Analysis of Income, Costs and Income Distribution of Coconut Sugar Craftsmen in Cilongok District

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ABSTRACT

This research is a survey study of 53 coconut sugar craftsmen in Batuanten Village, Cilongok District, Banyumas Regency. Batuanten village was chosen as the research location because the number of coconut sugar craftsmen there is at the most among 20 villages in Cilongok District. The objective of this study is to analyze income, costs and income distribution using method of analysis by calculating total income (TR = P x Q), total costs (TC = FV + VC), net income (Y = TR - TC) and calculating the Gini Index (GI)

This analysis resulted: 1) overall, coconut sugar produced by respondents per month is 6,790.15 kg, the average respondent produces 128.12 kg. The selling price of sugar is between Rp11,000 to Rp18,000. The total income of respondents is Rp100,570,000 with an average of Rp1,897,547; 2) the total cost of production is Rp22,997,759 per month with an average of Rp433,920. The costs consist of total fixed costs (FC) of Rp3,364,425 with an average of Rp63,480 and total variable costs (VC) of Rp19,633,333, with an average of Rp370,440; 3) the total net income is Rp77,572,241 with an average of Rp1,463,627 which is still below the minimum wage for Banyumas Regency, i.e. Rp1,970,000; 4) The GI of the craftsmen is 0.22, indicating that the income distribution among the craftsmen is spread evenly.

The overall implication is that the economic condition of coconut sugar craftsmen still does not meet the necessity of a decent living equal to the minimum wage. In order to increase the income of craftsmen, it is necessary to equalize selling prices that are profitable for craftsmen and doing side businesses, therefore the participation of the government is needed in order to improve production skills and the spirit of entrepreneurship for the family members of craftsmen.

Keywords: Coconut sugar; Gini Index; Regional Minimum Wage; Decent Living Necessities; Entrepreneurship.

1. Introduction

Coconut sugar craftsmen are people who carry out productive economic efforts to make coconut sugar by processing coconut sap water into molded coconut sugar. This business is one of the informal sector activity, that is a private business. The coconut sugar business are generally carried out by the craftsmen or the maker as a main livelihood by the head of family. The reasons behind choosing this business are the absence of a formal sector that can accommodate their

workforce, low levels of education and the availability of economic resources due to natural conditions.

According to Achmad Husain at National Workshop about Developing Coconut Sugar and Palm Sugar, said that in Banyumas regency specially in Cilongok district become one of seven district that have the highest number of craftsmen, production and productivity of coconut sugar business in Banyumas Regency. From the total of coconut sugar craftsmen in Banyumas regency that is 16.877 people, as much as 6.512 people (39 percent) are in Cilongok district. From the total of coconut sugar production in Banyumas regency that is 112.948 kg per day, as much as 48.964 kg (43 percent) are produce in Cilongok district. For the productivity of an average craftsman reaches 7.5 kg per day, while the average productivity of coconut sugar craftsmen in Banyumas Regency is 6.10 kg. In Cilongok Subdistrict, there are five villages with the highest number of craftsmen, namely Batuanten, Langgongsari, Sudimara, Rancamaya and Kesegeran. Batuanten is a sample village in this research, because it has the highest number of craftsmen that is 529 people or 29 percent from the total coconut sugar craftsmen among those 5 village.

As a main livelihood production of coconut sugar, with the highest number of the craftsmen, production and productivity are should be necessary to maintain the sustainability of is business, especially considering that coconut sugar production is very dependent on nature and also that coconut sugar is one of the most important food needs. According to Scott, J,T 2013 said that the sustainability of a business is not only depend on environment but law, finance, economics, industry, social, material and behavior.

Maintaining business sustainability in the economic field, namely by taking into account the production costs and income. As the main livelihood of craftsmen, of course, the income generated from their business activities must be able to meet the needs of a decent living for their families. This study will analyze income, production costs and how the distribution of income and production costs of coconut sugar craftsmen and their income level in relation to meeting the needs of a decent life as measured by income equivalent to the Decent Living Needs (KHL) of Banyumas Regency in 2021.

2. Literature Review

2.1 Informal Sector

Based on Wihardja Maria Monica and Wendy Cunning, 2021 state that informal sector jobs are self-employed and/or assisting businesses or family businesses who are not bound by a work contract, the wages received are generally low and even those who assist family businesses are generally unpaid. N. Benjamin, A. A. Mbaye, I. A. T. Diop, Stephen S. Golub, D. Haughton, and B. B. Niang. 2012 states that the characteristics of the informal sector include unregistered business activities and use domestic workers or family workers. Therefore the characteristics of informal sector are having small scale of business activity, have no law firm, risk take by the business men itself and no clear administration.

According to BPS, 2014 in the informal sector, business units created either in thr form og goods and or services as job opportunities and source of income. Small scale of business, as well labor

and modals. Looking for the labor status, most of them are temporary workers or family workers and the relation between employer and worker is private and social relationship instead of formal relationship. Production unit in informal sector has characteristics as a household unincorporated enterprise. The liability of the owner is not limited because the fixed assets and other assets used for the business do not belong to the production unit but belong to the owner. Likewise, in the case of production expenditures, it cannot be distinguished from household expenditures. Informal sector business activities are not legal entities and are generally not licensed, making it difficult to obtain capital from outside parties and also avoiding taxes.

According to Bappenas, 2020 the characteristics of informal sector activities are : 1) simple management system; 2) have no business license; 3) low modals; 4) labor intensive; 5) low productivity; 6) low formal education; 7) simple technology; 8) most of the workers and also the owner is family; 9) easy to in and out of business. Nevertheless the role of informal sector to economic is very important in Indonesia, especially to employment and decrease unemployment. Based on the result of the 2020 national workforce survey, of the 138,22 million workforce in Indonesia, the informal sector is able to absorb as much as 60.47 percent, this is because either because of the limited absorption of labor in the formal sector and or because of the condition of the ability of the workforce that cannot meet the quality standards determined by the sector formal. Of the employment as much as 60.47 percent, 44.27 percent are in urban areas and 55.73 percent are in rural areas. Informal sector jobs in rural areas generally depend on nature and/or resources in the rural areas concerned.

2.2 Informal Sector Business Income

Income is an acquisition of result due to carrying out productive economic activities in the form of providing labor production and production result, Kuncoro Mudrajat, 2015. As a unit of economic business, informal sector calculate that income is depend on the ability of business productivity multipled with production price. In general the production price in informal sector less than market price, it is because the producer are less able to market their product or lack of marketing network itself, Rahajuni Dijan, Siti Badriah Lilis, Lestari Sri dan Rafinda A, 2019. Also because the low of education level and the product quality.

In order to counting production cost there is no detail step, they only counting on the money spent to buy production needs, especially variable cost expense. It is because they implicit costs that should be incurred and fixed costs. Implicit cost is a costs that should be expend by company or an income that should be take by the labour of informal sector, but not counting as an income. Hal ini mereka banyak mengimplisitkan biaya-biaya yang seharusnya dikeluarkan dan variabel biaya tetap, Mankiw N. Gregory, 2003. It is support with one of the characteristics of informal sector that use family as workers.

2.3 Income Distribution

The concept of income distribution is to measuring the condition of income inequality in a group or society. Measuring income inequality is necessary in order to built or develop social economic condition, it because inequality that occurs in the society can trigger social unrest and social violence which can later hinder effort to implement economic development. The problem on

income inequality is a problem about an effort to reach the living standard in society. Therefore in effort to find the right policy still need to know the condition of income distribution that exists in society, the measure of income distribution is Gini Ratio, Kuncoro Mudrajat, 2015.

3. Research Methodology

This research is done to the coconut sugar craftsmen at Batuanten, Cilongok district, Banyumas regency on April 2021, the number of sample is 10 percent or 53 people from total of coconut sugar craftsmen that exist, the method are survey and interview. The analysis of craftsmen's income through, Madura 2001 :

3.1 Income of coconut sugar business is calculate through

Y	= TR - TC
TR	= Q x P
TC	= FC + VC

Keterangan:
Y	= income of coconut sugar craftsmen
TR	= total income
Q	= production quantity per month
P	= selling price of coconut sugar
Tc	= total cost
Fc	= fixed cost
Vc	= variable cost

3.2 To devide the income and cost condition in group of low, middle and high:

Low (K1)	= smallest data + (Ci-1)
Middle (K2)	= (K1+1) + (Ci -1)
High (K3)	= (K2+1) + Ci

Range data is calculate through, Sugiono, 2012:
Ci	= R/K
Ci	= interval class
R	= range (big data minus small data)
K	= number of class

The categories of income and cost:
Low (K1)	= smallest data + Ci-1
Middle (K2)	= K1 + Ci
High (K3)	= K2 + (Ci-1)

3.3 To analyze the income and cost distribution is measure with Gini Ratio, that is, BPS, 2021:

$$GR = 1 - \sum_{i=1} f_{pi} x (Fc_i + Fc_{i-1})$$

Which is:

IG (Gini ratio) = gini coefficint

Fpi = population frequency in i-th expenditure class

Fci = cumulative frequency from total expenditure in i-th expenditure class

Fci-1 = cumulative frequency from total expenditure in 1-th expenditure class

The categories of inequality, (Kuncoro Mudrajat, 2015)

GR = < 0,4 is low inequality

GR = > 0,4 is high inequality

4. Results

4.1 Respondent's Condition

Respondents in this study were sugar craftsmen who took coconut sap water (penderes), the sexes of the respondents were all male and they were also the head of the family. The condition of the respondents in terms of age, education level, and the number of coconut tree that is taken the sap water are :

Table 1. The Age, Education and Number of Coconut Tree that is Taken the Sap Water at Batuanten village, Cilongok, Banyumas, April 2021

Categories	Age		Education		Number of Tree	
	Group	Total	Group	Total	Group	Total
Low	33 – 44,33	9	Elementary School	51	12 – 21	26
Middle	45,33 – 56,66	21	Junior High School	1	22 - 31	26
High	57,66 - 70	23	High School	1	32 - 40	1

Based from the age category, there is much respondent in old condition, namely between 57,66 – 70 as many as 23 respondents or 43,4 percent. In this condition, it will affect to their ability to climb coconut trees and take the sap water itself. Based from the education category, there is only one respondent who graduate until high school level, and only one respondent who graduate in junior high school level. It is mean that most of the respondents only graduate until elementary school as many as 96 percent. Based from number of coconut trees taken by the respondents as a whole as many as 1,227 trees, the average respondent took the sap from coconut trees as many as 23 trees, with the category of respondents who took sap in the low group as many as 26 people, as well as those in the medium group, only one person who takes sap in the high group.

Only 26 respondents or 40 percent who took the sap water from their own trees. A total of 27 respondents took sap mixed, meaning that someone took sap from other people's trees. From that 27 people with mix method, the average of the trees ownership is less than 10 trees. In this mixed method, on average, the system uses the system of depositing sap water from the tree owner at a certain time according to the agreement, for example five days for taking the sap to be processed by themselves and 5 days for the tree owner.

Time to take the sap water is twice a day, which is in the morning about 5 am – 12 pm and in afternoon around 3 pm – 6 pm, with the average of taken time is 3 hours. The length of travel time depends on the distance from one coconut tree to another and the distance from the house to the place where there coconut tree is, the average distance from the closest coconut tree from house is 28 meter and the furthest is 396 meter.

4.2 Respondent's Gross Income

The income of coconut sugar craftsmen respondents comes from the sale of processed coconut sap, the income referred to here is gross income before deducting production costs. The processing of sap into coconut sugar is done by boiling the sap to a certain thickness until it can be molded into molded coconut sugar, the average cooking time for the sap to thicken is between 5-6 hours. Table 2. shows the amount of production, selling price and income of craftsmen based on low, medium and high categories.

Table 2. Categories of Total Production, Selling Price and Income of the Craftsmen in Batuanten village, Cilongok, Banyumas, April 2021:

Categories	Total Production(kg)		Selling Price (Rp)		Gross Income (Rp)	
	Group	Total	Group	Total	Group	Total
Low	10 - 29	16	11.000 – 13.332	36	100.570-396.665	17
Middle	30 - 69	29	13.333 – 15.665	16	396.666-688.332	35
High	70 - 100	8	15.666 – 18.000	1	688.333-980.000	1

The average of selling product is done once a week, or 128,12 kg per month, but according to total of sugar sell only 16 respondents who sell in low selling group, 29 respondents in middle selling group, and 8 respondents in high selling group. The sugar's price selling is different, it is about Rp11.000 – Rp18.000 with its average is Rp12.456 depend on the quality and the buyers. For sugar's buyers who has work together with the exporter will get a high price than a price for local buyers. Therefore the craftsmen's gross income is different beside from the different of the abilities production also from the selling price. Total of gross income that was received by the craftsmen each moth is Rp100.570.000 with an average of Rp1.897.547. The smallest income in each week is Rp105.000 and the biggest income is Rp980.000, most of the craftsmen are in middle income group as many as 35 respondents or 60 percent.

4.3 Production Costs

Like the other goods production, the coconut sugar craftsmen also need fix cost production and variable cost production, except for labour cost that don't calculate as cost production. This is because to take coconut sap is done by the respondent himself, as well as to process sap water is done by his household members in this case by his wife. Therefore, in this case the cost of labor is calculated by the respondent as income. Production cost conditions are shown in Table 3 below :

Table 3. Coconut Sugar Production Costs per month at Batuanten village, Cilongok, Banyumas, April 2021

Categories	Fix Costs (Rp)		Vaviable Costs (Rp)		Total Costs (Rp)	
	Group	Total	Group	Total	Group	Total
Low	9.700 – 117.967	2	195.500-321.371	19	221.250-393.335	22
Middle	117.968-226.237	9	321.372-447.244	25	393.336-565.420	21
High	226.236-334506	42	447.145-173.116	9	565.421-737507	10

Fixed production costs include place, furnace, frying pan, soled, scoop, bucket, plank, mould, pongkor, sickle, knife, belt and rope. The average cost per month is Rp62.979,72, most of the expenditure fixed costs is in high category, that is Rp334.505,5 or 42 people or 79,25 percent. Variable costs of coconut sugar business consist of firewood as fuel, whiting and mangosteen rind, plastic. Most of the respindent's variable expenses were in middle group, that was 25 people, low group was 19 people and high group was 9 people. Variable costs for fuel are the largest component of the most variable costs, reaching 82.89 percent. Overall, for the fixed costs distribution category, there are 22 people in the low category, 21 people in the medium category and 10 in the high category, the average total cost is Rp.433.920.00 per month.

4.4 Craftsman Net Income

Table 4 was showed the craftsman's net income per month :

Table 4. Gross Income, Production Cost and Net Income of the Coconut Sugar Craftsman at Batuanten village, Cilongok, Banyumas, April 2021

Categories	Gross Income (Rp)		Production Costs (Rp)		Net Income (Rp)	
	Group	Total	Group	Total	Group	Total
Low	420.000-1.563.332	8	221.250-393.335	22	125.333-1.228.930	1
Middle	1.563.333-2.706.665	40	393.336-565.420	21	1.228.931-2.332.526	48
High	2.706.666-3.850.000	5	565.421-737507	10	2.332.527-3.436.125	4

The net income of coconut sugar craftsmen according to the low, medium and high categories turned out to be 1 person whose income was in the low category, namely one person, most of the craftsmen earned income in the middle group in the research respondent community as many as 48 people or 90.57 percent. There are 4 people who earn net income in the high category or 7.55 percent. When viewed on average, the average net income of craftsmen is Rp. 1,463,627.00 craftsmen whose net income is below the average net income of 31 people or 58.59 percent.

5. Discussion

The total cost of production is Rp.22,997,759,- per month, an average of Rp.433,920,-. The main livelihood of coconut sugar is generally occupied by residents with a low level of education, namely Elementary School as much as 96 percent, with age conditions in the productive age group, namely 15-64 years, Tjiptoherijanto Rriyono, 2020 but the low age of respondents is 33 years and most of the respondents of them are over 45 years old (83 percent). To maintain the sustainability of the availability of coconut sugar, attention is needed from various parties, namely the government, the business world and the community considering that there are fewer

young sap takers, especially if it is associated with the increasing level of education and the expectations of craftsmen who do not want their children to work as coconut sap takers. Research, Almira Yoshe Alodia, S.I.Kom, 2019 stated that the crisis of the generation of coconut sugar farmers also occurred in Cilongok and Sokawera Villages, this was due to the low level of income and welfare of coconut sugar craftsmen making them less attractive. Besides that, it is also necessary to pay attention to the availability of coconut trees that are productive and relatively easy to take sap like trees that are not too tall. So the attention needed is in the field of technology and the availability of superior coconut trees.

Costs consist of total fixed costs (FC) of Rp. 3,364,425, - an average of Rp. 63,480, - and total variable costs (VC) of Rp. 19,633,333, - with an average of VC of Rp. 370,440, - thus the variable cost components are the highest cost, on average 85.37 percent. For the variable cost component, the largest portion is for fuel costs, which is 82.89 percent. The fuel used by the respondents all comes from firewood mixed with rice husks, the thing that needs to be considered here is the availability of firewood and or the transfer of fuel to other fuel energy such as gas.

The net income of the craftsmen is obtained from the sale of sugar production multiplied by the price of sugar. The price of sugar that occurs in the market varies between Rp. 11,000.00 - Rp. 18,000.00. The existence of this price difference shows that the quality of sugar produced by the craftsmen varies. The better the quality of the sugar produced, the higher the price. Besides the quality of the price difference is also due to differences in buyers. Craftsmen who will sell to buyers who will sell to exporters the price is getting higher. Therefore, efforts are needed to improve the quality of sugar and an agreement on market prices for the same quality, so that it will be able to guarantee certainty and increase the income of craftsmen. In the research of Sriyoto, and Bambang Sumantri, 2016 also stated that in general the problems faced by coconut sugar craftsmen are capital, production techniques, business management and marketing networks. This condition is due to their low level of education so they are unable to understand business management and production techniques.

This is very necessary considering that net income on average only reaches Rp. 1,463,627, - still below the minimum wage for Banyumas Regency in 2021, which is Rp. 1,970,000, - or only 74.30 percent. This income, of course, is still not sufficient for proper living, especially considering that all respondents are heads of families who have family members, the average number of family members is 4 people. Therefore, for small craftsmen to be able to meet the needs of a decent life, they do not only rely on their main business, Rahajuni Dijan, Ratna SG and Novita M, 2021.

Judging from the income distribution of the craftsmen, through the Gini Ratio calculation, the figure is 0.22 even though the GR figure shows a good or even level of equity, but in this case it shows equity that is still not able to meet the needs of a decent living or equitable conditions that still have to be accompanied by efforts to increase income. Efforts that can be made to increase the income of sugar craftsmen include diversifying sugar-based products, increasing cooperation and marketing networks and building an entrepreneurial spirit. This is in line with the research of Nabila Auriel Salma Fauztina*, Bambang Mulyatno Setiawan, Siswanto Imam Santoso, 2019 which states that the coconut sugar business in the form of crystals or ants gives a greater

opinion than printed sugar. Likewise, research by Gunanto Surjono, 2017 states that the palm sugar business is able to further increase family income, because the price of palm sugar is higher than printed coconut sugar.

6. Conclusion

The income of coconut sugar craftsmen in Batuanten Village, Kec. Cilongok Kab. Banyumas is still below the KHL of Banyumas Regency in 2021. The level of equality of income for craftsmen is in a low inequality. Although low inequality conditions indicate a good thing, in this case it is the opposite, because they are in a condition of income that is not sufficient for proper living needs.

To increase income, it is necessary to pay attention to: 1). variable cost structure in the form of fuel which is the largest portion of the production cost element needs attention, especially the main fuel used by craftsmen is firewood, meanwhile the availability of firewood is relatively small and will continue to decrease; 2). The selling price of the product varies, where the price variation is determined by the quality of the product and the buyer, therefore efforts are needed to improve quality, buyer certainty and price uniformity.

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