Abdimas Umtas: Jurnal Pengabdian Kepada Masyarakat
LPPM-Universitas Muhammadiyah Tasikmalaya
Volume: 5 Nomor: 1
E-ISSN: 2614 - 8544

The Utilization Of Mangrove Forest As An Alternative Income Source For Coastal Communities In Sukakerta Village, Karawang

Muhamad Rom Ali Fikri[a] , Mohamad Sam'un, Zeni Ayu Lestari, Tasyah Dwi Rahmawati, Triadi

Program Agribisnis, Fakultas Pertanian, Universitas Singaperbangsa
Jl. HS. Ronggo Waluyo, Telukjambe Timur, Karawang, Jawa Barat, Indonesia
[a)]Corresponding Author: ali.fikri@faperta.unsika.ac.id

ABSTRACT

The existence of mangrove forests are ecologically important because it supports the food chain in the area by protecting the coast from strong winds, abrasion/erosion, and tsunamis. Besides the ecological benefits, mangroves are also economically beneficial. The economic function is as a producer of wood for raw materials, building materials, and food. Besides that, the biota that lives in the mangrove ecosystem also has economic value if processed properly. This service activity was carried out in the Tengkolak hamlet, Sukakerta Village, Cilamaya Wetan District, Karawang Regency, which is not very familiar with the use of mangrove fruit and natural products so that it has high economic value and improves community welfare. Through KUB, the activity aims to improve the understanding and skills of the community on how to process mangrove fruit and biota in the ecosystem into various products as an alternative for additional income. The people who take part in this activity are people who are members of the KUB Kreasi Alam Bahari. The method of carrying out the activities is through demonstrations and training on making coffee from mangrove trees and the Talang-talang fish product variant, which has been developed into skin chips, nuggets, and fish balls. The evaluation process was carried out by interviewing several residents to ask for information and impressions of the activities that had been carried out. The community, especially those who participated in the activity, felt the positive impact of these activities. Because they can increase their skills in processing mangrove fruit and processing Talang-talang fish that have higher economic value.

Keywords: Utilization, Mangrove Forest, Income, Product

INTRODUCTION

Mangrove forest is a transitional forest ecosystem between land and sea which is known to have many benefits. Based on ITTO (2012) data, the area of mangrove forest on the north coast of West Java is 34,156.12 ha located in Bekasi, Karawang, Subang, Indramayu, Cirebon, and Cirebon City regencies (BPS, 2018), while the area of mangrove forests in Karawang Regency is based on the data in 2012 was 9,979.93 ha with damaged conditions covering an area of 5,400.31 ha, moderate conditions covering an area of 3,953.96 ha and those with good conditions only covering an area of 625.66 ha.

Replanting efforts have been carried out by the government and the community, especially in the vicinity of the use of mangrove forests as tourist areas, such as in Tangkolak Barat, Karawang, and Sedari Cibuaya. Management of mangrove forest areas in Karawang has not been carried out optimally. Yet the potential is quite large. If managed properly, it can provide benefits for human life.

The potential of the mangrove forest ecosystem includes physical, economic, and ecological potential. The physical potential of mangrove forests is as protection from abrasion/erosion, waves, or strong winds, preventing seawater intrusion to land, expanding land towards the sea, and maintaining water quality (reducing pollutants, water pollutants) to prevent pond water pollution. The ecological potential of mangrove forests is as a habitat for various types of fauna, as a spawning ground, a nursery ground, a feeding ground for organisms in the vicinity, and a provider of food for marine biotas, such as shrimp and crabs. A relatively high CO2 absorber and O2 producer.

Mangrove forest products, both wood, and non-timber are used by the community as food and firewood so that they contribute to efforts to improve the community's economic conditions (Ariftia, 2014) . The results of initial observations that the condition of the mangrove forest area in Karawang Regency, in general, has not been managed optimally.

Tengkolak Hamlet is one of the areas located on the coast of the Karawang Regency. Where on the coast there is a Mangrove ecosystem. The existence of mangrove forests are ecologically important because it supports the food chain in the area, protecting the coast from strong winds, abrasion/erosion, and tsunamis. Besides the ecological benefits, mangroves are also economically beneficial. The economic function is as a producer of wood for raw materials and building materials, foodstuffs, and medicines (Hiariey, 2009).

Mangrove fruit can be used as an alternative to processed foods that are beneficial to the community. Mangrove fruit can be processed into coffee which has many benefits, besides that the biota in the mangrove ecosystem can also be used such as crabs, crabs, and others so that they have economic value. If people can use mangroves as an added value to the economy, they will be more concerned with the preservation of the mangrove ecosystem because it provides benefits for them.

People in Tengkolak Hamlet, Sukakerta Village are not very familiar with the use of mangrove fruit. There is a joint business group (KUB) under the Kreasi Alam Bahari group that has tried to process mangrove fruit into lunkhead and syrup, trying to sell it. Production is simple, using tools as they are, with simple processing techniques. The group is trying to market but is still passive. As a result, the product does not sell well and is not sold out. Finally, they no longer produce because there is no capital. Thus it can be said that: There is no use for mangrove forests such as fruit, leaves, and processed products that have economic value as an alternative source of income for coastal communities in Cilamaya Wetan District, Karawang Regency.

The objectives of this activity include; 1) Increase public understanding through KUB about the ecological benefits of mangroves and mangrove conservation. 2) Improve the understanding and skills of the community through KUB on how to process mangrove fruit and biota in the ecosystem into various products as an alternative to additional income. 3) Increase public understanding through KUB regarding the business financial analysis. 4) Increase public understanding through KUB about health standards, hygiene, and products. 5) Increase public understanding through KUB regarding business legality or licensing.

METHOD

This activity was carried out in Tengkolak Hamlet, Sukakerta Village, Cilamaya Wetan District, Karawang Regency. This activity is in collaboration with the UNSIKA Community Service Team and assisted by the KUB Kreasi Alam Bahari (Joint Business Group). To motivate people to want to plant and care for mangroves, it is necessary to convey the ecological and economic benefits of mangroves as an alternative to additional income. For additional income, it requires the ability and willingness to process mangroves, including processing mangrove fruit.

With regard to problems in processing mangrove fruit, they are approached by delivering innovative processing of mangrove fruit into various products and variants. In this case, the experiment was tested on processing mangrove fruit into coffee and processing biota that live in the mangrove ecosystem and its surroundings, such as crabs, talang-talang fish, and so on.

In diffusing innovation using extension, Counseling is a way of learning to be willing, to know, and to be able to solve the problems encountered (Mardikanto, 1993). In counseling, messages are delivered in the form of counseling materials. Other than mangrove fruit processing, extension materials other than mangrove fruit processing are: ecological and economic benefits of mangroves; product quality, including health and hygiene standards; business financial analysis; business legality; and product marketing. These materials were delivered using the extension method.

Counseling methods are carried out based on the number of targets that can be achieved as follows: Individual extension is directly related to the target, such as home visits, visits to places of business, office visits, correspondence, telephone calls, and internships. Groups: Counseling relates to a group of people to convey their message, such as lectures, discussions,

demonstrations, field trips, courses, work meetings, field meetings, business meetings, seminary pulpits, and slide shows. Mass. Extension reaches many targets, including public meetings, broadcasts via radio and television, art performances, social media, distribution of written materials, and film screenings (Rogers, 1971).

The counseling activities carried out there use lecture and demonstration methods. Specifically, providing an explanation of various processed mangrove products and the biota that live around the mangroves. While giving an explanation, he also practiced how to process mangroves into coffee and how to process the potential natural resources there into various kinds of processed products with economic value. Such as talang-talang fish, which are abundant and are processed into talang-talang fish balls, talang-talang fish skin chips, fish nuggets, and various other preparations.

In addition to this, the community, especially KUB members, was also given an understanding in terms of the benefits of mangroves, product hygiene, business financial analysis, business legality, and product marketing was carried out by conducting counseling using individual, group, and mass counseling methods. Diffusion of innovative techniques for processing mangrove fruit into coffee and processing biota that live in the mangrove ecosystem and its surroundings, such as crabs, crabs, talang-talang fish, and so on.

RESULTS AND DISCUSSION

The output achieved in this activity is the increase in public knowledge through KUB about the ecological and economic benefits of mangroves. This is shown by the enthusiasm of the people who are members of the KUB in conducting reforestation and mangrove nurseries in the location. Increased knowledge and skills of the community through KUB in processing mangrove fruit and biota that live in the mangrove forest area as an alternative to additional income. The forms of processing include the processing of mangrove fruit as coffee and the processing of abundant potential biota at the activity location. increased public knowledge through KUB about business financial analysis, product marketing, product hygiene, product licensing, and business legality. Mangrove fruit processing activities and fishery products have added value and are an alternative to additional businesses to increase family income.

1. Making Mangrove Coffee

The demonstration activity for making mangrove coffee was carried out after the mangrove planting activity on the coast with the community and local village leaders as an effort to invite the community to preserve the mangrove ecosystem. Then continued with a demonstration of making mangrove coffee.

The process of making the demonstrated mangrove coffee can be said to be very easy. Initially, the seeds of mangrove fruit are taken and then dried by drying. After drying, the seeds of the mangrove fruit are then chopped into small pieces, or can also be grated using a coconut grater or using a crusher. After being grated, dried, and roasted, the mangrove seeds are mixed with coffee beans to be ground. After this process, the mangrove coffee is ready to be enjoyed.

Figure 1. Dried mangrove seeds

2. Processing of Fish Skin Chips

The main ingredient used in the processing of fish skin chips is Talang-talang fish skin, which is a type of fish that is mostly found by fishermen in the Tengkolak village. The abundance of Talang-talang fish has the potential to be developed in terms of processing so that it has a higher economic value.

In the process of making Talang-talang fish chips are taught to the community, the first step is to clean the fish skin, then let it sit for a while so that the skin becomes a little dry. If you like, add a little lemon juice. Sprinkle a little salt as a flavoring on the skin of the fish. Then put the fish skin into the cornstarch and spread it evenly. Then the fish skin is fried using low heat so that it is dry until the inside. When the chips are cooked, the skin is drained and ready to be served. Flavoring can be added according to taste.

Figure 2. Surimi process of Talang-talang fish

When the Talang-talang fish chips are ready and dry then they are wrapped in a plastic container and the Talang-talang fish skin chips are ready to be marketed.

Figure 2. Talang-talang Fish Crispy Chips

3. Processing of Nuggets and Fish Balls

The next activity is the processing of meatballs and Talang-talang fish nuggets. Because it is strived for all parts of the fish to be processed so that it has a higher economic value. The process of making Talang-talang fish nuggets includes cutting the fish fillet and then putting it in a food processor with eggs, water, garlic, salt, and sugar. Process until smooth. Then add sago flour, and process again until well blended. Then grease the mold with oil, then put the fish mixture into the mold. After that, steamed for 30 minutes. Next are the nuggets that have been removed from the mold, cut into pieces or molded according to taste, dipped in beaten egg, then rolled in panko flour. The last process is frying with lots of oil and medium heat until golden brown.

Figure 3. Fish Nuget Talang-talang

For the process of making Talang-talang fish balls, it is quite simple, namely by putting the cleaned fish meat into a meatball machine or blender along with garlic, egg white, salt, pepper, granulated sugar and shaved ice to taste. Puree all ingredients until completely smooth. Then pour the dough into a container then add tapioca flour or sago flour while stirring until all ingredients are mixed.

The meatball dough is shaped to form a circle and then put in hot water that has been boiled in a saucepan. The last process is boiled over medium heat until the meatballs harden and come to the surface of the water.

4. Evaluation Process

The evaluation process was carried out by interviewing several residents to be asked for information and impressions of the activities that had been carried out. The community, especially those who participated in the activity, felt the positive impact of these activities. Because they can increase their skills in processing mangrove fruit and processed Talang-talang fish which have higher economic value.

The community hopes that the processing training can be continued with packaging and marketing. So that people can produce and market on a larger scale. In addition, it also requires modern production equipment so that it is easier to produce processed products on a large scale. Because the tools used in the training are still traditional.

There is a need for digital marketing training activities according to the times. So that the tengkolak community in addition to producing can also market their products and when the product sells in the market, the production process will continue and people's income will increase.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The main program for community service activities at the Universitas Singaperbangsa is an empowerment program through KUB regarding the utilization of mangrove fruit and biota that live in the mangrove ecosystem into various products while still meeting health and hygiene standards so that they can be added value for people's income. This activity uses a participatory

approach. Designing for KUB to develop processed products that sell well and are in demand by consumers so that the market develops.

The purpose of this activity is to increase the knowledge and ability of the community through KUB about the ecological benefits of mangroves, how to process mangrove fruit into various products and processed materials that have economic potential as an alternative to additional income; provide knowledge about business financial analysis, health standards, hygiene, products, business legality, and product marketing.

The types of activities include the diffusion of innovations in mangrove fruit processing technology and potential processed materials there such as Talang-talang fish by conducting personal, group, and mass counseling. Group counseling includes Ecological and economic benefits of mangroves; Processing of mangrove fruit into coffee; the processing of Talang-talang fish into surimi as a semi-finished material. Then the surimi is processed into several derivative products such as meatballs, nuget, and fish skin chips Talang-talang; Counseling on product quality: taste, health and hygiene standards; Business financial feasibility analysis; Business legality; Product marketing. This processing activity can provide added value to a product and become an alternative for community businesses. It is hoped that these processing activities will increase the family income of the community at the service location.

Recommendations

1) It is necessary to conduct further trials and experiments on processing mangrove fruit to obtain optimal products.
2) It is necessary to test mangrove fruit products including taste tests (organoleptic), tests according to health standards, hygiene tests, and business financial feasibility.
3) Identify the right product marketing system
4) It is necessary to evaluate changes in the behavior of partner members, in terms of knowledge, attitudes, and skills as well as their actions.
5) The results of the evaluation are used to determine the materials and methods of extension as well as further coaching and mentoring.

ACKNOWLEDGMENTS

We express our gratitude to Allah Subhanahu Wa Ta'ala, because for the facilities provided so that this Community Service can run smoothly. This community service can be carried out well with the support of (1) Rector of Universitas Singaperbangsa Karawang (2) Head of LPPM Universitas Singaperbangsa Karawang (3) Dean of the Faculty of Agriculture, Universitas Singaperbangsa Karawang (4) Head of Agribusiness S1 Study Program (5) Head of KUB Kreasi Alam Bahari, May Allah Subhanahu Wa Ta'ala reward you with the good you deserve. Amen.

REFERENCES

Ariftia, R. I. . et al. (2014). Nilai Ekonomi Total Hutan Mangrove Desa Margasari Kecamatan Labuhan Maringgai Kabupaten Lampung Timur. Jurnal Sylva Lestari, 2(3), 19–28.

BPS. (2018). Jawa Barat Dalam Angka Badan Pusat Statistik.

Hiariey, L. . (2009). Identifikasi Nilai Ekonomi Ekosistem Hutan Mangrove Di Desa Tawiri, Ambon. Jurnal Organisasi Dan Manajemen, 5(1), 23–34.

Mardikanto, T. (1993). Penyuluhan Pembangunan Pertanian. Sebelas Maret University Press.

Rogers, E. M. S. (1971). Communication of Innovations. The Free Press.