

Utilization of Tofu Dregs Waste as a Value Added Product in Pondokrejo Village, Jember

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ABSTRACT

Tofu dregs are easily perishable waste, so they cannot be stored for a long time. The people of Pondokrejo Village so far have not innovated regarding MSME products, especially production waste. Therefore, the use of tofu dregs aims to make processed food in the form of products that have economic value so that they can improve the economy of Pondokrejo Village. In this study, data collection was carried out using qualitative research methods, specifically using interview and survey techniques. In the early stages, the author conducted interviews with Pondokrejo Village officials to find out about MSMEs in Pondokrejo Village and conducted an FGD (Focus Group Discussion) by explaining about tofu waste to increase selling value and collect suggestions and input regarding product innovation. New knowledge and perspectives regarding tofu waste which is processed into innovative stick products were given to tofu entrepreneurs, PKK mothers, and Posyandu cadres. Apart from that, the importance of e-commerce accounts, where marketing through digital marketing is a very important forum for disseminating the marketing goals of a product. Based on this research, it can be concluded that tofu waste can be reprocessed into value-added products. The waste was obtained from the production of tofu in Pondokrejo Village, which was originally used as livestock feed for the residents and then reprocessed into an innovative snack product, namely "Ma' Nyaman Tofu Dregs Sticks".

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1. INTRODUCTION

Pondokrejo Village is one of the villages located in Tempurejo District, Jember Regency. Pondokrejo Village has many potentials that can be developed, one of which is the home industry. The industry that is often found in households in Pondokrejo Village is the tofu industry. Tofu is a fermented soybean product whose juice is taken. Based on a survey conducted by Collaborative KKN 043 students, there are six tofu entrepreneurs, three of which are located in Sumberejo Hamlet and three in Kombongan Hamlet. During the production of tofu, two types of waste are produced, namely liquid waste and solid waste. The liquid waste produced contains a lot of organic material so it must be reprocessed before being disposed of in order to reduce environmental pollution. Meanwhile, solid waste that is usually produced in the tofu production process is usually called tofu dregs by the community. Tofu dregs are waste that is easily damaged so it cannot be stored for a long time. The people of Pondokrejo Village have always been in their comfort zone and have not dared to innovate regarding MSME products, especially production waste. Tofu dregs in Pondokrejo Village are usually only used as animal feed and sold to cattle farmers at a low price, which is IDR 1,000.00/kg. In fact, in some areas, tofu dregs are directly

thrown away, causing environmental pollution. Handling and management of production waste is very necessary so that it does not have an impact on the environment and has other uses that are beneficial for business actors. According to Dewi (2020), education for industrial business actors, especially household industries regarding the problem of handling and processing production waste is very important.

One of them, solid waste from tofu production, namely tofu dregs, can be reprocessed into a product that has a higher selling price than just being sold as animal feed (Sukrisna et al., 2023; Arisanti & Al Islamiyah, 2020). According to the Directorate of Nutrition of the Ministry of Health, tofu dregs are an alternative source of fiber with a water content of 84.1%, protein 5.0%, fat 2.1%, carbohydrates 8.1%, and dietary fiber 4.1%. Therefore, tofu dregs can be a healthy, nutritious, and safe snack for consumption by the body, and can even increase income and provide new business opportunities for the people of Pondokrejo Village. The lack of public understanding regarding the nutritional value of tofu dregs can reduce the added value of tofu dregs so that utilization is also less than optimal (Putri et al., 2022). Tofu dregs that are reprocessed into new products will be a new market opportunity for tofu industry players and other people of Pondokrejo Village. The innovation of new products from tofu dregs needs to be supported by knowledge related to the right and targeted marketing strategies by industry players and other Pondokrejo Village residents. Knowledge of marketing strategies for the Pondokrejo Village community is very important to improve because the Pondokrejo Village community only markets their production results in the surrounding environment or already has regular buyers so that the marketing scope is quite small. Therefore, there needs to be a correct and targeted marketing strategy, such as digital marketing. Digital marketing is a modern marketing where communication and transactions can be carried out in real time and can be global or worldwide. With the development of technology, social media users are increasing day by day so that it can open up opportunities for MSMEs to develop their markets (Sulistyan et al., 2022; Redjeki & Affandi, 2021; Infante & Mardikaningsih, 2022). In this regard, the Pondokrejo Village community needs training on how to process or utilize tofu dregs into high-value products along with good and targeted marketing through digital marketing. Collaborative KKN 043 students innovated by making tofu dregs into processed food products in the form of sticks with various flavors, which were then branded with the name *Stik Ampas Tahu Ma' Nyaman*. The various flavors available are sweet corn, balado, and original. The processed sticks will be packaged attractively so that they have an appeal that will be more in demand by consumers. There are two marketing media, namely online and offline where online marketing is through Instagram, TikTok, Facebook, Shopee and WhatsApp. While offline marketing is through BUMDES. Optimal utilization of Tofu Dregs needs to be carried out with the aim of making Processed Food Products in the form of snacks made from tofu dregs as products with economic value so that they can increase the income of Pondokrejo Village residents. In addition, this processed stick is expected to become a superior MSME product from Pondokrejo Village and can be continued by Pondokrejo Village residents, both in terms of processing, packaging, and marketing so that it can increase MSMEs in Pondokrejo Village.

2. METHODS

To achieve the expected goals, data collection and observation are required before implementing the program (Sopanah et al., 2023). Data collection aims to find problems and identify the needs of the community in Pondokrejo Village. Data collection was carried out using qualitative research methods, specifically using interview and survey techniques. Qualitative research methods were chosen because they can explain a phenomenon in depth by collecting data as deeply as possible. In the initial stage, the author conducted interviews with the Pondokrejo Village apparatus to find out about the condition of MSMEs in Pondokrejo Village and conducted FGD (Focus Group Discussion) by explaining the author's program to increase the selling value of tofu dregs and collecting suggestions and input regarding the program. In addition, the author also conducted interviews and surveys with tofu entrepreneurs in Pondokrejo Village to find out about the tofu making process, capital, selling price, and waste from production, namely

tofu dregs. After getting the results of the interviews and surveys, the author compiled the structure of the program to be implemented. Another method used is the documentation method. The documentation method is carried out by direct observation to see how business actors package products and market products. Furthermore, the data obtained will be processed to complete the program structure, namely designing logos, packaging, and creating e-commerce accounts for product sales. The target of the tofu dregs stick making program is the community of Pondokrejo Village, Tempurejo District, Jember, which consists of groups of mothers who are members of the PKK, tofu entrepreneurs, BUMDES, and also several Pondokrejo Village officials. The method of implementing the tofu dregs stick making program is carried out through two methods, namely education and training. In this activity, the education provided is an effort to increase the knowledge of the Pondokrejo Village community regarding the potential of tofu dregs to become products that can be reused and have high selling value. This education program is carried out through socialization activities located at the Pondokrejo Village Hall, with the material provided regarding Business Motivation by the Field Supervisor Lecturer (DPL) of Collaborative KKN 043 and regarding the results of tofu dregs observations and showing the results of the calculation of HPP (Cost of Goods Sold) used in making tofu dregs sticks. In addition, an introduction to Digital Marketing was also carried out to the target to facilitate the process of selling tofu dregs stick products. Furthermore, training activities were carried out by directly demonstrating how to make tofu dregs sticks to PKK members so that they could practice and continue making tofu dregs sticks so that they could potentially become superior UMKM products in Pondokrejo Village.

3. RESULTS AND DISCUSSION

3.1. Results

The socialization and training activities for making tofu dregs stick products were held on August 14, 2023, at the Pondokrejo Village Hall, with 38 participants. The participants and invited guests who attended consisted of village heads, hamlet heads, BUMDES, RW heads, PKK mothers, and tofu entrepreneurs in the Pondokrejo Village area. This socialization and training activity began with an explanation of the material on Business Motivation by Mr. Muhdar, S.E., M.M. who also acted as the Field Supervisor for Collaborative KKN 043. The explanation of the material contained experiences from the speakers related to the world of entrepreneurship which also came from his experience as a t-shirt making service entrepreneur. The presentation of the material also included an understanding that waste from production can also have added value if it can be utilized appropriately. One example presented was the remaining fabric from making t-shirts which could be much more valuable if used as floor mats than if they were simply thrown away. This also refers to tofu dregs waste which certainly also has added value by being made into tofu dregs stick products. After the presentation of material on Business Motivation, the activity was continued with the presentation of material from the Collaborative KKN group 043 regarding material about tofu dregs waste which is processed into tofu dregs stick products. The material consists of several parts, including the first explaining the introduction and results of observations that describe the relationship in Pondokrejo Village itself, there are 6 families who use tofu as a source of their economy. However, so far they have not realized that tofu dregs waste can also be used as a snack product that has a selling value. This is also supported by the description of material related to the benefits of tofu dregs waste itself which is actually classified as a food that has nutritional value. This data is reinforced by a statement from the Directorate of Nutrition of the Ministry of Health which states that tofu dregs are an alternative source of fiber from tofu processing. Tofu dregs itself consists of 84.1% water, 5.0% protein, 2.1% fat, and 4.1% dietary fiber.

From the above explanation, the presentation of the material is then continued with solutions and results that explain its relationship to product innovation from Collaborative KKN 043 which is the result of transferring knowledge from various sources related to the utilization of tofu dregs waste into a product with added value, by turning tofu dregs waste into tofu dregs stick products.

This section also shows its relationship to the Cost of Production (HPP) in making tofu dregs sticks, so that the public understands the production capital and can determine the selling price of the product. In addition, an introduction to the relationship between Digital Marketing is also carried out which is used to facilitate the sale of tofu dregs sticks by utilizing the sophistication of digital technology. It consists of linkfree which is a collection of social media links from Facebook, TikTok, Instagram, and online sales media in the form of Shopee.

Furthermore, the activity was continued with training in the form of a direct demonstration of making tofu dregs sticks to the training participants who were present. The activity began with an explanation of the tools and materials that will be used in the stages of making tofu dregs sticks. In this tofu dregs stick making demonstration activity, the dough processing only consists of one recipe which is around 500 grams of tofu dregs. After the presentation of the tools and materials, the steps for making tofu dregs sticks were continued by the Collaborative KKN students who served as demonstrators in the process of making tofu dregs sticks. The steps in the demonstration of the process of making tofu dregs sticks include mixing the dough, kneading, grinding, slicing, frying, and packaging. During the demonstration of the steps in the process of making tofu dregs sticks, one of the students was tasked with explaining the steps taken by the demonstrators and also answering questions asked by the participants who saw the process of making tofu dregs sticks.

After the direct practice of making tofu dregs sticks, it was continued with the packaging of tofu dregs sticks using aluminum pouch packaging and product stickers that already contain information on the brand name, composition, net weight, and various flavors. The form of packaging and product stickers are done as a form of branding of tofu dregs sticks products to make them look more attractive and guarantee the quality of the product. In addition, aesthetics in product packaging, giving a unique brand name, and complete product information can also increase the selling value of the product. The participants who attended were also taught about the branding of this tofu dregs stick product and they also had the opportunity to practice directly related to attractive packaging methods. After that, the event continued with the launching of tofu dregs sticks products that had been branded with attractive packaging and product stickers. The launching of the tofu dregs stick product was then approved by Mr. Misriyanto Efendi as the Head of Pondokrejo Village, Mr. Muhdar, S.E., M.M. as the Field Supervisor of Collaborative KKN 043, and representatives from BUMDES Pondokrejo.

3.2. Discussion

There is a socialization and training program carried out by Collaborative KKN 043 students in Pondokrejo Village regarding the utilization of tofu dregs waste which is processed into food products in the form of sticks with various flavors, where the activities of the program carried out aim to provide the latest innovations in processing tofu dregs waste which previously had a fairly cheap selling price into a product that has added value. In addition, students also provide training on how to market the tofu dregs stick innovation product to online media, so that marketing of processed tofu dregs products is not only marketed directly and through BUMDES. The implementation of digital marketing training is also a form of branding innovation for MSME actors in Pondokrejo Village, so that they can reach a wider market.

The results of the program implementation are:

- a. New knowledge and perspectives on tofu dregs waste processed into innovative stick products for tofu business actors, PKK mothers, and Posyandu cadres.
- b. The importance of e-commerce accounts, where marketing through digital marketing is one of the most important platforms to be able to disseminate the marketing targets of a product. One of the benefits of digital marketing is that it can develop MSME products in Pondokrejo Village both in terms of production and sales, in addition, MSME marketing through digital marketing is expected to be even greater so that MSME actors do not only depend on middlemen and BUMDES.
- c. New innovations from tofu dregs processed into sticks with various flavors and also provide added value from the tofu dregs. Initially, tofu business actors only sold their tofu dregs waste at a fairly cheap price of IDR 1,000/kg, by conducting socialization from the Collaborative KKN 043 program, tofu business actors and the community in Pondokrejo Village were able

to find out that from tofu dregs which were previously only used for animal feed, but now the tofu dregs have added value that can increase the income of tofu business actors or other MSME actors who want to develop innovative tofu dregs stick products.

- d. Filling out the questionnaire by producers and local residents regarding innovative tofu dregs stick products.

After the socialization and training, MSME business actors and the community in Pondokrejo Village can also understand how important good packaging is for the products they produce, so that the products can be marketed and reach a wider market. The product name and sticker design on the packaging are also important factors in creating a product, if the name and sticker design on the packaging are attractive enough, the selling price for the product produced will also be more expensive when compared to products that do not have a name and a less attractive sticker design, in addition, the name and sticker design on the packaging will also attract more consumers. Many MSMEs still do not have a product name and packaging stickers with a more attractive design, Collaborative KKN 043 students also provide knowledge on how to create attractive products by using product names and stickers on the packaging, one of which is the innovative product of tofu dregs sticks which is a product of Collaborative KKN 043 students whose product name has been inaugurated at the Pondokrejo Village Hall with the name "MA' NYAMAN".

4. CONCLUSION

Based on this study, it can be concluded that tofu dregs waste can be reprocessed into products with added value. The waste was obtained from tofu production in Pondokrejo Village, from what was initially used as animal feed for residents and then reprocessed into an innovative snack product, namely "Stik Ampas Tahu Ma' Nyaman". The product will later not only be marketed in the Village-Owned Enterprise (BUMDES), but also marketed through market places or online media. KKN students also provide activities in the form of digital marketing socialization and tofu dregs making training for Pondokrejo Village residents with the hope that the product can later become a sustainable superior product in Pondokrejo Village.

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REFERENCES

- Arisanti, D., & Al Islamiyah, S. (2020). Pemanfaatan Ampas Tahu dalam Pembuatan Sosis Nabati bagi Siswa SMKN 4 Gorontalo Utara Kabupaten Gorontalo. *Jurnal Ilmiah Pangabdhi*, 6(2), 69-72. <https://doi.org/10.21107/pangabdhi.v6i2.7764>
- Dewi, N. M. N. B. S. (2020). Manajemen Pengelolaan Limbah Industri Tahu (Studi pada Sentra Industri Tahu di Kelurahan Abian Tubuh Kota Mataram). *Ganec Swara*, 14(1), 426-430. <https://doi.org/10.35327/gara.v14i1.117>
- Infante, A., & Mardikaningsih, R. (2022). The Potential of social media as a Means of Online Business Promotion. *Journal of Social Science Studies (JOS3)*, 2(2), 45-49.
- Putri, D. K. Y., Sudrajat, H., Susanti, A., & Batuthoh, M. W. I. (2022). Utilization Of Tofu Dregs In The Making Of High-Fiber And Low-Fat Flours As Alternative Functional Food Ingredients. *Jurnal Hasil Pengabdian kepada Masyarakat Universitas Jember*, 1(1), 27-35. <https://doi.org/10.19184/jpmunej.v1i1.72>

- Redjeki, F., & Affandi, A. (2021). Utilization of digital marketing for MSME players as value creation for customers during the COVID-19 pandemic. *International Journal of Science and Society*, 3(1), 40-55.
- Sopannah, A., Iswari, H. R., Nurdiyansyah, F., & Sulistyan, R. B. (2023). Eksistensi Dan Peningkatan Kemandirian Ekonomi Sanggar Gong Pro Melalui Pelatihan Digital Marketing. *Jurnal Abdimas Bina Bangsa*, 4(2), 1355-1365. <https://doi.org/0.46306/jabb.v4i2.656>
- Sukrisna, B., Aprilia, B. N., Qauliyah, N., Saba, A. P. Y., Apriliana, A., Ramadhini, A., ... & Ridho, M. (2023). Inovasi Produk Stik Dari Olahan Ampas Tahu Sebagai Upaya Untuk Mengembangkan UMKM Desa Sikur, Kecamatan Sikur, Kabupaten Lombok Timur. *Jurnal Wicara Desa*, 1(2), 281-292. <https://doi.org/10.29303/wicara.v1i2.2417>
- Sulistyan, R. B., Carito, D. W., Cahyaningati, R., Taufik, M., Kasno, K., & Samsuranto, S. (2022). Identification of Human Resources in the Application of SME Technology. *Wiga : Jurnal Penelitian Ilmu Ekonomi*, 12(1), 70-76. <https://doi.org/10.30741/wiga.v12i1.799>