

Comparative Benefits of People's Plantation Business in North Aceh District

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ABSTRACT: This research was conducted on smallholder plantation businesses in Aceh Utara District, Aceh Province with the aim of analyzing the differences in profits in coconut and betel farming and examining the obstacles and opportunities in developing these businesses that have an impact on farmers' welfare. The analysis method used is descriptive qualitative analysis method and analysis of the Independent T-test. The results of the analysis show that the obstacles in developing these businesses are the limited processing industry, unstable prices, limited cultivation technology and limited farmers in adopting cultivation technology. The development opportunities are natural conditions that are very suitable, the motivation of farmers and a promising market prospect. The results of the profit difference analysis show that there are very significant differences in profits in the two businesses. The average profit of betel nut farming is higher than coconut farming because the productivity and price of coconuts are lower than that of betel nut. In addition, generally coconut farmers in the research locations market their coconuts directly after they are harvested, and farmers rarely consider the selling price factor. While betel farmers market it in the form of dried betel nut, so the selling price tends to be more stable. If the price for betel nut is too low, farmers will generally keep the betel nut for a while until the price stabilizes.

Key words: comparative, profit, coconut, betel nut

I. INTRODUCTION

One of the agricultural sub-sectors that has contributed significantly to the Indonesian economy is the plantation sub-sector. Apart from contributing to the provision of jobs and meeting the demand for raw materials for domestic industries, this sub-sector also contributes to increasing foreign exchange earnings through exports. The plantation sub-sector has a large enough opportunity to be developed. This is very reasonable considering that almost all plantation

commodities have a fairly high export value. Even the Minister of Agriculture Syahrul Yasin Limpo (2019) said that plantations are the most promising sub-sector for increasing foreign exchange and improving people's welfare.

The plantation sub-sector commodities that have the highest export value and are classified as national commodities include oil palm, cocoa, tea, tobacco, coffee, cloves and several other plantation commodities. Various types of plantation crops are developed in almost all regions in Indonesia. However, each region has several superior commodities which generally differ from one region to another. This really depends on the climatic conditions in accordance with certain commodities and also the policies of the respective local governments. Aceh Utara District Aceh Province is one of the districts with great potential for the development of plantation commodities. Among a number of plantation commodities developed in this area, oil palm is a commodity that has the largest area compared to other commodities. This is very reasonable because several years ago the Aceh provincial government was very enthusiastic about carrying out large-scale development of oil palm plantations, including in North Aceh District. Unfortunately, the expansion of smallholder oil palm plantations has not been followed by adequate development of the Crude Palm Oil (CPO) industry.

The results of research conducted by Mawardati (2016) concluded that with an area of oil palm plantations in North Aceh District, ideally it must have a CPO industry. factory with a capacity of 30 tonnes installed. Therefore, many oil palm farmers sell fresh fruit bunches (FFB) outside North Aceh District and even to North Sumatra. This condition certainly requires high marketing costs and lowers the quality of CPO produced. In connection with some of these problems, plus the issue of environmental conditions, the current North Aceh district government policy remains focused on developing plantations but is urged to

expand the plantation area to choose a commodity other than oil palm. Based on the above conditions, the question for all parties at this time is which plantation commodities are suitable for development in North Aceh District. Based on data from the North Aceh Regency Plantation Service (2019) various types of plantation commodities are found in this area. However, coconut and betel nut are the 2 commodities that have the largest area apart from oil palm. In addition, these 2 commodities are also developed in all districts in this district. This means that agro-climatically the 2 commodities are suitable to be developed in North Aceh Regency but in terms of productivity it is still low.

Farmers' problems are not only low productivity but also low and volatile selling prices. In addition, there are differences in production costs and product selling prices between one commodity and another. Likewise, the farming of deep coconut and betel nuts, so that it will affect the differences in profits and welfare of the farmers from each of these businesses. Based on this condition, the problems that need to be examined in this study are related to the factors that become obstacles in the development of coconut and betel nut in smallholder plantations in Aceh Utara District, then the structure of costs and income / benefits for the two commodities and it is necessary to compare whether there are the income / profit gap between these commodities has an impact on the welfare of farmers. For the government to become the basis for formulating policies related to the development of smallholder plantations, especially coconut and betel nut commodities in improving the welfare of farmers in North Aceh Regency.

II. METHODOLOGY

This research was conducted in North Aceh District using a survey method. The population in this study were all coconut and betel farmers in the research location. Sampling was conducted in 4 (four) districts that have the largest area of coconut and betel nut compared to other districts, namely Lhoksukon District, Baktia District, Kuta Makmur District and Sawang District. Furthermore, in each sub-district 10 coconut farmers and 10 betel farmers were selected using snowball techniques, so the total sample in this study was 80 families with 40 coconut farmers and 40 betel farmers.

Data analysis in this study used a qualitative descriptive method to obtain information related to obstacles and opportunities in developing coconut and betel farming.

Meanwhile, quantitative descriptive method is used to analyze the benefits and profit difference test. To calculate profit, the formula is used:

$$\pi_i = TR_i - TC_i$$

π_i = Profit for group i

TR_i = Total revenue (revenue) group i

TC_i = Total Cost (total cost) group i

Meanwhile, to analyze the differences in the profits of coconut and betel business, the Analysis Independent Sample T test is used. This analysis is a type of statistical test that aims to compare the mean of two unpaired groups. In other words, the research was carried out for two different sample subjects. Before doing the test, it must first be known whether the variance is the same (equal variance) or the variant is different (unequal variance). The homogeneity of the variants was tested by the formula:

$$F = \frac{S_1^2}{S_2^2}$$

F = count F value

S_1^2 = The largest variant value

S_2^2 = The smallest variant value

If the analysis results show Levene's Test for Equality of Variances the value of F sig. > 0.05, the data variant of the profit in coconut oil and the profits from the areca nut business is homogeneous. Conversely, if Levene's Test for not Equality of Variances the value of F sig. < 0.05, the data variant of the profits from the coconut business and the profits from the betel nut business are not homogeneous. The T test for homogeneous variants uses the Pooled Variance formula as follows:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

The T test for non-homogeneous variants uses the Separated Variance formula as follows:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

X_1 = Average coconut business profit (IDR / production process)

X_2 = Average profit of betel nut (Rp / production process)

S_1^2 = The profit variance of coconut
 S_2^2 = The profit variance of betel nut
 n1 = Number of samples of coconut farmers (people)
 n2 = Number of samples of betel farmers (people)

The decision making criteria in the independent sample t test used in this study are:

1. If the Sig. (2-tailed) > 0.05 means that there is no difference in the average profit of the coconut business with the betel business
2. If the value is Sig. (2-tailed) < 0.05 means that there is no difference in the average profit of the coconut business with the betel business (V. Wiratna Sujarweni, 2014).

III. RESULTS AND DISCUSSION

A. Constraints and Opportunities for the Development of Smallholder Coconut and Pinang Plantation Businesses in Aceh Utara District.

With the end of oil and gas as the main revenue in North Aceh District, the local government redirected the regional economic development through the development of the agricultural sector. The plantation sub-sector is one of the leading sub-sectors in this area with a special focus on smallholder plantations. Among a number of smallholder plantation commodities, coconut and betel nut are included in the commodities that have the largest area apart from oil palm. In the development of these two commodities, it turns out

that they are faced with various obstacles such as limited processing industry, unstable prices, cultivation technology is still limited in addition to internal factors of the farmers themselves, such as limited farmers in adopting cultivation technology. However, on the other hand, the development of these two types of commodities has considerable opportunities.

Some of these opportunities include natural conditions that are very suitable, and high motivation of farmers towards the development of these farms as well as promising market prospects.

B. Production Costs of People's Coconut and Pinang Plantation Business in North Aceh District.

Availability of capital greatly affects the size of the production resulting from a production process. Production cost is a capital component that is needed in a production process. According to M. Nafarin (2009), production costs are all costs associated with the goods produced, The size of coconut and betel nut production at the research location is also determined by the number of production costs used in the business. This research was conducted on traditional smallholder plantations with less intensive management systems. Thus the use of production costs used is also generally not efficient. The results showed that the average production costs used by coconut farmers and betel farmers at the research location are shown in Table 1.

Table 1. Average Cost of Production for Smallholder Coconut and Pinang Plantation Businesses at the Study Sites, 2020.

Biaya Produksi	Usahatani Kelapa	Usahatani Pinang
Biaya Produksi / luas lahan	4.905.544,00	20.651.063,00
Biaya Produksi / hektar	6.157.587,17	11.656.212,48

Table 1 shows that there are differences in the average use of production costs in smallholder coconut and betel plantations in Aceh Utara District. The production costs for smallholder betel plantations are higher than those for coconut plantations. The high production costs in the betel nut plantation business are caused by differences in the cost of maintaining the garden and plants. Most of the betel farmers care for their plants by applying fertilizers and eradicating pests and diseases even though they are not yet according to recommendations. In addition, betel nut farmers also clean their betel gardens at least once a year. In contrast to coconut farmers who almost never

take care of either plant maintenance or garden cleaning. At the research location, it was found that farmers only planted coconut trees, then waited for harvest and harvested continuously until the plants stopped producing. Coconut farmers never carry out plant maintenance such as fertilization, eradication of pests and diseases including cleaning the garden. This condition turns out not only to occur in smallholder coconut plantations, but in other agricultural businesses. Ellyta Effendy, et al (2019) also found that generally patchouli farmers in Aceh Province also did not fertilize their plants.

C. Profits and Analysis of Differences in Profits on Smallholder Coconut and Pinang Plantation Businesses in Aceh Utara District.

Profit or net profit is the difference between the total revenue (Total Revenue) and the total cost (Total Cost) incurred in a business. The amount of output and the selling price also affect

the size of the profits obtained because total revenue is the multiplication of the total output and the selling price.

The results showed that the average profit in smallholder coconut and betel palm plantations is shown in Table 2 below:

Table 2. Average Profits of Smallholder Coconut and Pinang Plantation Businesses in North Aceh District, 2020.

Keuntungan	Keuntungan Kelapa	Keuntungan Pinang
Keuntungan/luas lahan	23.744.456,00	94.302.013,00
Keuntungan/hektar	29.804.755,93	58.100.766,59

The results of the analysis in Table 2 show that the average profit of a betel nut business is much greater than the average profit from coconut business on smallholder plantations in Aceh Utara District. In other words, it can be explained that the profit of smallholder betel plantation business is almost two times or 94.94 percent higher than that of smallholder coconut plantation business. This finding is in line with the results of research by Akhmadi, et al. (2019) who found that the comparison between coconut and betel business in the people's plantations in Sungai Beras Village, East Tanjab Regency, obtained the highest income results in the betel business in one year amounting to Rp. 110,200,000 while the coconut business income for one year is Rp. 14,400,000. It can be explained that the high average production costs used in the smallholder betel plantation business is followed by the high production produced coupled with the stable selling price of betel nut which causes the people's betel business to gain greater profits than the people's coconut plantation business. However, to prove whether the difference is statistically significant or not, it is analyzed by using the profit difference test.

The results of the profit difference test using the Independent Sample Test show that the Sig. Levene's Test for Equality of Variances is 0.03 <0.05. This shows that the data variance between the average profit of betel nut and coconut on smallholder plantations is not the same or not homogeneous (V. Wiratna Sujarweni, 2014). Therefore, henceforth, it must be guided by the value contained in the Equal variances not assumed table in the Independent Samples Test output. The output results in the equal Variances not assumed column show a sig value. (2-tailed) of 0.00 <0.01. Thus it can be concluded that there is a very significant difference between the average profit in the smallholder betel and coconut plantation business in Aceh Utara District, Aceh Province. In line with these findings (Sukamto, 2001), it is said

that coconut plantation business in Indonesia is rather difficult to develop because it is competitive with oil palm. Deep coconut plantations in Indonesia are dominated by smallholder plantations whose management is still traditional. However, if managed properly, such as being able to minimize the cost of harvesting, it will be able to increase farmers' net income (Eyverson et al., 2011). This shows that although smallholder coconut plantation business has lower profits than smallholder betel nut plantations, it is still feasible to be cultivated as the results of Masse, M and Affandi's research (2017) concluded that coconut in smallholder plantations is feasible to be cultivated with an R / C ratio = 2 or > 1. Furthermore, Mawardati (2019) adds that although the betel nut business is more profitable, its management is still traditional. Therefore, assistance is needed so that farmers can increase production and profit from their betel nut plantation business.

IV. CONCLUSIONS

1. There are various obstacles in the development of both coconut farming and betel farming in North Aceh District. such as limited processing industry, unstable price, cultivation technology is still limited in addition to the internal factors of the farmers themselves, such as the limitations of farmers in adopting cultivation technology. But on the other side, the development of these two types of commodities has considerable opportunities. Some of these opportunities include natural conditions that are very suitable, and high motivation of farmers towards the development of these farms as well as a promising market prospect.
2. There are differences / gaps in profits in the coconut business and smallholder betel nut

business in Aceh Utara District, Aceh Province. This difference is due to the fact that betel farmers are better at maintaining betel palms than coconut farmers and the selling price of betel nuts is more stable than the selling price of coconuts.

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BIBLIOGRAPHY

- [1]. Akhmadi. et al, 2019. Comparative Study of Income Levels between Inner Coconut and Betel Businesses in Smallholder Plantation in Sungai Beras Village, East Tanjab Regency. Journal of Economics and Business Scientific Volume 10 Number 2, pages: 68 - 74. <http://eksis.unbari.ac.id/index.php/EKSIS/article/view/164> (accessed August 5, 2020)
- [2]. [BPS]. North Aceh District Statistics Bureau (2019). North Aceh in Numbers. North Aceh District Statistics Bureau.
- [3]. Eyverson. et al, 2011. Study of Coconut Farming Management in Tolombukan Village, Pasan District, Southeast Minahasa Regency. ASE Journal - Volume 7 Number 2, pp: 39 – 50
- [4]. Masse, M and Affandi, 2017. Income and Feasibility Analysis of Inner Coconut Farming in Kasoloang Village, Bambaيرا District, North Mamuju Regency, West Sulawesi. eJurnal Agrotekbis - Volume 5 Number 1, pp: 66-71. <https://media.neliti.com/media/publications/242387-analisis-pendapatan-dan-kelayakan-usahat-51b46c19.pdf> (accessed August 2, 2020).
- [5]. Mawardati, 2015. Analysis of Factors Affecting Farming Income Betel nut in Sawang District, North Aceh Regency. Agrisep's Journal. Volume 16 No.1, pp. 61-65. <http://jurnal.unsyiah.ac.id/agrisep/article/view/3032> (accessed July 6, 2020).
- [6]. Sujarweni, V. Wiratna. 2014. Research Methods: Complete, Practical, and EasyUnderstood. Yogyakarta: New Library Press.
- [7]. Sukamto, 2001. Efforts to increase coconut production. PT. Self-Help Spreader. Jakarta.
- [8]. Syahrul Yasin Limpo, 2019. Plantation Sector Mainstay Foreign Exchange and Farmer Welfare. Economic News. <https://www.wartaekonomi.co.id/read254999/sector-perkebunan-andalan-devisa-dan-kesejahteraan-petani> (Accessed diakses July 5, 2020).
- [9]. Nazir, Moh. 2005. Research Methods. Jakarta: Ghalia Indonesia.