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Value Added Processing of Plantation Products to Increase Farmers' Income and Welfare

Sakti[1], Siti Maulidina[2]
Universitas Pasundan, Indonesia
saktiabdinagara5066@gmail.com

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ABSTRACT

One of the keys to business success is creativity and innovation, but both can only be achieved through continuous learning. As in the village of Cilebud Bogor, the abundance of guava fruit plantations, not many farmers have developed it into value-added products. Generally, the harvest, directly sold in the form of fruit only. This requires a role from many parties, one of which is the academic community, to provide provision of knowledge about the processing of high economic value plantation products. To answer this goal, community service activities were carried out by students and lecturers at Pasundan University in the village of Cilebud, Bogor. This service activity is in the form of training in making juice and dodol from guava fruit, as a strategy to increase farmers' income. The number of participants who took part in this activity were 32 people, consisting of farmers, sellers and people around the village of Cilebud. The results of the activity showed that the community was enthusiastic about the practice of making juice and lunkhead from processed guava. Apart from that, they also taught how to pack and digitally market, so that processed products can be widely known by Indonesian people, especially tourists who visit the city of Bogor.

Keywords: Innovation, Creativity, Guava Processing, Value Added, Digital Marketing

INTRODUCTION

Indonesia is an agrarian country where the dominant people are farmers. Therefore, one of the opportunities for Indonesia is to develop the agricultural sector to meet food needs (Widiana & Annisa, 2018), to improve nutritional conditions through diversification of culinary types. In general, Indonesia as a country with a tropical climate has a considerable opportunity to develop agricultural products, especially food products (Widyawati, 2017), in which there are horticultural products, namely fruits and vegetables.

After more than a year since the outbreak entered Indonesian territory, the Covid pandemic has apparently not been eradicated until now. Many people have been affected by the Covid 19 pandemic, most of their businesses have collapsed (Rosita, 2020).

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Likewise with small traders or farmers who only rely on their fruit crops. Guava farmers, for example, only rely on guava yields, which do not always produce.

The varieties of guava cultivated in Indonesia are white guava, red guava and water guava (Suryanto, 2018). Each type of guava has different cultivation techniques and selling points. Guava is one of the international commodity horticultural products. Guava, especially red guava, contains high doses of vitamin C which is in great demand by the public (Hanif & Nasrulloh, 2021). Besides the price is not too expensive, red guava fruit is easy to get. The content of vitamin C in guava fruit exceeds the levels of vitamin C in citrus fruits (Wijayanti, et al., 2021). This content can meet the daily needs of the body for vitamin C. Guava also contains vitamin A and vitamin B9 or folic acid (Safnowandi, 2022).

Like other tropical fruits, guava can be consumed directly, and can also be used as processed raw materials such as: syrup, juice, lunkhead, jam and jelly. In addition, guava has many functions and benefits, starting from its fruit, leaves and tree trunks (Handarni, et al., 2020). Guava fruit has many health benefits, namely it can cure constipation (Kurnia, et al., 2020), protects the mucous membranes of the intestine, reduces hypertension, prevents cancer and canker sores, treats swollen and bleeding gums, lowers cholesterol (Winarni, et al. , 2020), maintain heart health, lose weight, cure diabetes, treat skin, cure male infertility, and treat dengue fever (Nuriyatin, 2020). Guava leaves are useful for curing diarrhea (Rusdi, 2020), coughs and flu, so they can reduce body odor. Besides that, guava tree trunks are useful for crafts such as knife handles, hoes and other wall decorations.

Opportunities for market share of guava are very broad, one of which is the opportunity for the domestic market (Arianti & Harinta, 2020), guava is focused more on fulfilling household consumption needs only. Based on another point of view, the large population of Indonesia is a potential for a large market share for guava products (Fathin & Baga, 2016). Increasing people's income can increase the demand for consumption of fruits such as guava.

Based on the explanation above, we as the academic community of Pasundan University carry out community service activities in the form of training for farmers as managers of guava harvests so that they have a higher economic selling value compared

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to only selling in the form of fruit. The location of the service that we do is located in the Cilebut Bogor area.

Today, agricultural/plantation land in the village of Cilebut Bogor is decreasing, due to the conversion of its function to housing.

Based on survey results, no more than 21 percent of the remaining agricultural land is planted with guava. The Cilebut Village Government also stated that as housing development increased, now agricultural land which used to account for 85 percent of the village area of around 400 hectares is now decreasing, more than 25 hectares of guava agricultural land has now turned into housing.

The method of planting guava is still very traditional, relying only on nature so that the yield of guava fruit is not always stable. Sometimes abundant but sometimes slightly affected by plant diseases. The price problem is that the farmers cannot set a price, because sometimes the middlemen buy the crops at the location of the plants. The problem faced by guava farmers as MSMEs is how to make the most of the guava harvest, especially during the main harvest, when the yield is usually abundant (Marpaung, 2021). Because when guava yields are abundant, prices usually fall and middlemen buy only the best quality guavas (Ariyani, et al., 2017; Hayudanti, et al., 2016).

There are some farmers who market their own guava fruit on the side of the main road, but because without adequate storage space, the guava quickly rots. The economic life of guava farmers is still difficult, coupled with a lack of knowledge in managing guava yields so that they can increase their income, especially during a pandemic like today (Romalasari, et al., 2017). Guava farmers also experience difficulties in obtaining subsidized fertilizers, so they often become confused when planting guava trees. Farmers also have difficulty obtaining capital to increase the number of guava trees planted. They hope to be assisted to form youth groups, women farmer groups or farmer groups. Diseases of guava trees whose pests attack the fruit and roots or guava trees, are still a problem that hinders their business. For this reason, farmers hope that there will be guidance and counseling from the government as well as capital assistance.

METHOD

The executors of this service activity consisted of students and two accompanying lecturers. This activity is more about educating farmers and guava traders, by conducting

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demonstrations on how to process guava into guava juice and guava lunkhead and making attractive packaging. So the objectives of this activity are:

1. Providing skills to red guava farmers as UMKM on how to make guava juice, guava lunkhead, chips and guava jam. So that unsold guava is not wasted but instead has more value. So that in the end it will increase sales turnover and will indirectly increase farmers' income.
2. Providing skills to guava farmers on how to make attractive packaging, teaching how to apply for permits to the Ministry of Industry and Trade.
3. Provide guidance to guava farmers on how to market their products so that they can sell well in the market by doing digital marketing.
4. Make bookkeeping and financial reporting in a simple way.

DISCUSSION

Value Added of Red Guava Becomes Juice

Making Red Guava Juice. When the main harvest arrives, guava production is abundant. Many guavas are not absorbed in the market so the price drops. Guava farmers or traders eventually throw away the unsold guava. Guava fruit that is still good can actually be used by farmers by making red guava juice which tastes sweet and fresh.

Red guava juice is liked by many people, both children and young people and adults. Especially during this pandemic, many people are looking for guava to be used as juice as a health drink. Because it was allegedly based on research conducted by researchers from the Bogor Agricultural Institute and the University of Indonesia, guava fruit can treat the corona virus that is spreading in the community. Guava juice so that it tastes better and the packaging is more attractive requires innovation and creativity from the maker. For that it can be done in several steps such as by adding grated cheese, messes, chia shield and others. You can also add other fruits such as mangoes, oranges, pineapples so that the taste is fresher and more delicious.

In terms of packaging, packaging should be attractive and use containers or places that are good and practical to carry everywhere. For example, we use drink bottles that we can buy at online stores. With beautiful bottles and attractive packaging, it is hoped that it will attract the interest of potential buyers to buy the juice being sold. By using attractive bottles and packaging, it is hoped that the selling price of red guava juice will

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increase. It can also be made in frozen food packaging, so this red guava juice will last longer where the color and taste don't change. It can be sold to a wider marketing area as well as the expiry period is longer. The ingredients used to make red guava juice consist of red guava, white granulated sugar/palm sugar, sweetened condensed milk, cheese, messes, chia shield and nutrijel.

How to make delicious and delicious juice with good quality and contains vitamins and nutrients is as follows:

1. Choose guava that is still of good quality, even though the skin is no longer fresh, not rotten and not dented.
2. Clean the red guava that we will make into juice, peel the guava, separate the seeds,
3. Blend the red guava flesh with white water until smooth, Blend the red guava seeds that were separated earlier, filter them using a sieve. When it's finished we filter, remove the seeds and we can combine the water with red guava juice which is made from the flesh of the fruit earlier.
4. Add sugar and sweetened condensed milk, stir until smooth, add the melted chai shield.
5. Prepare any variant of nutrijel according to taste, we shave the nutrijel and mix it into the juice.
6. Put the finished juice into a glass or bottle that already has a package, add grated cheese and messes.
7. Put the finished juice in the refrigerator or freezer.
8. Innovative red guava juice is ready to be marketed or can be served immediately, the taste will be more delicious when it's cooled.
9. This red guava juice will last longer if before we put it in a glass or bottle we cook it first until it boils. This is done so that the existing germs or bacteria die
10. You can also use food preservatives that have been approved by the Indonesian food control agency, namely using a small amount of Sodium Benzonate.

That's how to make innovative red guava juice so that it can be useful and preferred by millennials. It is also hoped that red guava juice will become a drink trend that is no less interesting, so that it will further increase sales turnover for both farmers and sellers of red guava. We can use red guava that is still of good quality and is no longer selling well in the market to make juice with good quality and prices that are competitive with

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juice brands made by big companies. The farmers are also expected to increase their income so that their lives will be much better too.

Value Added of Red Guava Becomes Dodol

Making dodol with red guava is not as difficult as we make ordinary dodol which is widely marketed in markets, cake shops or shopping malls. Red guava dodol has a distinctive taste, there is a sweet and sour taste typical of guava so it tastes much better than the usual dodol which is often made by people when the holidays are approaching. Anyone can make red guava dodol, especially guava farmers and guava traders. They can take advantage of red guava which is usually abundant during post-harvest. Or if their guava is not selling well in the market, these traders can use the rest of the guava to make guava lunkhead.

The red guava that we can make lunkhead is leftover guava which can still be eaten even though the skin is no longer fresh and smooth. By making guava dodol, it tastes good, delicious, fresh and has a seductive guava aroma, making guava dodol liked by all groups. So far, dodol food, which is typical for village food, is now gaining popularity because it tastes different from ordinary dodol. The ingredients used to make red guava dodol consist of red guava fruit, rice flour, white sticky rice, granulated sugar, coconut milk or vanilla and diamonds or plastic.

How to make red guava dodol that is delicious, tasty, fresh, fragrant and of good quality is as follows:

1. Prepare the red guava that will be used as lunkhead.
2. Clean the guava, peel the skin and separate the seeds from the fruit.
3. Blend the guava seeds with a little water, strain, remove the seeds and set aside.
4. Blend red guava fruit flesh with water until smooth and soft.
5. Once smooth, pour into the pan, mix with the juice of the cashew guava, stir well.
6. Add white granulated sugar, stir until mixed with the crushed red guava.
7. Make coconut milk dough by adding white glutinous rice flour, stir until evenly distributed and there are no lumps.
8. Add a little vanilla to make the aroma more fragrant.
9. Once mixed, put it in a pan that has been filled with mashed guava mixed with white granulated sugar.
10. Cook over low heat, stirring constantly, for about 4 hours.

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Red guava dodol will be ready to eat if it has passed the cooking time for approximately 4 hours. If the dodol dough looks thickened and doesn't fall off when we take it with a spoon, then the dough is considered ready. Cool the dodol by stirring continuously after 4 hours, turn off the heat and remove the pan from the stove. Let the dodol cool and can be taken to be wrapped in diamond paper or plastic. When it is not hot and can be cut into pieces, the dodol is ready to be wrapped. Put the dodol that has been wrapped in plastic or diamond paper into a container or place that is quite interesting, such as one made of rattan or plastic. After finishing and weighing, the dodol is wrapped in plastic which is usually used for parcels or food wrap. When finished, a new label or sticker is given. Make delicious dodol with attractive packaging and ready to be marketed. The strength of this lunkhead when stored in the refrigerator can be up to 1 month more. The expiration date can be longer when compared to guava juice. The selling price can be much more expensive and can be sold anywhere without worrying about the taste changing.

The beautiful and attractive packaging of dodol, as well as the distinctive taste of guava, make this guava dodol in great demand among buyers, especially tourists visiting the village of Cilebut. After finishing making red guava dodol, the next step is to market processed guava products as regional souvenirs by utilizing digital marketing. It is hoped that by making red guava dodol it will increase the sales turnover of guava farmers. So that the income of farmers increases and their lives become more prosperous.

CONCLUSION

Processed guava products need to be imaged as regional souvenirs, then to be able to increase market response digital marketing is needed, for example in the marketplaces Shopee, Tokopedia and Bukalapak. It is hoped that by making red guava juice and dodol it will increase the sales turnover of guava farmers with a wide market share. Management of yields by processing guava into food and beverages that have high selling value, it is hoped that they will continue to cultivate their plantations and not sell existing land for housing or factories. So that in the future the income and life of farmers will become more prosperous and continue to grow and increase.

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REFERENCESS

Arianti, Y. S., & Harinta, Y. W. (2020). AGROWISATA JAMBU DAN PENGEMBANGAN EKONOMI LOKAL DI KECAMATAN NGARGOYOSO KABUPATEN KARANGANYAR. *AGRISAINTIFIKA: Jurnal Ilmu-Ilmu Pertanian*, *4*(2), 176-186.

Ariyani, D. M. A., Santoso, S. I., & Setiadi, A. (2017). Analisis Profitabilitas Usahatani Jambu Biji Getas Merah Di Kabupaten Kendal. *AGROMEDIA: Berkala Ilmiah Ilmu-ilmu Pertanian*, *35*(2).

Fathin, S., & Baga, L. M. (2016). RANCANGAN PENGEMBANGAN USAHA KERIPIK JAMBU BIJI MERAH BERBASIS WIRAKOPERASI PADA KUB HARAPAN SEJAHTERA ABADI. *AGRISIA-Jurnal Ilmu-Ilmu Pertanian*, *9*(1).

Handarni, D., Putri, S. H., & Tensiska, T. (2020). Skrining Kualitatif Fitokimia Senyawa Antibakteri pada Ekstrak Daun Jambu Biji (Psidiium guajava L.). *Jurnal Keteknikan Pertanian Tropis dan Biosistem*, *8*(2), 182-188.

Hanif, A. A., & Nasrulloh, N. (2021). Pengaruh penambahan jambu biji terhadap kadar vitamin c, aktivitas antioksidan dan organoleptik es krim tomat. *Ghidza: Jurnal Gizi dan Kesehatan*, *5*(2), 171-178.

Hayudanti, D., Kusumastuty, I., & Tritisari, K. P. (2016). Pengaruh Pemberian Jus Jambu Biji Merah (Psidium guajava) dan Jeruk Siam (Citrus nobilis) terhadap Kadar High Density Lipoprotein (HDL) pada Pasien Dislipidemia (The Effect of Guava Extract (Psidium guajava) and Siam Citrus Fruit (Citrus nobilis) on HDL Level in Dyslipidemic Patients). *Indonesian Journal of Human Nutrition*, *3*(1), 41-48.

Kurnia, K. A., Widyatamaka, S. Q., Masyrofah, D., Prayuda, E. M., & Andriani, N. (2020). Khasiat daun jambu biji sebagai antidiare. *HSG Journal*, *5*(2), 43-57.

Marpaung, H. Y. (2021). Analisis Pengawetan Alami Ikan Gembung (Rastrellinger kanagurta L) Dengan Membandingkan Daun Jambu Biji (Psidium guajava) dan Daun Gambir (Uncaria). *Jurnal Ilmiah Mahasiswa Pertanian [JIMTANI]*, *1*(4).

Nuriyatin, S. (2020). Daun Jambu Biji Sebagai The Herbal Famous Care Desa Kebaron. *JURNAL PADI (Pengabdian mAsyarakat Dosen Indonesia)*, *3*(1), 13-15.

Romalasari, A., Susanto, S., Melati, M., & Junaedi, A. (2017). Perbaikan kualitas buah jambu biji (Psidium guajava L.) kultivar kristal dengan berbagai warna dan bahan pemberongsong. *Jurnal Hortikultura Indonesia*, *8*(3), 155-161.

Rosita, R. (2020). Pengaruh pandemi Covid-19 terhadap UMKM di Indonesia. *Jurnal Lentera Bisnis*, *9*(2), 109-120.

Rusdi, P. H. N. (2020). Pengaruh Pemberian Jus Jambu Biji Merah (Psidium Guajava. L) Terhadap Kadar Hemoglobin Penderita Anemia Remaja Putri. *Human Care Journal*, *5*(3), 603-610.

Safnowandi, S. (2022). Pemanfaatan Vitamin C Alami sebagai Antioksidan pada Tubuh Manusia. *Biocaster: Jurnal Kajian Biologi*, *2*(1), 6-13.

Suryanto, R. (2018). Pengaruh Penambahan Dekstrin Dan Tween 80 Terhadap Sifat Fisik, Kimia Dan Organoleptik Bubuk Sari Buah Jambu Biji Merah (Psidium Guajava L.) Yang Dibuat Dengan Metode Foam-Mat Drying. *JISIP (Jurnal Ilmu Sosial dan Pendidikan)*, *2*(3).

Widiana, W., & Annisa, A. A. (2018). Menilik urgensi penerapan pembiayaan akad salam pada bidang pertanian di lembaga keuangan syariah di Indonesia. *Muqtasid: Jurnal Ekonomi Dan Perbankan Syariah*, *8*(2), 88.

Widyawati, R. F. (2017). Analisis keterkaitan sektor pertanian dan pengaruhnya terhadap perekonomian Indonesia (analisis input ouput). *Jurnal Economia*, *13*(1), 14-27.

e-ISSN 2797-8338
DOI 10.37481

Wijayanti, H., Wulandari, D. A., & Melyani, M. (2021). Perbedaan Efektivitas Antara Pemberian Jus Tomat dengan Jus Jambu Biji Merah terhadap Kadar Hemoglobin pada Ibu Hamil Trimester III di Puskesmas Hilir. *Jurnal Kesehatan*, *14*(2), 71-75.

Winarni, L. M., Lestari, D. P., & Wibisono, A. Y. G. (2020). Pengaruh Pemberian Jus Jambu Biji Merah Dan Jeruk Terhadap Peningkatan Kadar Hemoglobin Pada Ibu Hamil Anemia: A Literature Review. *Menara Medika*, *2*(2).