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TIDEWATER DISASTER MITIGATION THROUGH TRAINING INTEGRATED WITH HEALTHY SUGAR AND HEALTHY FISH PROCESSED

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ABSTRACT

Ujunggagak Village is an area prone to flooding often caused by high tides. The community has not utilized the potential of existing natural resources optimally due to a lack of knowledge and skills in processing them. This service aims to increase knowledge and skills in processing coconut sap into healthy sugar and processed healthy sea fish in communities affected by disasters. Service method with education and training on using natural preservatives for penderes farmers and fishermen women groups (KWN). The number of group members is 30 penderes and 25 KWN. The service was carried out for three months. The level of knowledge was measured before and after the education was carried out using a questionnaire. Group skills are measured through quality production results after training. The results show an increase in the knowledge of the Penderes group from 20% poor to 76.7% good, while in the KWN it increased from 28% poor to 80% in the good category. The group skill of the penderes increases from 0% to 100% producing healthy sugar in the form of coins, batteries, and healthy palm sugar. KWN's skills have gone from just making salted fish to being skilled at processing seafood in the form of healthy meatballs, sausages, nuggets, and crackers. This activity can be sustainable and continue to be developed so that it can improve the health and economic status of the community. The community can anticipate crop failure as a result of flood disasters.

Keywords: fish; healthy; mitigation; sugar

INTRODUCTION

Natural disasters are disasters caused by events or a series of events caused by nature, including earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes, and landslides (UU RI, 2007). Flooding due to high tide is a disaster that often occurs in Ujunggagak village. As a result of the flood, people experienced crop failure.The impact of disasters can cause trauma for the community. Trauma can be physical or psychological—physical trauma such as injury, loss of limb, or death. Psychologically, disasters can cause deep trauma due to the loss of both goods and loved ones (Wijaya & Mudzakir, 2024). People will also lose property, which will impact the family economy. Human casualties will have an unstable impact on the health status of people around the disaster location. To live independently and prosperously, healthy people must be aware, willing, and able to know, prevent, and overcome health problems (Husen et al., 2023), so they can survive in disaster conditions.

Disaster mitigation is needed to reduce the impact and prepare the community. Mitigation is an effort aimed at reducing the risk and impact of a disaster. Disasters have three categories, namely natural disasters, non-natural disasters and social disasters (Department of Communication &

Informatics, 2022). Ujunggagak Village is a village community consisting of 70% who work as penderes farmers, while 30% work as fishermen and other professionals. Natural resources are abundant and potential in the village, such as coconut sap and sea fish. The current situation is that people use coconut sap in the form of coconut sugar bowls, while sea fish are made into salted fish and much of it is wasted during floods.The current phenomenon is that people still use chemical drugs or what is often called "laru" as a preservative for coconut sap. This is also a concern for the government in the production of coconut sugar. Likewise, fishing communities that produce salted fish need attention.Based on the situation above, the social collaboration team for building society (Kosabangsa) at Al-Irsyad Cilacap University (UNAIC) synergized with the accompanying team from Jenderal Soedirman University (Unsoed) Purwokerto to apply technology and innovation. The service aims to increase the knowledge and skills of the penderes farmer group and the fisherman women group (KWN).

METHOD

The 2024 Kosabangsa program grants from the Directorate of Research, Technology and Community Service (DRTPM) in partnership with the government, namely the Agriculture Department and the Fisheries Department. The program activity partner is Ujunggagak village, the target partners are the Sari Bumi Jaya penderes farmers and KWN Mina Sari. The service method involves education, training, and mentoring regarding processed healthy coconut sap and processed healthy sea fish. The technology applied to make healthy coconut sugar uses Chemical Tanks for Health (TANGKIS). Combrang flower extract is a technology used in making healthy processed marine fish. The process for mixing natural preservatives is as follows:

use of Tangkis natural sap preservative among farmers

Figure 1. Use of Tangkis in Processed Coconut Nira

Figure 2. Use of Kecombrang Flower Extract in Processed Sea Fish

The implementation of education about processing healthy coconut sap and healthy sea fish begins with a pre-test with a questionnaire about processing coconut sap for penderes farmers. Meanwhile, in the KWN pre-test with a questionnaire about processing healthy marine fish. Each questionnaire consists of 10 question items. Next, both groups were given education. To determine changes in knowledge of the two groups, a posttest with the same questionnaire was used.The training on the application of Tangkis technology and kecombrang flower extract was carried out in stages. The penderes partners were given the first trial, namely two trials at the group leader's house. The second result was successful, then the group leader gave the experiment to the other groups. Everything is done with team monitoring and assistance. KWN partners are given training in stages from processed fish to meatballs, sausages, nuggets and crackers. The service team has created a recipe for processed sea fish as a guide to help KWN in applying the skills for processing sea fish.

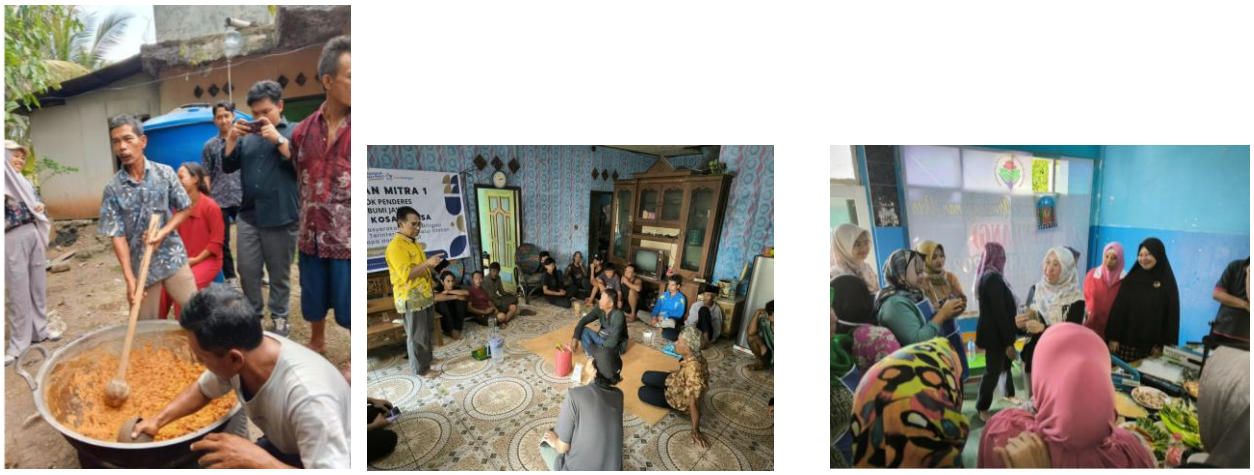


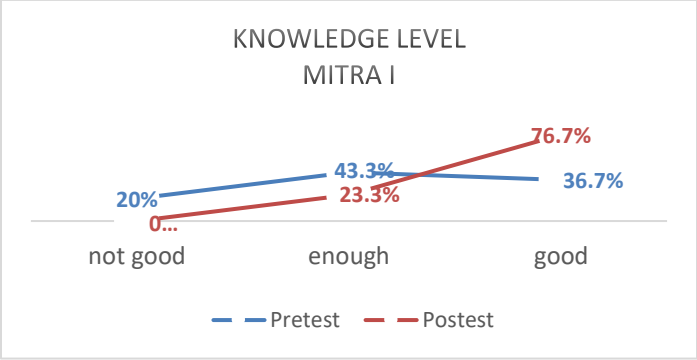
Figure 3. Training and assistance in making healthy sugar and processed healthy sea fish

RESULT AND DISCUSSION

The results of the implementation of the Kosabangsa program service for the Sari Bumi Jaya and KWN Mina Sari farmer groups in Ujunggagak village are as follows.

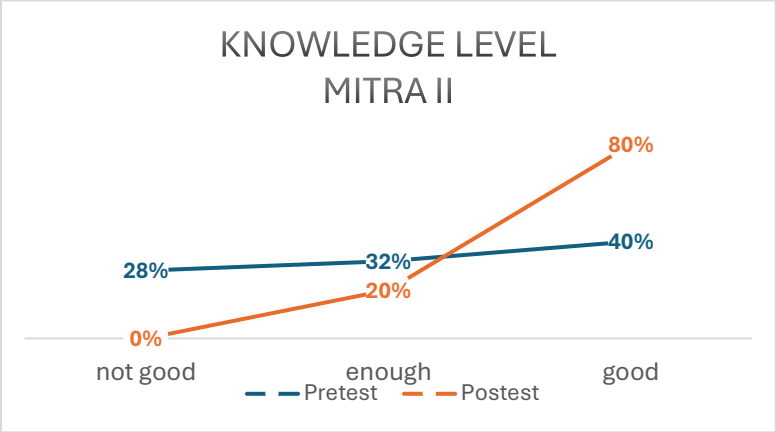
Level of Knowledge of the Penderes Farmer Group

The following is a graph of the level of knowledge before and after providing education about processing coconut sap using Tangkis to the group of penderes farmers.



Graph 1. Level of knowledge of Penderes Farmer Partners

Level of Knowledge of the Fisher Women Group



Graph 2. Knowledge level of KWN Partners

Graph 1 shows that there was an increase in the level of knowledge of the penderes farmer group before and after the education was carried out. The application of a healthy chemical antidote or TANGKIS solvent is a natural preservative with the composition of mangosteen peel which can produce coconut sugar which has the best physical, chemical, and sensory properties (Karseno et al., 2013). Penderes farmers are a group of farmers who make coconut sugar every day, from tapping coconut sap to processing coconut sugar. Armed with the experience that has been carried out by farmers, farmers can easily accept the information provided regarding sap processing using TANGKIS technology (Rusana et al., 2024). One of the factors related to the level of knowledge is experience (Mubarok, 2015; Pariati & Jumriani, 2020).

Graph 2 also shows an increase in KWN's level of knowledge before and after education was provided about processed seafish using natural preservatives. Kecombrang flower extract contains antioxidant and antimicrobial ingredients, so it can be effectively used as a preservative (Putri et al, 2019). The use of antimicrobial agents from natural ingredients is also safer than synthetic antimicrobial agents (Naufalin et al, 2018). Increased knowledge can be due to interest and cultural factors (Mubarok, 2015; Pariati & Jumriani, 2020). The results of observations showed that when providing material and training, KWN women appeared enthusiastic and had quite high curiosity as evidenced by the questions they asked during the service (Rusana et al., 2024).

Skills and Products of the Penderes Farmer Group

The results of the training on processing coconut sap using Tangkis technology showed an increase in the level from 0 farmers using Tangkis to 30 group members (100%) using the natural Tangkis preservative. Farmers initially molded coconut sugar from one type of bowl shape into four shapes including bowls plus healthy coconut sugar in the shape of coins, batteries/sticks, and crystal sugar/palm sugar in uniform packaging.

Figure 4. Healthy Coconut Sugar has PIRT in the form of coins, batteries, sugar crystals of various sizes

Skills and Products of the Fisher Women's Group

The results of training in processing sea fish into healthy derivatives of meatballs, nuggets, sausages, and crackers showed an increase in levels from 0 to 25 KWN members (100%) using the natural preservative kecombrang flower extract.

Figure 5. Healthy fish preparations in the form of meatballs, nuggets, sausages and crackers

The results of the training were said to be successful according to the achievement indicators for both partner groups. Both partners are proven to have produced derivative products from processed coconut sap and processed seafish in several forms. The penderes group has a measure of coconut sugar that is used to mold their products and uses this mold to produce molded sugar of smaller and uniform sizes (round shapes: coins, batteries/sticks squares: blocks) (Rusan et al., 2024). Powdered kecombrang flower extract technology can be applied to KWN. KWN can utilize fish that have been collected and preserved using powdered kecombrang flower extract technology. KWN through training has succeeded in making processed products derived from fish such as meatballs, sausages, nuggets, and crackers (Rusana et al., 2024). Community empowerment in both groups can change conditions for the better. Community empowerment is directed at motivating people to be able to see and take advantage of business opportunities, dare to take risks, and have the initiative to take advantage of opportunities according to the information obtained (Firani, 2024).

CONCLUSION

Based on the results of implementing community service in the 2024 Kosabangsa program, both through education and training, it shows that there have been changes. The increase in both

knowledge and skills of the Penderes and KWN community groups proves that the community's potential with community empowerment programs can overcome the lack of knowledge and skills. The application of technology and innovation from university academics in synergy with the community can improve the quality of products such as healthy coconut sugar and processed healthy seafish. The sustainability of this program can provide community motivation in mitigating high tide disasters, especially in Ujunggagak village, so that they can survive and can even sustainably improve their quality of life.

REFERENCES

Dinas Komunikasi & Informatika. (2022). Mitigasi Adalah Upaya Mengurangi Risiko, Berikut Langkah-Langkah dan Contohnya.
https://bpbd.bogorkab.go.id/berita/Seputar-OPD/mitigasi-adalah-upaya-mengurangi-risiko-berikut-langkah-langkah-dan-contohnya

Firani, S. (2024). Pemanfaatan Hasil Olahan Pangan Masyarakat Menjadi Produk Oleh-Oleh Di Desa Bahbolon, Kabupaten Serdang Bedagai. Jurnal Darma Agung, 32(2),1070-1080. https://dx.doi.org.10.46930/ojsuda.v32i2.4236. http://jurnal.darmaagung.ac.id/index.php/jurnaluda/article/view/4236

Husen, A. H., Rahman, I., & Hardina, H. (2023). Pemberdayaan Masyarakat dalam Upaya Meningkatkan Derajat Kesehatan dan Tanggap Bencana di Desa Maitara Kecamatan Tidore Utara. Madaniya, 4(4), 2097-2102. https://doi.org/10.53696/27214834.594

Karseno, K, Setyawati, R. & Haryanti, P. (2013). Penggunaan Bubuk Kulit Buah Manggis Sebagai Laru Alami Nira Terhadap Karakteristik Fisik Dan Kimia Gula Kelapa the Application of Mangosteen Rind Powder as Natural Preservation on Physochochemical Characteristic of Coconut Sugar. Jurnal Pembangunan Pedesaan, vol. 13(1). 27-38. https://www.neliti.com/publications/116065/penggunaan-bubuk-kulit-buah-manggis-sebagai-laru-alami-nira-terhadap-karakterist#cite

Naufalin, R., Rukmoni H.S. & Arsil, P. (2018). Aplikasi Ekstrak Kecombrang (Nicolaia Speciosa) Sebagai Pengawet Alami Tahu Pada Perajin Tahu Di Sentra Industri Tahu Desa Kalisari Banyumas. Jurnal Abdimas, 22(2). 209-213. DOI: https://doi.org/10.15294/abdimas.v22i2.11988

Pariati & Jumriani. (2020). Gambaran Pengetahuan Kesehatan Gigi Dengan Penyuluhan Metode Storytelling Pada Siswa Kelas Iii Dan Iv Sd Inpres Mangasa Gowa. Jurnal Media Kesehatan Gigi.Vol 19(2).7-13.

Putri, F.A., Naufalin, R. & Wijaksono, R. (2019). Antimicrobial edible coating application of Kecombrang flower concentrate to reduce microbial growth on gourami fish sausage. IOP Conference Series: Earth Environmental Science, 250(1). https://iopscience.iop.org/article/10.1088/1755-1315/250/1/012056

Rusana, R., Rachmawati, I., Parnowo, S., Karseno, K., Naufalin, R., & Wulan, T. R. (2024). Edukasi dan Pelatihan tentang Olahan Nira Kelapa Sehat dan Olahan Ikan Sehat: Pemberdayaan Masyarakat. Jurnal Peduli Masyarakat, 6(4), 1751-1758. https://doi.org/10.37287/jpm.v6i4.4827

UU Penanggulangan Bencana no.24 tahun 2007. (2007). https://bnpb.go.id/storage/app/media/uploads/migration/pubs/1.pdf

Wijaya, J. & Mudzakir, T.A. (2024). Dampak Bencana Alam Longsor Terhadap Kondisi Psikologis Dan Tindakan Mitigasi Pada Masyarakat. https://www.researchgate.net/publication/381189737