

Motivation of Sugar Palm Sugar Processors in Wolo Subdistrict, Kolaka Regency, Southeast Sulawesi, Indonesia

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Abstract

This study aims to analyze the motivation of palm sugar processors in Wolo District, Kolaka Regency, Southeast Sulawesi. The research was conducted using a descriptive analysis approach, with data collected through surveys and interviews with 60 palm sugar processors. The results show that the majority of palm sugar processors have low motivation (68.33%), with economic motives being the most dominant factor influencing their motivation. The study also highlights the importance of improving the motivation of palm sugar processors through government intervention, training, and the development of cooperative networks to enhance the sustainability and productivity of the palm sugar industry. This research contributes to the understanding of the factors influencing the motivation of small-scale agro-industry workers and provides recommendations for policymakers and stakeholders in the palm sugar industry

Keyword: Motivation, Palm Sugar Processors, Agro-industry, Wolo District, Kolaka Regency.

INTRODUCTION

Palm sugar, derived from the sap of the *Arenga pinnata* tree, is one of Indonesia's prominent natural resource-based products with significant economic and social value. This traditional sweetener has long been an integral part of rural communities, serving both as a primary ingredient in various culinary traditions and as a commodity with substantial market potential, both domestically and internationally. With increasing awareness of the benefits of consuming natural and organic foods, palm sugar has gained popularity as a healthier alternative to refined white sugar. However, the palm sugar industry faces numerous challenges that hinder productivity and sustainability. These challenges include low production efficiency, lack of

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innovation in product diversification, and declining workforce engagement in this sector. In several regions, including Wolo District, Kolaka Regency, Southeast Sulawesi, the palm sugar processing industry has experienced a significant decline, raising concerns about its long-term viability.

Motivation plays a crucial role in determining the sustainability of any business, including the palm sugar processing industry. Robbins (2006) defines motivation as a process that explains an individual's intensity, direction, and persistence in achieving a goal. In the context of palm sugar processing, motivation can be influenced by various factors, including economic necessity, social support, market accessibility, and government policies that support this industry. A decline in motivation among palm sugar processors can directly impact productivity and the overall sustainability of the palm sugar industry. Therefore, understanding the factors that influence the motivation of palm sugar processors is essential for developing effective strategies to enhance productivity and maintain the continuity of this industry.

Previous studies have highlighted that motivation in traditional agro-industries is strongly influenced by economic and social factors. Batubara et al. (2024) found that community empowerment in palm sugar processing businesses can enhance local entrepreneurs' motivation through product diversification and supportive policies. Their study also emphasized that diversifying products—such as processing palm sugar into powdered palm sugar—can increase added value and improve the welfare of palm sugar processors. Additionally, Dewitasari (2024) stated that productivity and income levels of palm sugar farmers are significantly affected by stable selling prices and access to modern production technologies. In the palm sugar industry, price stability is a crucial factor influencing business sustainability, as sharp price fluctuations can reduce farmers' interest in processing sap into palm sugar.

Nevertheless, the challenges faced by palm sugar processors in Wolo District are becoming increasingly complex. Beyond economic and social factors, technology and policy aspects also play a role in shaping the industry's sustainability. Dewi (2024) noted that the availability of skilled labor in the palm sugar industry is becoming more limited, particularly in production processes that require specialized skills such as sap tapping and sugar processing. This indicates that the lack of workforce regeneration in this sector could pose a serious threat to the sustainability of palm sugar processing. Furthermore, Yakub & Rahman (2024) emphasized that farmers' roles in palm sugar production extend beyond technical aspects to include their motivation to sustain this business.

In addition to labor availability, another contributing factor to the declining interest in palm sugar processing is limited access to modern technology. Darma et al. (2023) highlighted





that a lack of innovation in palm sugar production processes is one of the main constraints leading to low efficiency and product competitiveness. Most palm sugar processors in rural areas still rely on traditional methods, which are less efficient in terms of time and labor. Advanced technologies such as vacuum evaporators and enhanced purification systems remain out of reach for small-scale palm sugar producers, either due to financial constraints or a lack of guidance in adopting new technologies.

Government policies also play a crucial role in maintaining the motivation of palm sugar processors. Sitanggang (2024) stated that the success of small and medium enterprises (SMEs) in the agro-industry sector is highly dependent on supportive regulations, including tax incentives, financial assistance, and training programs for processors. In some regions, empowerment programs have been implemented to enhance palm sugar processors' production capacity, but these policies have yet to be uniformly applied. Wolo District, for instance, still struggles with access to broader markets and limited availability of high-quality raw materials for palm sugar production.

On the other hand, motivation in the palm sugar industry can also be driven by social and community aspects. Sulihin et al. (2024) revealed that social relationships among farmers and palm sugar processors significantly impact their business sustainability. In tightly knit communities, the exchange of experiences and knowledge among members can serve as a driving force for improving skills and production efficiency. Moreover, moral support from family and the surrounding community can encourage palm sugar processors to continue their businesses despite various challenges.

This study aims to analyze the motivation of palm sugar processors in Wolo District, Kolaka Regency, focusing on the factors that drive their engagement in this traditional agro-industry. Understanding the factors that influence their motivation will provide deeper insights for stakeholders and policymakers in designing strategies and policies that can enhance productivity and ensure the sustainability of the palm sugar industry.

Furthermore, the findings of this research are expected to serve as a foundation for improving the welfare of palm sugar processors, ensuring they have strong incentives to sustain this business in the long run. By enhancing motivation through the right approaches, not only will productivity increase, but the livelihoods of communities dependent on this industry will also be secured. Therefore, this study aims to contribute to formulating strategic measures that safeguard the sustainability of the palm sugar industry from economic, social, and policy perspectives.

Through an in-depth analysis of palm sugar processors' motivation in Wolo District, this



research will offer new perspectives on efforts to sustain the palm sugar industry as a vital economic sector in Indonesia. By identifying the key factors influencing processors' motivation, more effective policies can be developed to enhance their welfare and ensure the long-term viability of this industry.

METHOD

This study focuses on the motivation of palm sugar processors in Wolo District, Kolaka Regency, Southeast Sulawesi, which is one of the primary palm sugar-producing regions in the area. The research specifically examines the factors influencing the motivation of processors in two villages, Tolowe Ponrewaru and Langgomali, aiming to understand the socio-economic conditions, personal aspirations, and external influences affecting their engagement in the industry.

The study was conducted using a structured survey and interview approach, targeting a total of 60 palm sugar processors, who were selected through simple random sampling to ensure representation across different experience levels, production capacities, and socio-economic backgrounds. The data collection process involved structured interviews and surveys designed to capture the socio-economic characteristics, motivational drivers, and risk preferences of the processors. A Likert scale-based questionnaire was employed to measure motivation levels, with questions adapted from Maslow's Hierarchy of Needs and McClelland's Theory of Motivation. This approach enables a comprehensive understanding of how different factors contribute to the persistence and engagement of processors in the palm sugar industry.

For data analysis, descriptive statistical methods were utilized, presenting the results in the form of percentages, averages, and frequency distributions. The motivation levels of the processors were classified into three categories: low, medium, and high, based on their responses to survey questions. To ensure the accuracy and reliability of the motivation assessment, an interval score calculation method was used, following the approach outlined by Sudjana (2005). The interval class calculation formula used in this study is as follows:

$$I=J/K$$

Where:

I = Interval class

J = Score range (highest score – lowest score)

K = Number of desired class intervals

The results of this analysis will provide a detailed understanding of the motivational structure of palm sugar processors and offer insights into the necessary interventions to



enhance their motivation and productivity. By applying these methodological steps, the study aims to identify key factors influencing motivation, contributing to the development of policies and strategies to sustain and improve the palm sugar industry in Wolo District.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Palm Sugar Processors

The majority of palm sugar processors in Wolo District were aged between 15-54 years (71.7%), indicating that the industry is dominated by individuals in their productive years. The average education level of the processors was low, with 66.7% having only completed elementary or junior high school. This lack of formal education may limit their ability to adopt new technologies and improve their productivity. The average number of dependents per processor was 3, indicating that most processors have moderate family responsibilities. However, 61.7% of the processors had 0-3 dependents, suggesting that some processors may have fewer financial pressures compared to those with larger families.

Motivation of Palm Sugar Processors

In Talowe Ponrewaru and Langgomali villages, the local community predominantly relies on agriculture, particularly in the plantation sector. Although aren (sugar palm) trees are abundant in the wild around the plantation areas, they are not actively cultivated. These trees serve as the primary raw material for producing sugar palm sugar; however, their plentiful natural occurrence does not translate into universal participation in sugar processing among the residents.

The decision to engage in sugar palm sugar processing is influenced by a diverse range of motivational factors. This study examines several motives—including imitation, economic incentives, security, affiliation, recognition/achievement, and self-actualization—to understand why only a subset of the community undertakes sugar processing activities. Table 1 summarizes the distribution of motivation levels among sugar palm sugar processors in Wolo Subdistrict, Kolaka Regency, Southeast Sulawesi, in 2024.

Table 1. Motivational Levels of Sugar Palm Sugar Processors

Motivation Level	Frequency (n)	Percentage (%)
Low	41	68.33
Moderate	17	28.00

Motivation Level	Frequency (n)	Percentage (%)
High	2	3.33
Total	60	100.00

As illustrated in Table 1, a majority (68.33%) of processors exhibit low motivation, while only a small fraction (3.33%) show high motivation. This suggests that sugar palm sugar processing is not the primary livelihood for the residents of Talowe Ponrewaru and Langgomali, who tend to prioritize other plantation ventures (e.g., cloves, cocoa, pepper) and resort to sugar processing during periods of lower agricultural activity. Variations in motivational levels appear to be related to differences in the socio-economic profiles of the processors. Table 2 presents the average socio-economic characteristics of sugar palm sugar processors categorized by their motivation level.

Table 2. Socio-Economic Characteristics by Motivation Level

Motivation Level	Mean Age (years)	Mean Number of Family Dependents	Mean Years of Education	Mean Duration of Business (years)	Mean Number of Tapped Aren Trees per Day
Low	47.63	3.00	7.60	19.10	6.50
Moderate	42.71	2.00	7.53	15.59	8.41
High	44.00	3.00	9.00	17.50	8.50

The data in Table 2 indicate that the average number of family dependents is nearly identical among processors with low and high motivation, with only a marginal difference observed in the moderate motivation group. This homogeneity in family dependency suggests that it does not significantly contribute to the observed variations in motivation. Processors with low motivation have the longest business duration and the highest mean age. Considering that sugar palm sugar processing is labor-intensive, the advanced age of these individuals may reduce their energy and thereby lower their motivation. This group also taps fewer aren trees per day compared to their moderately and highly motivated counterparts, reflecting a lower level of commitment and energy investment in sugar processing activities.

Furthermore, although the average educational attainment of processors is highest (approximately 9 years) among those with high motivation, this difference is not substantial when compared to the low and moderate groups, as the overall level of education among respondents is generally at the basic level.

Imitation Motive

The respondents' engagement in sugar palm sugar processing is largely influenced by the imitation of peers and predecessors who have already entered this line of work. Some respondents reported that their decision to pursue sugar palm sugar production was driven by an imitative response toward their parents, local residents, or individuals from other regions who had previously engaged in the practice. The distribution of the imitation motive among these processors is detailed in Table 3.

Table 3. Imitation Motives Among Sugar Palm Sugar Processors in Wolo Subdistrict, Kolaka Regency, Southeast Sulawesi, 2024

Imitation Motive Level	Frequency (n)	Percentage (%)
Low	25	41.67
Moderate	32	53.33
High	3	5.00

Table 3 indicates that the predominant imitation motive is at a moderate level (53.33%), suggesting that most respondents exhibit a neutral tendency in their decision to imitate the sugar palm sugar processing practices established by others. Additionally, 41.67% of respondents are driven to engage in sugar processing not solely by a desire to imitate, but also by the abundant presence of wild sugar palm trees in their plantation areas.

Interview data further reveal that only 13.33% of respondents continued the sugar processing business initiated by their parents—a trend likely due to the advanced age of these predecessors, which has reduced their capacity to maintain the activity. Conversely, 67.00% of respondents indicated that their engagement in sugar processing was inspired by observing local residents in or around their residential or plantation areas. For many respondents, initiating sugar palm sugar processing was a novel experience, motivated by the practices observed in the villages of Talowe Ponrewaru and Langgomali. Despite not inheriting specialized expertise in sugar processing, the decision to enter the field was facilitated by the readily available supply of sugar palm trees (enau) as a raw material in their immediate environment.

Economic Motive (Physical Needs)

The respondents' engagement in sugar palm sugar processing is primarily driven by the desire to secure economic benefits that meet their basic physical needs—namely food, water,

and shelter—which aligns with Maslow’s hierarchy of needs. Respondents believe that sugar palm sugar processing offers substantial economic returns due to consistently high demand throughout the year, minimal capital investment, and the ability to generate income sufficient for daily necessities. Some respondents noted that any quantity of sugar produced is reliably purchased by local village collectors, while others view the activity as an alternative livelihood that yields significant profits only during peak periods such as Ramadan. The variability in economic motives among respondents is presented in Table 4.

Table 4. Economic Motives Among Sugar Palm Sugar Processors in Wolo Subdistrict, Kolaka Regency, Southeast Sulawesi, 2024

Economic Motive Level	Frequency (n)	Percentage (%)
Low	25	25.00
Moderate	40	66.67
High	5	8.33

Table 4 indicates that the majority of respondents (66.67%) exhibit a moderate economic motive. This suggests that most participants are neutral regarding the profitability of sugar palm sugar processing, acknowledging that while the venture reliably meets their everyday needs, it is not perceived as a primary source of high income. Respondents generally concur that there is sustained, year-round demand for sugar palm sugar, and they emphasize that even modest production is consistently purchased by local collectors. However, there is also an understanding that high profits are occasionally confined to specific periods, such as during Ramadan, and that the required capital investment is minimal.

Further insights from interviews reveal that only 6.7% of respondents consider sugar palm sugar processing as their main livelihood due to its high profitability. Instead, the predominant economic rationale is the low-cost nature of the venture—primarily because the main raw material, sugar palm sap, is freely available from the local environment. As noted by Abdullah (2015), supplementary inputs such as firewood are also obtained at no cost, and labor is largely provided by family members.

In summary, while the profit margins in sugar palm sugar processing may not be exceptionally high, the activity is deemed economically viable by 95% of respondents due to the constant market demand. This economic reliability plays a crucial role in enabling respondents

to fulfill their basic needs, thereby establishing economic motive as a central factor in their engagement with sugar palm sugar processing.

Security Motive

The respondents' engagement in sugar palm sugar processing is not solely driven by the fulfillment of basic physical needs; it is also influenced by a desire for security. In this context, "security" encompasses assurances such as funding for children's education and the ability to save for unforeseen expenses. This security motive represents a significant, albeit varied, factor underlying their participation in sugar processing. The distribution of security motives among the respondents is detailed in Table 5.

Table 5. Security Motives Among Sugar Palm Sugar Processors in Wolo Subdistrict, Kolaka Regency, Southeast Sulawesi, 2024

Security Motive Level	Frequency (n)	Percentage (%)
Low	33	55.00
Moderate	26	43.33
High	1	1.67

Table 5 indicates that the majority of respondents (55.00%) exhibit a low level of security motive. This finding suggests that most participants are either neutral or disagree that the income derived from sugar palm sugar processing is sufficient to cover significant financial needs, such as educational expenses for their children or savings for emergencies. Interview data further reveal that only 37% of respondents are motivated by the prospect of generating income that could be allocated toward their children's education. Consequently, a larger proportion of respondents perceive the earnings from sugar palm sugar processing as inadequate to provide financial security for such needs. Moreover, many respondents often incur debts to local village collectors, resulting in their sugar production being used primarily to settle these obligations rather than being received as cash income. This dynamic further diminishes the perceived security benefits of engaging in sugar palm sugar processing.

Affiliation Motive

In addition to meeting their basic physical and security needs, respondents also pursue social needs through affiliation. The desire to interact and collaborate with fellow sugar palm

sugar processors serves as a motivational factor for engaging in this activity. Table 6 presents the levels of affiliation motive among the respondents.

Table 6. Affiliation Motives among Sugar Palm Sugar Processors in Wolo Subdistrict, Kolaka Regency, Southeast Sulawesi, 2024

Affiliation Motive Level	Frequency (n)	Percentage (%)
Low	44	73.33
Moderate	16	26.67
High	0	0.00

As shown in Table 6, a substantial majority (73.33%) of respondents exhibit a low affiliation motive, with none reporting a high level. This finding indicates that most participants do not view sugar palm sugar processing primarily as a means to facilitate social interaction or to strengthen interpersonal bonds. Interview results further revealed that only 3.00% of respondents are motivated to engage in sugar processing to establish connections with other processors—particularly during the tapping process—while 7.00% participate with the intent to collaborate with nearby processors, a practice more common among those whose plantation areas (e.g., cocoa, cloves, pepper) are in close proximity.

Recognition/Achievement Motive

The recognition/achievement motive refers to the drive to achieve excellence and gain acknowledgment or pride from others. This motive can be a significant factor in determining the extent to which individuals are committed to their work. Table 7 details the distribution of recognition/achievement motives among sugar palm sugar processors.

Table 7. Recognition/Achievement Motives among Sugar Palm Sugar Processors in Wolo Subdistrict, Kolaka Regency, Southeast Sulawesi, 2024

Recognition/Achievement Motive Level	Frequency (n)	Percentage (%)
Low	40	66.67
Moderate	17	28.33
High	3	5.00

Table 7 indicates that a majority of respondents (66.67%) exhibit a low recognition/achievement motive. This suggests that while sugar palm sugar processing is not

viewed as a primary source of personal pride or a high-status occupation, it is also not regarded as an entirely marginal activity. Rather, respondents typically engage in this activity as a secondary task, fitting it around their main agricultural responsibilities.

Self-Actualization Motive

Self-actualization reflects the desire to realize one's potential and contribute meaningfully to society. In the context of sugar palm sugar processing, this motive would manifest as engaging in the activity to offer a beneficial alternative to refined sugar, to promote public health, or to enhance the quality and quantity of the product. Table 8 summarizes the levels of self-actualization motive among the respondents.

Table 8. Self-Actualization Motives among Sugar Palm Sugar Processors in Wolo Subdistrict, Kolaka Regency, Southeast Sulawesi, 2024

Self-Actualization Motive Level	Frequency (n)	Percentage (%)
Low	48	80.00
Moderate	11	18.33
High	1	1.67

Table 8 demonstrates that a low self-actualization motive overwhelmingly predominates among the respondents (80.00%). This finding indicates that few individuals are motivated by the desire to contribute to societal well-being through sugar palm sugar processing—for instance, by providing a healthy alternative to imported refined sugar or by striving to improve production quality. Interviews further revealed that only 6.70% of respondents are driven by the conviction that sugar palm sugar serves as a beneficial substitute for refined sugar, while 31.70% are motivated by a desire to increase production. However, merely 6.70% are focused on enhancing product quality, with most respondents expressing satisfaction with their current output and quality. Notably, efforts to boost production have primarily involved intensifying the search for wild sugar palm trees rather than through systematic cultivation practices.

CONCLUSION

The study of sugar palm sugar processing in Wolo Subdistrict reveals that this activity is predominantly pursued as a supplementary economic venture rather than as a primary livelihood. The findings indicate that while the economic motive—driven by low capital requirements and consistent market demand—is moderately strong among respondents, other



motivational factors such as security, affiliation, recognition/achievement, and self-actualization remain largely low. This suggests that, although respondents benefit from the readily available raw materials and the steady demand for sugar palm sugar, they do not view the activity as a means to secure long-term financial stability, social fulfillment, or personal growth.

Moreover, the imitation motive shows a moderate influence, with respondents partly replicating the practices of predecessors or nearby community members. However, the reliance on sugar palm sugar processing is primarily driven by pragmatic economic considerations, with minimal emphasis on broader social or developmental aspirations. These insights imply that interventions aimed at formalizing the supply chain and enhancing profitability could potentially elevate the role of sugar palm sugar processing within the rural economy, while strategies to foster social recognition and innovation might further enrich the perceived value of this traditional practice.

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