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EVALUATING THE POTENTIAL OF BROWN SUGAR PRODUCT AS AN EFFORT TO INCREASE THE ECONOMIC WELFARE OF COCONUT FARMERS IN SIDOREJO VILLAGE, KAPENEWON LENDAH, KABUPATEN KULON PROGO DIY

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ABSTRAK

Studi ini bertujuan untuk memberikan inovasi dan nilai tambah atas produk gula Jawa yang selama ini dihasilkan masyarakat Desa Sidorejo sehingga diharapkan dapat memberikan penghasilan tambahan bagi para penderes kelapa dan mengembangkan BUMDes Binangun Dadi Maju. Subjek yang terlibat merupakan petani gula Jawa di Desa Sidorejo, Kapenemon Lendah, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta. Metode yang digunakan terdiri dari tiga tahap, yaitu persiapan, pelaksanaan, dan evaluasi. Tim pengabdian telah memberikan pendampingan dan rekomendasi inovasi produk baru berupa gula Jawa cair. Inovasi produk baru belum dapat langsung dipasarkan karena masih dalam tahap pengembangan. Selanjutnya, kedepannya akan dilakukan riset gula Jawa cair dan strategi pemasaran melalui *e-commerce*.

Kata Kunci: *inovasi produk, gula jawa, penderes kelapa, Desa Sidorejo.*

ABSTRACT

This study aims to give innovation and value added to the brown sugar produced by the community in Sidorejo Village. The purpose is to provide a better income for the coconut farmer as well as to optimize the roles of BUMDES Binangun Dadi Maju as an economic catalyst. This project was conducted in Desa Sidorejo, Kapenemon Lendah, Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta. There are three stages applied in this program i.e.: preparation, application, and evaluation. Recommendations and guidance were given to the farmer and BUMDES to develop the brown sugar product and to produce the liquid brown sugar product. The new product development is still under evaluation for the commercial purpose.

Keywords: *product innovation, brown sugar, coconut farmer, Sidorejo Village.*

INTRODUCTION

Rural development is needed to fulfill the welfare of its community. It is necessary to develop the village's potential to provide employment for its citizens, so a region could be developed and economically independent. Park & Wang (2010) and Natsuda (2012) state that to improve the economy of a rural area, business activities must be based on the potential of the village area itself. In addition, Deshwal (2015) argues that the growth of business activities in an

area can help reduce the community problems such as poverty.

Sidorejo Village is one of the villages in Kapenemon Lendah, Kulon Progo Regency, Yogyakarta Special Region, postal code 55663. Sidorejo Village consists of 25 Hamlet (*Pedukuhan*), namely Bekelan, Diran, Ledok, Tubing, Geden, Gentan, Gerjen, Jekeling, Jurug, Karang. KP. Senden, Krawakan. Sapon, Sedan, Sidorejo, and Tubin. Most of the land in Sidorejo is used as residential areas, rice fields,

plantations, bamboo yards, community forests, coconut tree yards, mahogany, teak and sengon. The soil conditions in Sidorejo Village are fertile, moist, and have high productivity, while the livelihoods of the residents are traders, civil servants, farmers, and coconut grinders.

One of the potentials of Sidorejo Village is the number of coconut trees surrounding the community's yards. In one hamlet (*Pedukuhan*) there are approximately 1200 s.d. 2000 coconut trees. Not surprisingly, Sidorejo Village is one of the well-known brown coconut sugar's producers in Kulon Progo with its high-quality product. However, the production of brown coconut sugar is threatened with extinction because the number of coconut farmers (*penderes kelapa*) is decreasing from year to year. This is due to the lack of coconut farmers's (*penderes kelapa*) regeneration.

The job as a coconut farmer has been seen as something that is less attractive for the younger generation because of the low wages earned. Coconut farmers usually only sell their coconut sugar products to middlemen at low prices. Thus, the income from producing brown coconut sugar cannot meet the costs of daily living. Nowadays, the number of worshipers in Sidorejo Village is approximately 100 people, with an age range of 50 to 70 years.

Considering the nature's potential of Sidorejo Village, there is an opportunity to develop coconut brown sugar products as a prime product in the community. In this way, it can improve the welfare of Javanese sugar farmers in Sidorejo Village. Looking at the society's trends recently, there is an increasing demand in the food-beverage industry and in the community for liquid brown sugar. Besides the brown sugar that has been used by the community for daily cooking needs, the

brown sugar is widely used as an alternative sweetener that is "healthier" than granulated sugar. Additionally, in the beverage business, liquid brown sugar is widely used as the main ingredient and variants in beverage products such as coffee and milk tea.

Innovation of brown sugar products is needed to provide additional income to the coconut farmers. Moreover, it can give a different picture/image to the younger generation about the potential of the brown coconut sugar business in the future. Therefore, it will give a positive impact on coconut brown sugar's business sustainability and at the same time improve the economic growth of the community. Underlying these reasons, training and business assistance are needed to develop business activities and provide value added to the brown coconut sugar products in the Sidorejo Village.

METHOD

The method used in solving the problems faced by coconut farmers in Sidorejo Village is carried out in three stages as follow:

1. Preparation Stage

The first stage in this project is preparation. Observations in Sidorejo Village and Focus Group Discussion (FGD) were carried out to map problems and determine programs related to the challenges faced by the coconut farmers and producers. Coordination with village officials and local community members is conducted to socialize the activities. The first stage of preparation begins with (pre-survey) through interviews with village officials.

2. Implementation Stage

The implementation phase of mentoring begins with going to the location to observe the

process of making brown sugar from the process of grinding coconut to the process of making brown sugar. Next, a mentoring process is carried out on the manufacture of liquid palm sugar.

3. Evaluation Stage

At the evaluation stage, the team will evaluate the liquid coconut sugar product, whether the product is suitable for commercials. The project will send the product samples to the laboratory for testing the product's safety and the product's consumption period

RESULT & DISCUSSION

Activity 1, Survey and Mapping

To be able to understand the potential of the area and the problems faced by the coconut farmers and producers in Sidorejo Village, the team

conducted initial observations at the location. The survey and site visit were first conducted on April 14, 2021. The team met with village officials to collect data and problems mapping. Coordination is carried out both online and offline.



Figure 1. Meeting with The Village Officials

source: author's documentation

Activity 2, Focus Group Discussion.

The second stage was a Focus Group Discussion (FGD) with coconut grinders in Sidorejo Village, which was held on October 11, 2011. This FGD aimed to gather information from coconut farmers regarding the problems encountered in the field and at the same time to gain interest from the coconut farmers about the program's assistance. There were 10 coconut grinders from

Jengkelin Hamlet who attended this FGD activity.

Based on the interviews conducted with the coconut farmers, the number of coconut grinders in Sidorejo Village is currently only about 10 tappers. This number is much reduced compared to 20 years ago when the

coconut farmer was the main source of livelihood for the community. The age of active coconut farmers is between 40 to 70 years. The absence of the younger generation is due to the lack of wages earned from being a coconut farmer (*penderes*). Most young people choose to work as construction workers rather than being coconut farmers.

Each coconut tree produces a different amount of "neera" every day. Coconut neera is the natural sap of the mature coconut trees. The farmers should take the neera twice a day, in the morning and evening. Several factors affect the quality of neera such as: season, age of the tree, the tree's height, and soil quality. In the rainy season the yield of sap obtained is less than in the dry season. For comparison, in March-May (dry season) coconut farmers can produce about 3.5 to 4.5 kg of palm sugar from 15 trees. Meanwhile, in the rainy season, from October to January, the coconut trees can only produce 1.5 - 2 kg of brown sugar. The age of the tree also affects the quality of sap production. The requirement for coconut trees to be able to dideres is a minimum of 10 years. The older the wood and roots, the sweeter the sap. In addition, the taller the tree, the sweeter the sap.

Based on the results of the FGD, information was obtained that not all

areas in Kulon Progo can produce good and quality brown sugar. This is influenced by the quality of the soil in the area. For example, in the Congot area (one of the areas in Kulon Progo Regency), the brown sugar produced will be slightly salty. This is because the location is close to the beach.

The income of coconut farmers is very low to meet their daily needs. Most of the coconut farmers in Sidorejo Village are only laborers and rarely have coconut trees on their land. The results of the daily dredging are divided by two with the landowner. The coconut farmers divide the results of dredging to the yard's owner. The neera result is then processed to become brown sugar by the yard's owner and the farmer.

In a day, the coconut farmer can climb 10-15 coconut trees, which produce brown sugar ranging from 2 to 4.5 kg (depending on the season). Meanwhile, the price of brown sugar in middlemen ranges from IDR18.000, - to IDR20,000. In an assumption, if in a day *penderes* get 2 kg of brown sugar, they only earn $\text{IDR}20,000 \times 2 \text{ kg} = \text{IDR}40,000, -$. The amount of income earned is for two days, because they must share the coconut's neera with the yard's owner. On average, the income earned per day is IDR20,000. This amount is certainly not enough to meet daily needs of the farmers.



Figure 2. FGD with Coconut Farmers

source: author's documentation

Activity 3, The Observation of the Coconut Sugar Production

The third stage of activity carried out was observation in the field about the process of making the brown sugar. Observation activities were carried out on October 27, 2021, in Jekeling Hamlet. Researchers met with three “penderes” (Pak Parijan, Pak Budi, and Pak Mul Ngatijo) and witnessed the process from preparing tools, climbing, and getting the sap which was ready-to-process. The three interviewees we met were laborers, where they work for the yard's owner. The time needed to drag one coconut tree is approximately 5 to 10 minutes. So, it usually takes around

1 to 1.5 hours to climb 10-15 coconut trees.

The sap's results in the morning are then mixed with the sap results in the afternoon (a previous day) and then cooked into brown sugar. The researcher then met with the wives of the penderes to witness the process of making palm sugar in the kitchen. Mrs. Tugirin (Mr. Parijan's wife) said that on average, in two days, they can produce 3 kg of brown sugar. Meanwhile, the time needed to process sap into brown sugar is 3 to 5 hours, depending on the amount of coconut sap that is cooked. The more the amount of sap that is processed, the longer it will take.



Figure 3. Coconut Crushing Proses

source: author's documentations

The brown sugar producers in Sidorejo Village are still using traditional stoves and firewood to process the sap. However, the farmers do not consider the fuel factor in calculating the cost of production. They argued that it is very easy to find firewood around their homes. Another problem found during the observation of the brown sugar production process was the inconsistent colour of the brown sugar product from day to day. The reason is because the quality of the saps was different depending on the

season and other factors mentioned earlier. In addition, the process of cooking/stirring also affects the colour of the brown sugar produced.

Based on observations in the field, it is known that liquid brown sugar (juruh) can be produced before the process of making brown sugar products. Therefore, the production time of liquid brown sugar will be shorter than the solid brown sugar production process only if the liquid palm sugar produced has the quality as the market needs.



Figure 4. Process of Making the Brown Sugar
source: author's documentation



Figure 5. Traditional Tools for Making the Brown Sugar
source: author's documentation



Figure 6. The Liquid Brown Sugar Produced by Sidorejo Farmers

source: author's documentation

CONCLUSION

According to the mentoring activities carried out in Sidorejo Village, several things were found as follows:

- The income of the coconut farmers and brown sugar producers is very minimal and cannot meet the needs of daily life, so efforts are needed to help the grinders to increase the selling value of the brown sugar produced.
- The production process of brown sugar is still very traditional with less attention to the cleanliness aspect. Besides, there is no standard on the brown sugar product in terms of taste and colour because it depends on the quality of the sap and the cooking process. Therefore, it is necessary to educate the brown sugar producers about the importance of cleanliness in the production process and develop an SOP for making the brown sugar.
- The solid brown sugar produced by Sidorejo Village has good quality with its originality (without any sweetener addition). The product has a big opportunity to be marketed and rebranded as a premium product with the value of the quality of taste and its authenticity.
- Liquid brown sugar (juruh) produced from the process of making brown sugar products needs more observation in the laboratory about the length of consumption (expired time) and product safety for mass consumption.
- Feasibility study of selling the liquid brown sugar is needed in the next project's assistance.
- BUMDES could be one of alternative channels for selling the brown sugar product of the Sidorejo Village. Furthermore, the young people of Sidorejo Village can be trained as marketers to promote and sell the brown sugar products in the

marketplace and optimize social media in their sales strategy.

The community assistance program in Sidorejo Village is designed in multi-years project. The laboratory's results related to the quality of liquid brown sugar will be the basis for the future development and commercialization of liquid brown sugar produced by farmers in Sidorejo

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Village. Furthermore, the results of this community assistance can be the basis for increasing the selling value of brown sugar products. Several suggestions for future projects such as: making SOPs, repackaging, and rebranding the brown sugar product so that it can increase selling value, promoting, and marketing Java sugar products, and producing liquid Java sugar.

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