan and Sutera. Sample selection was carried out by *non-probability sampling using the purposive sampling method*, with the criteria that farmers have gambier plantations that are already producing. The number of samples is calculated using Cochran's formula below:

$$n = \frac{Z^2 \cdot N \cdot \sigma^2}{(N-1) \cdot e^2 + Z^2 \cdot \sigma^2}$$

Based on this formula, the sample size is obtained as follows:

$$\begin{aligned} n &= \frac{1,96^2 \cdot 3.740 \cdot 747,57^2}{(3.740-1) 200^2 + 1,96^2 \cdot 747,57^2} \\ &= 55.92. \end{aligned}$$

The calculation above determined the sample to be as many as 60 gambier farmers already producing. With the determination of 30 sample farmers in Koto XI Tarusan District and 30 sample farmers in Sutera District, they have met the minimum sample limit that can be used to estimate variation

and population, assuming it is evenly distributed in the two sub-districts. The aspects observed are gambier farming activities starting from Maintenance, Fertilization, Harvesting, Post-Harvest, Gambier Processing, Market, production, receipt, cost, gambier income, and gambier farmer household income.

Data analysis for the first and second purposes uses qualitative descriptive analysis using tabulations. Gambier revenue is calculated by finding the difference between gambier revenue and the costs incurred/paid from maintenance activities to gambier processing until the gambier is ready to be marketed. Income from other farming businesses cultivated by farmer households is also calculated by finding the difference between farm revenue minus the costs paid.

RESULT AND DISCUSSION

Characteristics of Gambier farmers in Pesisir Selatan District

The characteristics of farmers described include gender, education, age, business experience, and number of family members. In general, the sex of gambier farmers was male, which was about 80%. Farmer education, in general, is still low. Namely, only elementary school and only about 3% of farmers have an education level as a bachelor. Generally, farmers are over 40 years old, about 73%. This indicates that farmers were at an advanced productive age, where their productivity had declined. The business experience of farmers was generally over ten years. This was in line with the age of farmers, who were generally over 40 years old. Jumlah anggota keluarga petani sekitar 4-6 orang. The number of family members will have implications for the source of income of farmer households and also the expenditure of gambier farmers. The characteristics of gambier farmers on the South Coast can be seen in Table 1.

Tabel 1. Characteristics of gambier farmers

Farmer characteristics	Person (org)	Percentage
Gender		
Man	48	80%
Women	12	20%
	60	
Education		
Elementary school	27	45%
junior High School	13	22%
Senior High School	18	30%
Undergraduate	2	3%
	60	
Age		
<20	0	0%
20-40	16	27%
41-65	42	70%
> 65	2	3%
	60	
Business Experience		
< 10	11	18%
10 sd 20	25	42%
> 20	24	40%
	60	
Number of Family Members		
1 sd 3	14	23%
4 sd 6	44	73%
> 6	2	3%
	60	

Gambier farmers use their land not only for gambier farming but in general, farmers also have rice fields. The average area of gambier land owned by farmers was 1.18 ha, while the average paddy field area was 0.86 ha.

Farmers in the Surantiah District have more farming business diversification than farmers in Koto XI Tarusan District. Some farmers in Surantiah sub-district have corn farming businesses and oil palm, coffee, and clove plantation land. Table 2 shows the allocation of land use from gambier farming households.

Table 2. Land Use Allocation of Gambier Farmer Households

Land Use Allocation of Gambier Farmer Households	
	Land Size(ha)
Gambir	1,18
Rice	0,86
Corn	0,96
Coffee	1,33
Clove	1,36
Palm	2,58

Gambier Cultivation by Gambier Farmers in Pesisir Selatan District

Cultivation activities carried out by gambier farmers are maintenance, fertilization, and gambier harvesting. In general, maintenance activities are carried out through weeding and spraying. Weeding is done by clearing weeds around the gambier stem or by spreading roundup around the gambier stem. The average weeding and spraying are carried out three times a year. Costs incurred for maintenance activities amounted to Rp. 6.172.333,- per period or Rp. 18.517.000,- per year. The average number of workers used for maintenance activities is six people.

Farmers also carry out fertilization activities on gambier plants. The average frequency of fertilization carried out by farmers is 2.65 times per year. The average cost incurred for fertilization is Rp. 3,387,252.08,- per year. The average amount of labor used for fertilization activities is three people. The types of fertilizers used by farmers vary. About 67 percent of farmers use ponska and urea fertilizers to fertilize gambier plants.

Harvesting activities are carried out by farmers cutting leaves using scissors or ani-ani. Harvesting activities are carried out 2-4 times per year or an average of 2.65 times yearly. The average cost incurred for harvesting activities is Rp. 49,890,887.5 per year, with an average workforce of 14 people.

Table 3. Types Of Fertilizers Used by Farmers

Types of Fertilizers	Amount of Farmers	Percentage
Ponska dan Za Poska dan Urea	6	10%
Urea	40	67%
Urea	5	8%
Urea, Ponska, Garam	1	2%
Urea, SS, Ponska	7	12%
Urea, SS, SP36, Ponska	1	2%
Total	60	100%

After harvesting, gambier processing is carried out by farmers at home gambier felts. There is a difference in processing costs between gambier farmers in Surantiah District and Tarusan District. Gambier processing in Surantiah District is carried out directly at the garden's location, with processing costs included in the harvesting costs. Gambier processing in Tarusan District is carried out in a different place from the area of the gambier garden, brought to the gambier felt. Hence, the costs incurred are other from the cost of harvesting. The frequency of gambier processing is also around 2-4 times per year or an average of 2.65 times per year. The average processing cost incurred is Rp. 47,786,345.83,- per year. The average number of workers needed for processing activities is 20 people.

The result of Tasya & Tavi (2018) showed that the area of productive plants, the use of fertilizers, and the experience in farming positively and significantly influenced the amount of harvested gambier leaf, the types of seeds, and the use of pesticides. However, the age of productive plants has a negative and significant influence. Meanwhile, the number of productive plants has a positive impact, and the number of cultivation laborers has a negative effect, although it is not significant. The number of processing

laborers has a positive and significant influence on the production of dried gambier sap, while the amount of harvested gambier leaf has a positive but not significant influence. Variables influencing the amount of harvested gambier leaf cannot influence the production of dried gambier sap indirectly through the mediation of the amount of harvested gambier leaf.

Household Income of Gambier Farmers

Based on the use of land carried out by farmers, farmers also get revenue from producing the crops produced. In addition to revenue from gambier, farmer households also get income from rice, corn, and oil palm plantations, while coffee and cloves have not been produced so they have not provided revenue for farmers.

Table 4 shows that the portion of farmers' revenue from gambier was 42 percent of all farmers' household revenues, which was Rp. 98,363,031 per year, followed by revenues from oil palm, amounting to Rp. 81,666,667 per year or 35 percent of the total revenue received by farmers. Revenue from rice amounted to Rp. 38,342,062 per year or 17 percent, while revenue from corn plants amounted to Rp. 13,861,000 per year or 6 percent.

Table 4. Revenue Of Crops Cultivated by Farmers

Revenue of Crops	Amount (Rp/th)	Percentage (%)
Gambir	98.363.031	42
Rice	38.342.062	17
Corn	13.861.000	6
Coffee	0	0
Clove	0	0
Palm	81.666.667	35

The average gambier production produced was 899.83 kg per production period or 2384.56 kg per year. The average selling price of gambier is Rp. 41.250,-/kg. Economically, gambier commodities still have viable prospects for development. Nasrul (2017) shows that the B/C ratio value of the cash cost of gambier plants is 1.53. This means that every cost incurred of Rp. 1.00 will bring revenue of Rp. 0.53.

The average gambier receipt was Rp. 98,363,031.25,- per year. Income from Gambier business was Rp. 21,656,558,34,- per year or Rp. 1,804,713,19,- per month. The results of this study are different from research (Rahmadani and Zuwardi, 2023) which found the income of gambier farmers in Nagari Pati, Kapur IX District, Fifty City Regency of Rp. 44,072,915/year or 3,672,742/month. This shows that gambier income in South Coast is lower than gambier income in 50 City District. Sarni & Setiawan (2013) production and land area have a real effect on the income level of gambier jasmine farmers. Meanwhile, Evalia, et al., (2012) found that the profit from the gambier business in West Sumatra was Rp1,221,744.

The total income of farmer households was Rp. 59,911,051,33,- per year or Rp. 4,992,587.61,- per month. Gambier's contribution of total household income to families on the South Coast was 36 percent. gambier farmers in South Pesisir District not only make gambier business as a source of household income. Other sources of household income come from rice farming and oil palm plantations. Aulia, et al., (2021) also said that the occurrence of fluctuations in gambier commodity prices requires farmers to find strategies. Other alternatives as an effort to obtain income to meet needs daily life. The actions taken by farmers are very diverse, namely: diversify livelihoods, open other businesses, make savings, do a loan to tengkulak gambir, do a loan to formal institutions.

Maya & Hendra (2023) found that the socio-economic life of gambier farmers in Kenagarian Siguntur, South Pesisir Regency is quite prosperous, where the main income of farmers comes from gambier. This is further supported if the price of gambier is getting better. Desna, et al., (2022) also said that diversification of processed gambier products can improve the welfare of gambier farming communities.

Added by Nasution (2021), farmers can benefit from gambier farming in North Sumatra, although it is low, farmers still work on it, therefore it needs increased government attention so that farmers can develop gambier commodities as one of the export commodities.

CONCLUSIONS

Cultivation activities carried out by farmers consist of weeding, fertilizing, harvesting and processing Gambier. The greatest use of costs and labor is found in the activities of harvesters and gambier processing processes. There was a difference between the gambier processing process in Koto XI Tarusan district and Surantiah. The average gambier receipt was Rp. 98,363,031.25,- per year. Income from gambier business was Rp. 21,656,558,34,- per year or Rp. 1,804,713,19,- per month. The total income of farmer households was Rp. 59,911,051,33,- per year or Rp. 4,992,587.61,- per month. Gambier's contribution of total household income to families on pesisir selatan was 36 percent. This shows that the source of income for gambier farmer households does not only depend on gambier farming, but there are also other businesses that are sources of income for gambier farmer households.

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