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Prosperity level and income distribution of coconut sugar craftsmen in Banyumas district

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Abstract

The purpose of this study was to analyze the income and prosperity of coconut sugar craftsmen in Cilongok Sub-District, especially in Batuanten Village, as one of the areas with the highest number of *penderes* in Cilongok Sub-District. This study uses primary data from 53 respondents of coconut sugar craftsmen. To analyze the level of prosperity, it is by comparing the per capita income of the craftsman's family with the rural poverty line in Indonesia in 2021. Meanwhile, to analyze the inequality of income distribution, the Gini Ratio is used. The results showed that the life level of coconut sugar craftsmen was still below the rural poverty line. The level of income distribution of craftsmen seen from their main source of income and also from family income, is in a low level of inequality, but this inequality is in a low level of income so that it is vulnerable to shocks. Meanwhile, when viewed from other sources of income, the level of inequality is high. The implication is that to increase prosperity and equitable distribution of income for coconut sugar craftsmen, efforts are needed to develop other sources of family income. For this reason, the support of various competent parties is needed to help the craftsmen and their families increase family income and to maintain the sustainability of coconut sugar production. The novelty of this research is to analyze the condition of prosperity and income distribution of coconut sugar craftsmen in Batuanten Village in 2021 during the pandemic era.

Key words: Coconut sugar craftsmen; prosperity; income distribution; gini ratio; rural poverty line

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INTRODUCTION

Coconut sugar is one of the products produced from coconut trees, namely from processed coconut sap water. Coconut sugar is very beneficial for food needsand human health, namely from its sweet taste and the nutrients it contains. Coconut sugar is produced by tappers for coconut sap water (*Penderes*). *Penderes* are people who become coconut sugar craftsmen. Extracting coconut sap is generally carried out by *penderes* as the main source of livelihood. According to Gito (2013), there are 23 sub-districts in Banyumas Regency that produce coconutsugar with a total production of 170 tons per day. However, coconut sugar production in Banyumas Regency tends to decline. According to Widarso (2020), in 2020 the production capacity of coconut sugar is only 154.8 tons per day. The decrease in the amount of production will affect the income and prosperity of coconut sugar craftsmen. In addition to the decrease in production, the income of coconut sugar craftsmen in the Banyumas Regency is also influenced by differences in the type and quality of sugar produced. According to Husein (2015), of the 27 sub-districts in Banyumas Regency, there are 7 sub-districts of which are the areas that produce the most coconut sugar, as shown in Table 1.

Based on the data in Table 1, Cilongok Sub-District is the area with the highest number of *penderes*, coconut sugar production, and productivity of *penderes*. Thus it can be said that Cilongok Sub-District is one of the centers of coconut sugar in Banyumas Regency. Of the 20 villages in Cilongok Sub-District, there are five villages with the highest number of *penderes* as shown in Table 2. Batuanten village is the area with the highest number of *penderes*.

Table 1.
Seven Sub-Districts in Banyumas Regency with Number of *Penderes* and Most Coconut Sugar Production, 2015

Sub- Districts	*Penderes* (person)	Percentage %	Production (Kg/day)	Percentage %	*Penderes* Productivity (kg)
Cilongok	6.512	39	48.964	43	7,5
Ajibarang	2.097	12	14.643	13	6,98
Wangon	1.884	11	13.949	12	7,40
Somagede	1.880	11	10.109	9	5,37
Pekuncen	1.869	11	14.551	13	6,7
Kemranjen	1.670	10	5.460	5	3,27
Total	16.877	100	112.948	100	42,68
Average	2.411		16.135.43		6,10

Table 2.
Five Villages with the Highest Number of *Penderes* in Cilongok Sub-District, 2020

Villages	*Penderes* (Persons)	Percentage (%)
Batuanten	529	29
Langgongsari	427	24
Sudimara	414	23
Rancamaya	239	13
Kesegeran	196	11

The potential of coconut sugar has become a good business opportunity for the community given the availability of abundant sources of raw materials and if developed properly it can be one of the efforts to improve the welfare of the community. However, in reality, in Cilongok Sub-District there are still 21,914 proposed target households (RTS), which is one indicator of poverty in the area (Forum Komunikasi Publik, 2015). Thus, it is interesting to study how the conditions of income and prosperity of the *penderes* in Cilongok Sub-District, especially in Batuanten Village, as one of the areas with the highest number of *penderes* in Cilongok Sub-District.

Thus, the novelty of this research is to analyze the condition of prosperity andincome distribution of coconut sugar craftsmen in Batuanten Village in 2021 during the pandemic Covid-19 era.

Literature Review

The activities of coconut sugar craftsmen in Batuanten Village, Cilongok Sub-District are included in the informal business category. Informal sectors are activities of individuals or families or several people who carry out joint efforts to carry out economic activities based on trust and agreement, and there are no legal entities (Undang-Undang Ketenagakerjaan, 1997). According to The Organization for Economic Co-operation and Development (OECD), the characteristics of a business included in the informal sector include business activities that are not legal entities, do not pay taxes, household economic activities where the labor is not paid and the production results are used for their interests. In addition, production activities in the informal sector are generally based on local resources. Badan Pusat Statistik (2021) classifies industries based on the workforce involved in the production process into four, namely: 1. A large industries with 100 workers or more; 2. A medium industry with 20 - 99 workers; 3. A small industry with 5 - 19 workers; and 4. A Home Industry with 1 - 4 workers. The business of making coconut sugar is generally a household business carried out as the main livelihood of the head of the family. The income from the sale of the coconut, sugar produced is used to meet the living needs of the family. Thus, the coconut sugar business which is mostly carried out in Cilongok Sub-District is one of the engines of the local community's economy.

Porta and Shleifer (2008) identify that the informal sector appears as a result of inequality in asset ownership, the informal sector avoids taxes, and the informalsector appears in the poor, Febrianto (2020). Pitoyo in Febrianto (2020) identified the informal sector as identical with economic activity that has a small scale and isnot efficient. This sector is usually used as the main source of livelihood forpeople with low levels of education and skills. Thus, the income of informal sector actors is also low, so this will also have an impact on the prosperity of their lives. This is in line with Benjamin et al (2012) that the standard of living of people who work in the informal sector is below of those who work in the formal sector. However, the informal sector is a source of income for those who have limited options but is not a source of sustainable growth and income in the long term.

The income from producing sugar is the main source of income for thecraftsmen (male family heads) which are used to fulfill their daily needs. According to Madura (2001) in determining product prices, producers consider production costs, supply of inventory, and prices from the competition. Consideration of production costs is the price is based on the production costs incurred. Determination of prices based on the supply of inventory, namely the price is determined based on the amount of inventory desired, if the amount of inventory is large, then to reduce the amount of inventory the price will be reduced. Competitive pricing is pricing by looking at the prices of its competitors first. However, the basic cost of production is the main consideration in any strategy for determining the producer's selling price.

Prosperity is the opposite of poverty. Poverty is a condition where people livewith income below the poverty line, so they cannot fulfill their basic needs(Kementerian PPN/Bappenas, 2018).

Economically, a person's condition is considered poor or not, measured by the amount of his income. If the income is above the poverty line, then it can meet the needs of life, even though this measure is very vulnerable to economic and other life shocks, for example, due to rising prices, seasons, and disasters.

The poverty line is the total value of a person's expenditure to meet food and non-food needs for one month. According to Badan Pusat Statistik (2021), in ruralareas a person's expenditure to meet food needs is Rp. 344.277.00 and non-food isRp. 105.908.00 so that the total expenditure needed in order to a person is in the category of not being poor or prosperous is Rp.450,185.00. Thus, to be able to meet the needs of life in one month in rural areas, a person needs a minimum of Rp.450,185.00 purchasing power. Efforts to gain purchasing power of Rp.450,185.00 a month are obtained from the income that a person earns from his productive economic activities and/or from transfers.

According to Martani et al (2016), income is revenue that comes from the normal activities of an entity. The term income varies according to the activities carried out, such as sales, fees, interest, dividends, and royalties. In the household of coconut sugar craftsmen, income is generated from the sales activity of its coconut sugar production. However, in general, the source of household income is not only in the main business, there is also income from other sources or side income, for example from other productive economic activities, from the wife, or even from children and government transfers. According to Rahajuni et al (2021), a small entrepreneur to be able to fulfill his needs cannot only rely

on his business income but other productive economic efforts are needed to increase his income. In a case study on brick entrepreneurs, income from the main business can only meet family needs as much as 59.49 percent, meaning other income contributes 40.51 percent to family income.

METHOD

This research is a case study on coconut sugar craftsmen in Batuanten Village, Cilongok Sub-District. Batuanten Village is a sample area because the number of coconut sugar craftsmen in Batuanten is the most in Cilongok Sub- District. Samples were taken from 10% of the total population of the *penderes*, namely 53 people.

To analyze the level of prosperity, that is by comparing the per capita income of families of coconut sugar craftsmen with the poverty line in rural areas in Indonesia, amounting to Rp.450,185.00 (Badan Pusat Statistik, 2021).

The income per capita of family members of craftsmen is analyzed with the following formula (Kuncoro, 2015):

The income per capita (Y/Cap) = Family Income: Number of Family Members … (1)

Craftsman family income = basic income + side income … (2)

The income of the craftsman is calculated by the formula (Nicholson & Snyder, 2010):

TR = P x Q … (3)

TR = Total Revenue = The income of the craftsmen from thecoconut sugar business
Q = Output (Kg)
P = Selling price (Rp/Kg)

Craftsman's basic income = TR – TC … (4)

TC = Total Cost

TC = FC + VC (5)

FC = Fixed Cost
VC = Variable Cost

To analyze the inequality of income distribution, it is measured by the Gini Ratio (GR) with the following formula (Badan Pusat Statistik, 2021): (6)

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

Description:

GR = Gini Ratio Coefficient
fpi = Population frequency in the i-th expenditure class
Fci = Cumulative frequency of total expenditure in the i-th expenditureclass
Fci-1 = Cumulative frequency of total expenditure in the (i-1)-thexpenditure class
Inequality Criteria (Kuncoro, 2015):
GR < 0,4, means low inequality GR $\geq$ 0,4, means high inequality

RESULTS AND DISCUSSION

Data Analysis

Description of respondents

Respondents in this study were coconut sugar craftsmen. A coconut sugar craftsman is someone who takes coconut sap, which consists ofmen with the status of the head of the family. Their average age was 54 years, with the youngest age being 33 and the oldest being 70. Most of the craftsmen are above the average age, as many as 31 craftsmen (5.85 percent).

Their education level is low, which is only up to elementary school, as many as 51 respondents (96.23 percent), the rest (3.77 percent) have junior high school and senior high school each 1 respondent. This low educational condition causes them to be unable to compete in otherformal and informal jobs, so that taking sap is an option for them, especially when supported by the natural conditions in their area, which has the potential to grow coconut trees.

In addition to doing their main job of taking sap, respondents also doside jobs as farmers and odd jobs in the construction sector. Respondents who have a side job as many as 40 people (75.47 percent), while 13 respondents (24.53 percent) only rely on income from the coconut sugar business.

Respondent's Family Income

The family income of coconut sugar craftsmen comes from the income from the sale of coconut sugar and other income, namely side income that comes from family members. To be able to produce coconut sugar, the raw material used is coconut sap which must be taken by craftsmen twice a day, namely in the morning between 05.00 - 11.00 and in the afternoon between 15.00 - 18.00. The average number of trees taken by the respondents was 23 trees, at least 15 trees, and at most 30 trees. The average working experience as a *penderes* is 15 years, the lowest experience is 3 years and the highest is 40 years. In general, the basis for respondents to do coconut sugar business is because they continue the business of their parents as many as 31 respondents (58.49 percent) and as many as 22 (41.51 percent) starting their own business.

In producing coconut sugar, respondents incur fixed costs for equipment for extracting sap, including *pongkor*, ropes, belts, and sickles, as well as equipment for cooking sugar, such as stoves, pans, mortar, buckets, scoops, and sugar molds. Variable costs incurred by respondents include fuel and laru (betel lime and mangosteen rind). The highest cost of producing coconut sugar is a variable cost, and the largest portion of the cost variable is used for fuel costs. Most of the respondents' production costs were below the average production costs. This condition can be seen in Table 3.

Table 3.
Distribution of Monthly Coconut Sugar Business ProductionCosts in Batuanten Village, Cilongok Sub-District, May 2021

Description	Total Cost	Fixed Cost	Variable Cost		
			Total variable cost	Fuel cost	Other costs
Average	Rp433.920	Rp63.479.72	Rp370.440.3	Rp340.681.3	Rp29.758.91
Less thanaverage	33 persons (62,26%)	32 persons (60,38%)	34 persons (64,15%)	27 persons (50,94%)	31 persons (58,49%)
More than average	20 persons (37,74%)	21 persons (39,62%)	19 persons 35,85%)	25 persons (49,06%)	22 persons (41,51%)

By carrying out business activities as coconut sugar craftsmen, the data in Table 4 and Table 5 show the gross income and net income received by them.

Table 4 shows the distribution of the gross income of the craftsmen. This income is obtained from the sale of sugar production. Craftsmen selltheir sugar production at prices that vary between Rp. 11,000.00/kg toRp. 18,000.00/kg. This price difference is caused by differences in the quality of the product and the buyers of its production. As many as 23 respondents (43.40 percent) their production ability is less than the average, as well as the selling price. When viewed from the gross income, there are still many respondents whose gross income is less than the average.

Table 4.
Distribution of Gross Income from Coconut Sugar Business perMonth in Batuanten Village, Cilongok Sub-District, May 2021

Description	Production quantity	Average of the selling price	Income
Average	8,88 kg	Rp12.456/kg	Rp1.897.547,20
Less thanaverage	23 persons (43,40%)	23 persons (43,40%)	30 persons (56,60%)
More thanaverage	30 persons (56, 60%)	30 persons (56,60%)	23 persons (43,40%)

Furthermore, the net income of the coconut sugar business is the result of the sale of sugar minus the cost of production, in this case, it is an explicit cost because labor costs are not calculated in the calculation of the cost component. Explicit costs are costs that are issued from the company's cash (Nicholson, w. & Snyder, C. 2010). Table 5 shows the net income, other income, and family income of craftsmen. Most of the craftsmen families have incomes, both net income, other income, and family income, which are less than theaverage total income of coconut sugar craftsmen.

Table 5.
Distribution of Net Income, Other Income, and Family Income of Coconut Sugar Craftsmen per Month in Batuanten Village, Cilongok Sub-District, May 2021

Description	Net Incomeof Coconut Sugar Business	Other Incomes	Family Income
Average	Rp1.463.627	Rp855.585	Rp2.314.590
Less thanaverage	50 persons (94,34%)	41 persons (77,36%)	31 persons (58,49%)
More thanaverage	3 persons (5,66%)	12 persons (22,64%)	23 persons (49,51%)
Contribution	63,23%	36,77%	100

When viewed from the per capita income of the craftsmen's families, the conditions are the same, namely, most of their income is less than the average per capita income of the total craftsmen. This condition certainly reflects the inequality of income, as shown inTable 6.

Table 6.
Distribution of Per capita Income of Coconut Sugar Craftsmen Families per Month in Batuanten Village, Cilongok Sub- District, May 2021

Category	Family Income	Number of FamilyMembers	Per capitaIncome
Average	Rp2.314.590	5 persons	Rp539.255,7
Less thanaverage	31 persons (58,49%)	31 persons (58,90%)	33 persons (62,26%)
More thanaverage	23 persons (49,51%)	22 persons (41,10%)	20 persons (37,74%)

Level of Prosperity of Coconut Sugar Craftsmen Families

The condition of the prosperity level of the craftsmen's family is seenthrough the adequacy of their income to finance the expenditure of the necessities of life for each family member per month based on the poverty line, which is Rp.450,185.00 (Badan Pusat Statistik, 2021). Although the average family income of coconut sugar craftsmen is abovethe poverty line, if viewed per family there are still 25 families or 47.17%of coconut sugar craftsmen whose family members' incomes are still below the poverty line.

Income distribution

The condition of income distribution in various income categories can be seen in Table 7. The level of income distribution for gross income and net income of craftsmen is at a low level of inequality (high equality), as well as for family income. For other income and income per capita, the condition of income distribution is in the category of high inequality (unequal distribution of income).

Table 7.
Income Distribution of Coconut Sugar Craftsmen in Batuanten Village, Cilongok Sub-District, Measured by Gini Ratio, May 2021

Income	Gini Ratio	Inequality
Gross income of coconut sugar business	0,22	Low
Net income of coconut sugar business	0,24	Low
Other incomes	0,49	High
Family income	0,26	Low
Per capita income	0,48	High

Discussion

The level of prosperity of coconut sugar craftsmen as measured by theadequacy of income to meet the needs of life on average is already above thepoverty line, namely per capita income of IDR 539,258.00, higher than the poverty line for rural areas in Indonesia, which is IDR 450. 185.00 or in other words 19.7 percent higher. However, this condition is very vulnerable to economic shocks such as price increases and seasonal changes, considering that coconut sugar producers are highly dependent on the seasons. The average per capita income is supported by other income, where for the income of a craftsman family, the contribution of other income reaches 40 percent. The results of this study are in line with the research of Rahajuni et al (2021) which states that in small businesses to be able to meet their daily needs, craftsmen need to seek other sources of income, meaning that they do not only depend on their family income on their main business.

When viewed individually, there are 31 families (58.49 percent) ofrespondents whose family income level is still less than the average, of the 31 families, 27 of them even have the per capita income level of their family members still below the rural poverty line in Indonesia. This shows that the

condition of family prosperity of 50.1 percent of coconut sugar craftsmen is still not fulfilled or is still in poor condition.

The condition of the income distribution of the coconut sugar craftsmanfamily based on the Gini Ratio calculation is in a low inequality. The condition of low-income distribution inequality is good, but because this inequality conditionis based on the respondent's low income (evenly distributed at low-income levels), this low inequality condition requires handling to be able to increase income accompanied by equity. This means that efforts are needed to encourage even distribution of income at a higher level of income. The craftsmen's efforts to increase family income have been carried out, this is evidenced by the existence of other sources of income. However, not all craftsmen have other sources of income, there are 13 respondents (24.53 percent) of craftsmen who do not have other sources of income. Besides that, it turns out that other sources of income have a high level of inequality, so this also causes a high level of inequality in per capita income. The results of this study are not in line with the results of research by Wulandari et al (2015) which showed that MSMEs in bamboo handicrafts in Sleman Regency was able to contribute greatly to total household income and could more evenly distribute the household income of craftsmen at a relatively higher level.

CONCLUSIONS

The level of life of coconut sugar craftsmen in Batuanten Village, Cilongok Sub-District, Banyumas Regency is still below the rural poverty line, this means that the level of prosperity of craftsmen is still not achieved.

The level of the income distribution of coconut sugar craftsmen seen from themain source of income is in a condition of low inequality, as well as when viewed from family income. Meanwhile, when viewed from other sources of income, the level of inequality is high. Even though inequality is low (high equity) when viewed from the distribution of main income sources and family income, this inequality is in a condition of low-income levels and is vulnerable to shocks, especially when viewed from the distribution of income based on per capita income which is in an uneven condition (high inequality).

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