Vol 8 No 3, September 2024
ABDI DOSEN
Jurnal Pengabdian Pada Masyarakat
pISSN: 2614-6509
eISSN: 2620-5156

EMPOWERMENT OF FARMER GROUP THROUGH THE UTILIZATION OF PROCESSED CHAYOTE AS IMMUNE SYSTEMS

Jamaludin M. Sakung *, Sri Hastuti Virgianti Pulukadang, Sitti Rahmawati, Dewi Satria Ahmar, Muhammad Zikra
Universitas Tadulako
Jl. Soekarno Hatta No.KM. 9, Tondo, Kec. Mantikulore, Kota Palu, Sulawesi Tengah 94148, Indonesia
Email: jamal_utd@yahoo.com

Abstract

Chayote for farmer groups is currently only a commodity that is directly marketed, but with an abundance of production it makes farmers lose money due to lack of demand and difficult marketing places, so there is a need for innovation in suppressing the abundance of chayote production in preventing spoilage. This service aims to provide community understanding and skills in processing chayote plants into healthy food to improve the immune system. The methods of the activities carried out are: Counseling on the importance of diversification (diversification) of processed chayote products into biscuits made from chayote flour, to increase product added value, product shelf life and increase community income of chayote farmer groups. The results achieved from the training in making dodol and chayote-based brownies can improve the health and welfare of the people of Gumbasa sub-district, Sigi Regency, especially PKK women in Pandere village. The results of this service activity can increase community knowledge and skills, in mobilizing potential resources in the form of chayote owned by the community to increase income and community welfare based on technological innovation and local wisdom.

Keywords: Brownis, Chayote, Dodol, Immune

INTRODUCTION

Chayote is one of the agricultural products in Pandere Village, Gumbasa subdistrict, Sigi district, apart from corn, long beans and jicama. Currently, chayote for farmer groups is only a commodity that is directly marketed, however, with the abundance of production, farmers suffer losses due to lack of demand and difficult marketing locations, so there is a need for innovation in reducing the abundance of chayote production to prevent spoilage.

Chayote production in Central Sulawesi has increased from year to year in 2015, chayote production was 3,518.90 tonnes, increasing in 2016 to 3,998.30 tonnes, and Sigi district is the district producing the most chayote at 1,872.30 tonnes (47%) (Anwar, 2016; Arsyad, 2016). This abundance of production causes farmers to experience losses with a selling value of Rp. 5,000-Rp 7,000/kg with the community's need for chayote still low. Processing chayote-based food products is one solution to overcome the abundance of chayote production.

http://pkm.uika-bogor.ac.id/index.php/ABDIDOS/issue/archive
Submitted: February-2024 Received: August-2024 Available online: September-2024

This chayote-based healthy food product has been researched to have high nutritional content so that it can improve the immune system, especially during the Covid-19 pandemic that has hit. The macro nutritional content of chayote-based steamed brownies has a carbohydrate content of 52.2 g/100 g, protein 15.2 g/100 g, fat 14.2 g/100 g and most of the panelists liked it according to the results of organoleptic tests (Erliana, Sakung, & Baculu, 2019). Research by (Arisudana, Semariyani, Candra, & Suriati, 2018) shows that the characteristics of dodol from sticky rice flour and chayote have a significant effect on water content, ash content, crude fiber content, pH, total sugar, texture, aroma, taste and overall acceptability. Characteristics of dodol based on chayote with 70% sticky rice flour: 30% chayote is 19.774% water content, 0.763% ash content, 0.925% crude fiber content, pH 6.270, total sugar 14.6600 brix, texture 4.286 (springy, elastic, not easy to break), aroma 3,000 (rather typical of chayote dodol), taste 4,286 (sweet and sticky), with overall acceptance of 5,714 (likes). The technology for making processed food based on chayote is expected to be an alternative solution for utilizing existing waste, can reduce environmental pollution and improve health services (Sakung JM, 2020).

Bownis and Dodol based on chayote are a new alternative as a healthy food preparation, safe for the immune system, because healthy food products based on chayote do not contain saturated fat or cholesterol, and do not contain dangerous food additives. So apart from its beautiful appearance and many benefits, chayote-based food products are very safe for consumption by all groups and levels of society (Arisudana et al., 2018).

Chayote fruit is only sold when it is still young for use as a vegetable or the leaves are sold, so farmers often face the problem of a standard of living that is still below the poverty line. Therefore, it is necessary to provide understanding and skills to the community in processing chayote plants into healthy foods including brownies and dodol to improve the immune system.

IMPLEMENTATION METHOD

Implementation of service begins with outreach with related agencies, sub-district heads, local village heads). This socialization aims to provide information to relevant agencies regarding the implementation of service and so that participants know the purpose of implementing the program by the implementing team so that there is no misinformation. Furthermore, after submitting the overall program plan, it continued with providing training related to the theme of making healthy processed food based on chayote to improve the health and welfare of the people of Pandere village, Gumbasa sub-district, Sigi district.

The activity methods carried out to solve problems faced by activity partners are as follows:

1. Counseling about the importance of the chayote commodity, the benefits and results obtained from selling this product.
2. Counseling about the importance of diversifying processed chayote products into biscuits made from chayote flour, to increase the added value of the product, the shelf life of the product and increase the income of the chayote farming group.
3. Demonstration on how to process chayote into biscuits made from chayote flour.

4. Training and guidance in the process of making processed chayote products as well as marketing management training.
5. Evaluate all activities. Evaluation is carried out during training and monitoring of the Community Service TEAM.

The evaluation criteria used are:

a. The willingness of the people of the chayote farming group to accept new innovations is to see whether the people of the chayote farming group are enthusiastic or not in participating in this activity.
b. Whether or not there is a willingness among the chayote farming group to continue diversifying its processed chayote products into biscuits.

Evaluation is also carried out by filling out a questionnaire to training participants containing a list of questions regarding activity responses and the level of difficulty for practical/training activities.

RESULTS AND DISCUSSION

The results of this service began with the implementation of providing material about the importance of the potential of healthy pumpkin-based food for the immune system and was carried out in the Pandere Village hall (Figure 1), with the training participants being PKK women from Pandere Village. Training materials include: Good Manufacturing Practice (GMP) training on how to produce good chayote dodol and brownies, which is a guide for business actors in producing their products, Product Packaging Training, namely how to properly package chayote squash products, Making dodol and chayote brownies.

The implementation of community service activities was carried out in the Pandere village office hall, Gumbasa sub-district, Sigi district, which was opened by the Pandere village head (Mr. Yasin), with documentation of activities as follows.

Figure 1. Opening of activities by the head of Pandere village
Source: Community Service documentation

The service activity continued with practice which began with preparing chayote ingredients produced by the Pandere village farmer group, grinding them using a blender, participants were divided into 2 groups who would be accompanied by the service implementation team and field staff (Figure 2a-2b). The activities carried out in practical work involve the participants being guided/accompanied from preparing ingredients to healthy food products. Group 1 makes dodol products and group 2 makes brownies

Figure 2a. Implementation of making dodol based on chayote
Source: Community Service documentation

Figure 2b. Implementation of making dodol based on chayote
Source: Community Service documentation

The products produced are dodol and brownies which are healthy foods that can improve the immune system in preventing Covid-19 (Figures 3 and 4), because when compared with research results the nutritional content of chayote biscuits is 56.16% carbohydrates, 32.64% fat

and protein. 5.65%, while potassium minerals 142.22%, calcium (Ca) 36.80%, sodium (Na) 169.68%, and iron (Fe) 0.73% (J. M. Sakung, Nurmayanti, Rahmania, & Fitra, 2020; J. M. Sakung, Nuryanti, Siti, Afadil, Pulukadang, Srihastuti, 2020).

The dodol and chayote brownies that have been produced from this service activity are then packaged in a hygienic form, free from contamination, and can also be consumed directly as a healthy food to accompany the main meal (Rosyidah, Ediati, & Murwani, 2021).

Figure 3. Chayote-Based Dodol Products
Source: Community Service documentation

Figure 4. Brownies products based on chayote
Source: Community Service documentation

The healthy food products produced in this service pay attention to health. Food hygiene is the main requirement in preparing food for market, then the results of this healthy food production can be developed into a business for farming groups producing chayote. The guarantee for these dodol and chayote brownies products is a halal certificate, therefore further assistance is provided in the form of socialization on the application for halal certificates (Husain & Sondeng, 2021; Nur Indra Fauzan, Rasito, & Alvian, 2020).

Making dodol and chayote brownies are two culinary processes that utilize unique main ingredients and produce delicious and appetizing final results. Dodol, a traditional Indonesian food, is made by cooking a mixture of coconut milk, sugar, rice flour and other ingredients until it thickens. The process of making dodol requires patience and precision in cooking so that the resulting texture and taste are perfect (Furqan, 2020; Priyanti, Handayani, & Sahda, 2023).

On the other hand, chayote brownies offer a modern twist on the classic recipe by adding chayote as one of the main ingredients. Chayote provides softness and moisture to brownies, as well as providing a unique and refreshing taste. The process of making chayote brownies involves first processing chayote into puree, which is then mixed with other ingredients such as chocolate, flour, eggs and sugar to create a harmonious texture and taste (Rosita, 2017).

Both show how the use of local and traditional ingredients can be adapted into modern food recipes to create variations that appeal to culinary enthusiasts. Dodol maintains its traditional signature taste while chayote brownies provide an innovative twist to a globally known dish. Thus, making dodol and chayote brownies is not just an ordinary culinary process, but is also a representation of creativity and preserving local culinary heritage (J. Sakung & Lestari, 2020).

CONCLUSION

The results achieved from the training in making dodol and brownies based on chayote can improve the health and welfare of the people of Gumbasa sub-district, Sigi Regency, especially PKK women in Pandere village. The results of this service activity can increase community knowledge and skills, in mobilizing potential resources in the form of chayote owned by the community to increase community income and welfare based on technological innovation and local wisdom.

REFERENCES

Anwar, F. (2016). Provinsi Sulawesi Tengah dalam Angka 2016. Palu: BPS provinsi Sulawesi Tengah.

Arisudana, I. G., Semariyani, A. A. M., Candra, I. P., & Suriati, L. (2018). Perbandingan tepung ketan dan labu siam (Sechium edule) terhadap karakteristik dodol. Gema Agro, 23(1), 33-43.

Arsyad, A. (2016). Profil Dinas Kesehatan Propinsi Sulawesi Tengah (tidak dipublikasikan). Palu: Dinkes Sulteng.

Erliana, Sakung, J., & Baculu, E. P. H. (2019). Analisis Kandungan Zat Gizi Makro Dan Uji Organoleptik Brownies Kukus Berbasis Labu Siam. Jurnal Kolaboratif Sains, 1(1).

Furqan, R. (2020). Eksistensi Kuliner Tradisional Pada Masyarakat Kota Meulaboh. UIN Ar-Raniry, Banda Aceh.

Husain, H., & Sondeng, S. (2021). Dampak Sertifikasi Halal Bahan Makanan Olahan Di Kota Kendari. Mega Aktiva: Jurnal Ekonomi dan Manajemen, 10(1), 53-67.

Nur Indra Fauzan, S., Rasito, R., & Alvian, E. (2020). Efektivitas Peraturan Daerah Kota Jambi Nomor 2 Tahun 2016 Tentang Perlindungan Konsumen (Studi Di Dinas Perindustrian Dan Perdagangan Kota Jambi). UIN Sulthan Thaha Saifuddin Jambi, Jambi.

Priyanti, E., Handayani, I., & Sahda, M. N. (2023). Sensory Acceptance and Nutritional Content of Pumpkin (Cucurbita moschata) and Chayote (Sechium edule) Schotel. TEKNOBUGA: Jurnal Teknologi Busana dan Boga, 11(1), 8-14.

Rosita, V. (2017). Mutu Gizi, Indeks Glikemik Dan Sifat Sensori Brownies Sorgum (Sorghum Bicolor L. Moench) Panggang Dengan Penambahan Sekam Psyllium Dan Variasi Lemak. Fakultas Sains Dan Teknologi Universitas Islam Negeri Syarif Hidayatullah …, Jakarta.

Rosyidah, A., Ediati, R., & Murwani, I. K. (2021). Diversifikasi Produk Olahan Rumput Laut serta Kemasannya di Kawasan Dolly dan Jarak Kota Surabaya. Sewagati, 5(3), 198-205.

Sakung JM, Y. N., Rahmania, Muliyani, Hafsa Fitra. (2020). Nutritional Evaluation Of Chayote Flour-Based Biscuits (Sechium edule) Indian Journal of Public Health Research & Development, 11(3).

Sakung, J., & Lestari, A. (2020). Analisis Kadar Vitamin A, C dan E Brownies Kukus Berbasis Labu Siam. Jurnal Kolaboratif Sains, 3(3), 146-150.

Sakung, J. M., Nurmayanti, Y., Rahmania, M., & Fitra, H. (2020). Nutritional Evaluation of Chayote Flour-Based Biscuits (Sechium Edule). Indian Journal of Public Health Research & Development, 11(3), 2034-2038.

Sakung, J. M., Nuryanti, Siti, Afadil, Pulukadang, Srihastuti. (2020). Evaluasi Komposisi Proksimat Dan Mineral Biskuit Formulasi Tepung Labu Siam (Sechium Edule) Dan Kacang Hijau (Vigna Radiata). Fakultas Keguruan dan Ilmu Pendidikan Universitas Tadulako, Palu.