WELFARE OF LOCAL SAGU FOOD PROCESSING COMMUNITIES IN EAST KOLAKA DISTRICT

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ABSTRACT

Processing local food sago is a hereditary activity carried out by some people in the East Kolaka Regency. This activity has been able to provide additional income for the community, so that it has an impact on increasing household income. However, differences in technology and the ability to provide raw materials from each processor ultimately affect differences in the income that can be generated. This research aims to determine the welfare of the local sago food processing community in East Kolaka Regency based on the level of per capita income and income distribution. This research was conducted in August 2023. Location determination was carried out purposively with 68 respondents. The data analysis used is per capita income analysis, which is formulated from the income analysis equation and Gini ratio analysis. The results of the research show that the local sago food processing community in East Kolaka Regency is in the high welfare category, where the per capita income generated by respondents is IDR 7,440,136. The Gini ratio analysis shows that the Gini ratio coefficient value is 0.58, which means that the level of income inequality in local sago food processing communities in the East Kolaka Regency is in the high category.

Keywords: income; inequality; local food; sago; welfare.

INTRODUCTION

National development is currently directed at achieving national food self-sufficiency through the development of agribusiness-based agriculture, increasing the productivity and welfare of farmers (Nursalam, 2018) (Patriawan et al., nd). The achievement of food self-sufficiency for local food commodities is currently still very minimal. Sago production, which is a type of local food, even decreased by 50% in the 2017-2020 period, especially in the Southeast Sulawesi region. In general, there are almost no regions that specifically develop local food to support national food self-sufficiency (Timisela et al., 2017). The sago commodity is a type of local food which is the main food commodity and substitute food in several regions in Indonesia (Purba & Sudibjo, 2020) (Nurlette et al., 2021) (Iskowanto & Felecia, 2021), including Papua, Maluku, and several regions of Sulawesi. Specifically for the Southeast Sulawesi region, East Kolaka Regency is one of the regions that uses sago as a local food substitute for rice (Surni et al., 2018). Apart from being a food commodity, the sago commodity in East Kolaka Regency is also related to the traditions and customs of the local Tolaki Tribe community in the area (Nursalam, 2018).

The local food processing of sago carried out by the community has had a positive impact on increasing the income of business actors. (Sumantri, 2022) stated that the sago processing business is able to provide an average income of IDR 6,553,042 per month to sago processing businesses in Jaya Village, Tellu Wanua District, Palopo City. Meanwhile, (Howara et al., 2017) in their research said that sago farming in Alindau Village does not provide significant income for the perpetrators due to the large number of land conversions to other farming businesses, and the taking of sago leaves for animal feed causes the sago trees do not grow well.

East Kolaka Regency is one of the new autonomous regions in Southeast Sulawesi, whose agricultural land is one of the regional development assets that is highly relied upon for the receipt of
local revenue. This land has long been used for agricultural activities, both for food crops, horticulture, plantations and forestry, as well as for non-agricultural activities (Purbaningish et al., 2021). These activities have directly or indirectly caused changes in the ecological and socio-economic systems of the local area. The leading cause of this change is driven by the rate of population growth accompanied by land use that is not controlled correctly and adequately. Efforts to develop the agricultural sector in this area have been implemented for a relatively long time. However, to date, it is still somewhat limited compared to other regions in Southeast Sulawesi. However, agricultural development efforts continue to be pursued by farmers with the support of the local government. As a region that continues to accelerate its development in the farming sector, priority planning is essential to maintain community survival and improve overall community welfare (Purbaningish et al., 2019).

Specifically for the East Kolaka Regency area, the area of sago plantations is in third place after Konawe Regency and South Konawe Regency. The area of sago plantations in East Kolaka Regency reaches 764 ha (BPS East Kolaka Regency, 2022). This land area is spread across all sub-districts in East Kolaka Regency. However, the area of land for sago plantations has decreased every year due to land conversion into residential areas and commodity changes, where land that was initially used for sago plantations was replaced with lowland rice and oil palm commodities.

So far, the sago commodity in East Kolaka Regency has not gone through a cultivation process but has grown wild or is inherited from the parents of the community who are currently processing it (Purbaningish et al., 2019). Therefore, the management and development of the sago commodity require significant attention to ensure its sustainability. This management and development is needed to ensure the availability of local sago food in East Kolaka Regency in the future.

Local sago food processing in East Kolaka Regency is a form of home industry whose management is still straightforward, so the income generated by industry players is still not optimal (Yanarita. Of the many local sago food processing industries in the research area, the production capacity produced is different for each processor. This condition has an impact on the difference in income generated, where processors with significant capital will also make large production and income. On the other hand, processors with small capital will produce small sago production and revenue (Alua et al., 2021) (Simatupang et al., 2019). The condition of capital owned by each local sago food processor generally influences the ability to provide the primary raw material, namely sago stems, to be processed. In the processing process, local sago food processing industry players buy sago stalks from landowners at prices that vary based on the size of the sago stalks.

The management and development of the local food commodity sago must also be supported by increasing the welfare of sago processing business actors in order to motivate them to develop their business (Afiza et al., 2023). Apart from that, government policy must also be directed at developing this business so that the local food sago for the people of East Kolaka Regency (especially the Tolaki tribe community) is not only a source of food but also a cultural heritage or tradition that can survive in the future. (Rispan, 2019). The welfare of local sago food processing business actors can be measured using the per capita income indicator of these business actors (Simanullang et al., 2021).

Profitable income will provide motivation and enthusiasm for local sago food processing businesses to be more active in developing their business (Zakaria et al., 2020). The income distribution will provide an overview of the income distribution of local sago food processors in East Kolaka Regency, which can also be used as input and consideration for policymakers to formulate effective policies in developing local sago food (Desfaryani et al., 2020).

Studies on community welfare are generally measured using consumption variables as indicators. These studies include research conducted by Triana et al. (2020), research conducted by Putri and Noor (2018), Komalasari et al. (2014) and research by Permadi et al. (2016). The research carried out tries to look at community welfare from a perspective other than consumption, namely based on the level of per capita income generated. Variables that are used as indicators of welfare, such as household expenditure, consumption, access to housing and access to health, will be met well if someone has a high income. On the other hand, if the income generated tends to be low, it will be challenging to meet these welfare indicators.

This research aims to analyze the welfare of local sago food processing communities using indicators of per capita income and income distribution of local sago food processing communities in East Kolaka Regency. This research is essential because there is still little research that focuses on the welfare and income distribution of local sago food processors. Previous research focused more on income levels and the feasibility of sago processing. This research will complement previous studies by examining income and income distribution. The results of this analysis will then be used as a proxy to measure the welfare of local sago food processing using the income variable as an indicator.
Measuring income distribution using the Gini ratio in this research will provide an overview of how equitable development is in the region, especially with regard to local sago food processing.

MATERIALS AND METHODS

This research was carried out in East Kolaka Regency from June to August 2023. The data used in this research is primary data and secondary data. Preliminary data was obtained directly from research respondents, while secondary data was obtained from the Central Statistics Agency (BPS) and the East Kolaka Regency Plantation Service. The population in this study was 271 families spread across 5 sub-districts. Determining respondents was carried out using the proportional cluster method, where 25% of the population was taken from each area to be used as a sample so that a sample size of 68 respondents was obtained.

The variables studied in this research are per capita income and income distribution. Per capita income will be used as the basis for determining the level of welfare of local sago food processors using BPS standards (Triana et al., 2020). Meanwhile, income distribution will provide an overview of the impact of agricultural development on income distribution in local sago food processing communities. The data analysis used in this research is quantitative analysis and adapts to the objectives to be analyzed. The analysis of the welfare of local sago food processing communities is done using the per capita income indicator for local sago food processors with the following equation.

\[
\text{Pd}_{\text{total}} = \text{TR}_{\text{total}} - \text{TC}_{\text{total}} \quad (1)
\]

\[
\text{Pd}_{\text{per capita}} = \frac{\text{Pd}_{\text{total}}}{\text{Number of Respondents}} \quad (2)
\]

Where Pd is the average amount of income, TR is the total value of income, and TC is the total cost of local sago food processing businesses (Patriawan et al., nd). The use of income as an indicator of welfare has not been widely used before, so it is deemed necessary to look at welfare based on income level. Apart from that, income is also the upstream or primary basis for meeting commonly used welfare indicators, such as household expenditure and rice consumption levels. Analyze the income distribution of local sago food processing communities. This is done using Gini ratio analysis with the following equation (Widiasari et al., 2019) (Permadi et al., 2016).

\[
\text{GC} = 1 - \sum_{i=1}^{n} \text{fi}(Y_i + 1 + Y_i) \quad (3)
\]

Where GC = Gini coefficient (Gini Ratio) n = Number of errors fi = Proportion of the number of respondents in the ith income class Yi = Proportion of the cumulative total income of respondents in the ith income class.

RESULTS AND DISCUSSION

The Welfare of the Local Sago Food Processing Community

The welfare of the local sago food processing community at the research location was carried out using per capita income as an indicator. The average income of the population of a country (per capita income) or region in a certain period. Per capita income is calculated based on regional income divided by population. Per capita income is often used as a measure of prosperity and the level of development of a country or region (Sukirno, 2004). Per capita, income is used as an indicator of welfare because per capita income includes the number of local sago food processors so that it can directly indicate the level of welfare. The per capita income of local sago food processing communities in East Kolaka Regency and its components are presented in detail in the following table.

Table 1. Production, price, revenue, costs and income of local sago food processors in East Kolaka Regency, 2023

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sago palm production</td>
<td>kg</td>
<td>4,172</td>
</tr>
<tr>
<td>2</td>
<td>Price</td>
<td>IDR/kg</td>
<td>4,000</td>
</tr>
<tr>
<td>3</td>
<td>Reception</td>
<td>IDR</td>
<td>16,688,000</td>
</tr>
</tbody>
</table>
Table 1. Production, price, revenue, costs and income of local sago food processors in East Kolaka Regency, 2023

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Non-fixed costs (Variable costs)</td>
<td>IDR</td>
<td>8,591,516</td>
</tr>
<tr>
<td>b.</td>
<td>Fixed costs (Fixed costs)</td>
<td>IDR</td>
<td>656,947</td>
</tr>
<tr>
<td>5</td>
<td>Total cost a + b</td>
<td>IDR</td>
<td>9,247,864</td>
</tr>
<tr>
<td>6</td>
<td>Income 1 – 2</td>
<td>IDR</td>
<td>7,440,136</td>
</tr>
</tbody>
</table>

Source: Data processing, 2023

Table 1 shows that the average production of sago aci produced by local sago food processors in the research location is 4,172 kg with a selling price of IDR 4,000 per kg. The selling price is the selling price in effect at the research location when this research was carried out. The average income generated by local sago food processors in the research location is IDR 16,688,000. After deducting the average costs of IDR 9,247,864, we get an average income of IDR 7,440,136.

Table 2. Per capita income of local sago food processing communities in East Kolaka Regency, 2023

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Unit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total income</td>
<td>IDR</td>
<td>505,929,244</td>
</tr>
<tr>
<td>2</td>
<td>Number of respondents</td>
<td>Soul</td>
<td>68</td>
</tr>
<tr>
<td>3</td>
<td>Income per capita</td>
<td>IDR</td>
<td>7,440,136</td>
</tr>
</tbody>
</table>

Source: Data processing, 2023

Table 2 shows that the total income of the local sago food processing community in East Kolaka Regency is IDR 505,929,244; with a total of 68 respondents so that the per capita income of the local sago food processing community in East Kolaka Regency is IDR 7,440,136. The per capita income of the community shows that the local sago food processing community in East Kolaka Regency is in the high welfare category because the per capita income generated is more than IDR 4,000,000. According to the Central Statistics Agency (BPS), welfare indicators based on income are income of more than IDR 4,000,000; in the high welfare category, income between IDR 3,000,000 – IDR 4,000,000; in the medium welfare category, and low income from IDR 3,000,000; is in the low welfare category (Widjaya et al., 2020). Per capita income will influence the welfare of local sago food processing communities because it is related to household consumption, where the higher the per capita income, the higher the level of household consumption. The results of this research are in accordance with research (Yudanto et al., 2020), which states that income has a positive, significant and dominant influence on household food consumption. The existence of this positive and significant influence means that household food consumption is influenced by income. Because an increase in income will cause an increase in purchasing power, higher purchasing power will have an impact on increasing household food consumption.

Per capita income is actually an appropriate indicator of the level of community welfare, including local sago food processing communities. Several other indicators that measure upstream welfare are welfare, such as household expenditure, access to health, housing and other indicators that will actually be met well if someone has a high income. On the other hand, if a person's income is low, it won't be easy to meet these welfare indicators.

Income Distribution Sago Local Food Processing Society

In general, the level of welfare is measured by looking at the level of household expenditure and then converting it to the level of rice equivalent consumption. However, this research tries to see the level of welfare based on per capita income. Indirectly, household expenditure is greatly influenced by income level. The results of this research illustrate that the agricultural product processing sector, which is oriented towards increasing added value, can be used as a solution or spearhead for improving community welfare. This is in accordance with research (Fathurohman et al., 2020), which states that increasing product value can form more effective and efficient management so that people's income and welfare can grow more than before.

The use of per capita income as an indicator of welfare is still very minimal in research. In general, the level of welfare is measured by looking at the level of household expenditure and then converting it to the level of rice equivalent consumption. However, this research tries to see the level of welfare based on per capita income. Income distribution analysis will provide an overview of the level of equality or inequality that occurs in local sago food processing communities in East Kolaka Regency. Income inequality can also be an indicator of community welfare, where a high level of income inequality indicates that there is a welfare gap in that community (Dias & Indrawati, 2021). The results of data analysis using the
Gini Ratio coefficient index in sago processing communities in East Kolaka Regency can be seen in detail in the following table.

Table 3. Gini ratio coefficient for local sago food processors in East Kolaka Regency, 2023

<table>
<thead>
<tr>
<th>Group Income (Yi)</th>
<th>Amount Resident (Xi)</th>
<th>Cumulative Average Income (%)</th>
<th>Cumulative Amount Income (Yi)</th>
<th>Cumulative (Xi - Xi-1)</th>
<th>Yi + Yi-1</th>
<th>(Xi - Xi-1) + Yi + Yi-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 10,000,000</td>
<td>9</td>
<td>10,464,566,013</td>
<td>0.132353</td>
<td>94,181,094</td>
<td>0.186155</td>
<td>0.528926</td>
</tr>
<tr>
<td>8,000,000 - 10,000,000</td>
<td>20</td>
<td>8,251,220,001</td>
<td>0.294118</td>
<td>165,024,400</td>
<td>0.326181</td>
<td>0.161765</td>
</tr>
<tr>
<td>5,000,000 - 7,999,999</td>
<td>39</td>
<td>6,326,250,000</td>
<td>0.573529</td>
<td>246,723,750</td>
<td>0.487665</td>
<td>0.279412</td>
</tr>
<tr>
<td>7,999,999</td>
<td>68</td>
<td>25,042,036,001</td>
<td>0.246723</td>
<td>25,042,036</td>
<td>0.505924</td>
<td>0.813845</td>
</tr>
</tbody>
</table>

Gini Ratio Index = 1 - ∑ (Xi - Xi-1) / (Yi + Yi-1) = 1 - 0.4227132 = 0.58

Source: Processed Data, 2023

Table 3 above shows that the Gini ratio coefficient value in local sago food processing communities is 0.58, which means that the level of income inequality in local sago food processing communities in the East Kolaka Regency is in the high category (Todaro & Smith, 2006). When compared with the per capita income of East Kolaka Regency, which is IDR 28,220,000, it shows that the value of per capita income is only enjoyed by 42% of the community, while the rest receive income that is actually lower than the per capita income. The value of the Gini ratio coefficient will influence the welfare of society (Pardosi et al., 2021) (Widiasari et al., 2019) (Pratama & Sahnan, 2019).

High-income inequality shows that more groups of people earn low incomes than high-income groups. Income distribution, which is in the high category, indicates that there is a large proportion of people in an area who have not yet enjoyed the impact of the development of the local food commodity sago in East Kolaka Regency. Income inequality can be minimized by modernizing the processing technology used so that it can increase the amount of sago production and indirectly reduce the cost per unit of output produced. The Gini coefficient value of 0.58 per cent shows that as many as 58 per cent of local sago food processing communities have unequal incomes, and only 42 per cent of communities have equal incomes.

*Gini ratio* analysis in this research shows that in real terms, high income, which then has implications for a high level of welfare, is only enjoyed by the majority of local sago food processing actors. The large income gap between local sago food processors in East Kolaka Regency occurs due to several things, including the unequal use of technology by each processor. The grating machine used by each processor has a different capacity, so the ability to grate the pith is also other, especially in terms of volume and time used. Apart from that, unequal access to sago palm raw materials also has an impact on income disparities. Local sago food processors with more outstanding capital can buy more raw materials (8 sago stalks in 1 month). The resulting sago palm tree production will also be more significant. In contrast, processors with limited capital are only able to process 2 to 3 sago stalks a month, so the production of sago aci is also tiny. This condition is further exacerbated by the location of the raw materials further away due to the increasing conversion of sago commodities to other farming businesses or the conversion of sago plantation land to residential areas.

Income gaps or disparities in local sago food processing communities can be overcome by making improvements to the equipment or technology used in the processing process. Better technology will increase the amount of production produced so that processor income will also increase. Apart from that, policies are needed to protect local sago food processing actors, especially in the aspect of raw material availability. This policy can be in the form of regulations designed to minimize the conversion of sago plantation land into residential areas so that the availability of raw sago materials can be guaranteed.

**CONCLUSIONS AND SUGGESTIONS**

The results of this research show that the level of welfare of the local sago food processing community in East Kolaka Regency is in the high category as indicated by the average per capita income of IDR 7,440,136,- or greater than the high welfare indicator according to BPS. To reduce income inequality, it is recommended that local sago food processing technology be modernized, and policy instruments can ensure the sustainability of local sago food processing, especially in terms of raw material availability.

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