
Utilization Of Coconut Fiber Waste As Planting Media As A Business Opportunity For The People

Mohamad Bastomi^{1)*}, Nurhidayah²⁾, Della Maharane³⁾, Makna Nurin Safira⁴⁾
^{1,2,3,4)}Management of Departement, Faculty of Economics and Business, Universitas Islam Malang

*Corresponding Author
Email: mb.tomi@unisma.ac.id

Abstract

Kaliasem Hamlet is one of the hamlets in Kalipare Village, Malang Regency that is experiencing problems with the absence of environmentally friendly coconut fiber waste processing facilities, the local community only utilizes coconut fiber for burning media as a substitute for charcoal. This condition results in the accumulation of coir waste around people's homes and farmers' gardens, whereas in fact this waste can be managed sustainably so that it can be reused and can also provide added value economically. Some of the advantages of coconut fiber are that it has ten times higher water absorption capacity than soil, increases oxygen circulation for plant roots, contains nutrients, potassium, phosphorus, nitrogen, calcium, iron, magnesium, manganese, boron, and zinc. The approach method used in this community service is socialization, counseling, training, and evaluation to the community of Kaliasem Hamlet, which involves all housewives of Kaliasem Hamlet. With these methods, it allows the villagers to share, improve and analyze their knowledge about the condition and life of the village, make plans and act. This service activity provides a solution to the partner's problem, namely by training and mentoring farming community groups, besides that the community knows and recognizes the processing of coconut fiber into cocopeat as a hydroponic planting medium. Besides being able to increase income, it can also meet nutritional needs from cultivated organic vegetables and create an environmentally conscious community through waste that can be processed more optimally.

Keywords: *Coconut Fiber, Cocopeat, Business Opportunity*

INTRODUCTION

One of the leading commodities in Kaliasem Hamlet in the plantation sector is coconut, but the utilization carried out by the local community has not been carried out optimally on all parts of the coconut, especially on coconut coir which is not reprocessed and thrown away or only used as a food burner. Currently, coconut fiber waste has not maximally benefited the community, it will cause new problems such as environmental pollution (Nurhidayah & Bastomi). Most residents of kaliasem hamlet use coconut coir waste only as garbage which is then burned which will cause air pollution in the combustion results. This is due to the lack of public awareness and motivation to process coconut fiber waste into something useful and useful. In planting media, cocopeat mixed soil has a fibrous texture so that it can increase the binding capacity of the soil (Mpiala., 2023). Coconut is a plant that can be utilized all parts by humans so it is considered a versatile plant. Therefore, people hope to utilize all parts of the coconut tree that can be useful and help the economy (Sumardona Et., 2023).

Coconut fruit is usually widely used as cooking ingredients such as coconut milk, grated coconut and so on Coconut fiber is part of the mesocarp in the form of coarse fibers from coconut fruit or can also be referred to as the skin of coconut fruit, in utilizing coconut fruit will leave the shell and coconut fibers which are considered as waste, the people of kaliasem hamlet use the shell and fibers as waste fuel, even usually just thrown away (Sholehuddin, et al., 2023) This planting medium is not only useful for growing plants but can be used for soil remediation and other agricultural purposes. (Krishnapillai, 2020). Cocopeat is the result of

coconut fiber processing, cocopeat is used as one of the planting media because it contains nutrients that are needed and very useful because it absorbs more water and nutrients (Ardian, 2020).

Not many people know that coconut fibers have many benefits, one of which is the use of coconut fibers as a planting medium, namely cocopeat and kokedama, especially coconut fiber is a natural fiber that can be processed into various types of useful products or devices such as mats, brooms, pots, and cocopeat. Processing coconut fiber waste into cocopeat will be very beneficial and useful for plants because cocopeat itself is a fine powder obtained from the process of smoothing coconut fibers (Ayu et al., 2021). Coconut fiber can hold water up to 10 times its weight. The use of cocopeat as a planting medium contains *Trichoderma* molds or a type of enzyme from fungi that can reduce disease in the soil and make the soil loose and remain fertile. In addition to absorbing water, cocopeat also has pores that can facilitate the exchange of air and sunlight, because it is made from organic materials, cocopeat is environmentally friendly and able to blend with the soil. Cocopeat is coconut fiber waste that can be utilized and processed into coconut fibers as a planting medium and has economic value (Adwimurti et al., 2022)

Growing media is defined as a place for plants to live. Organic materials generally come from components of living organisms, such as parts of plants such as leaves, stems, flowers, fruits, or bark. The use of organic materials as a growing medium is far superior to inorganic materials. This is because organic materials are able to provide nutrients for plants (Sirajudin et al., 2022)

Therefore, processing in the utilization of coconut fiber waste is carried out in order to reduce existing waste and utilize existing local natural resources and can be an alternative for planting media mixtures (Kuntardina et., 2022). Cocopeat processing is very practical and can open up business opportunities, especially for the people of Kaliasem hamlet, Kalipare sub-district, Malang district. Thematic Bachelor of Service activity group 69 of the Islamic University of Malang utilizes the local natural resources of the community in kaliasem hamlet, with an existing problem, as described above, this program aims to utilize coconut fibers into something more useful or even have economic value.

RESEARCH METHODS

The implementation of community service activities This program was carried out at the house of Mrs. Sumaiyah, one of the residents of Kaliasem Hamlet, Kalipare Village, Kalipare District, Malang Regency. The activity was carried out on Monday, 21 August 2023 at 15.00 - 17.00 WIB. The methods used in this activity are socialization, counseling, training and evaluation. The socialization and counseling method is a learning process that helps a person to gain knowledge in the form of direct explanation and practice, then continued with discussion and then practice. The target of the service activity was the cadre women of Kaliasem Hamlet. There were 20 participants who attended the training and socialization.

The stages of the activities carried out are as follows: preparation, counseling activities, training activities, and evaluation.

- a. Preparation: This stage begins with a location survey by the service team by visiting the destination location. The service team met directly with the Kaliasem Hamlet government and discussed the aims and objectives of implementing this activity, determining the target group that would be included in this activity, and making a

schedule agreement with the target group.

- b. Socialization Activity: This activity was carried out with the aim of providing knowledge and information to the community about how to make coconut fiber as a planting medium. The material presented includes:
 - 1. Benefits of using coconut fiber as a growing medium
 - 2. Making coconut fiber as a planting medium
 - 3. Types of coconut fiber making as cocopeat and kokedama growing media
- c. Training Activities: The training given to women cadres aims to provide new skills on how to make coconut fiber as a planting medium.

Evaluation: This stage is carried out as an effort to improve the service program that has been carried out whether it is in accordance with the specified target. At this stage, an evaluation is carried out using a questionnaire to measure the level of knowledge and skills of the community about making coconut fiber as a planting medium.

RESULTS AND DISCUSSION

Socialization Activities

Previously, participants were given a questionnaire with the aim of measuring participants' understanding of coconut fiber as a planting medium. From the results of the questionnaire, it was found that the participants' knowledge of coconut fiber as a planting medium was still minimal. In addition, all participants did not know that coir waste is not only a burning tool but can be used as a planting medium. Participants who participated in this activity were very enthusiastic about the material provided, especially for mothers who are mostly housewives who like to grow crops. Counseling and training activities on making coconut fiber as a planting medium have also never been carried out in Kaliasem Hamlet, Kalipare Village, Kalipare District, Malang Regency.

The extension of making coconut coir as a planting medium uses socialization, extension, training and evaluation methods. Socialization and counseling method is a learning process that helps a person to gain knowledge in the form of direct explanation and practice. The 69 KSM-T Unisma group conducted socialization and empowerment for the Kaliasem hamlet community at the house of one of the women's activist cadres, namely Mrs. Sumaiyah's house by practicing processing coconut fiber waste as a planting medium for cocopeat and kokedama. The purpose of this counseling is so that Kaliasem hamlet women can save by using coconut fiber waste. We hope that by conducting this counseling, the women of Kaliasem village can invite other communities to process waste into something useful and beneficial.



Figure : 1. Counseling on processing coconut fiber waste as cocopeat and kokedama

Training Activities

The implementation of this counseling was carried out in order to provide knowledge and knowledge of how to process coconut coir waste into something useful and useful. This counseling begins by showing what tools and materials are used for making coconut fiber as a planting medium such as: dry coconut fiber, basin, grated coconut. Furthermore, students of group 69 KSM-T UNISMA practiced making coconut fiber as a planting medium. In the implementation of this activity, the speaker explained how to make coconut fiber in detail as follows:

1. The first step in making planting media from coconut fiber is to dry the coconut for approximately 24 hours to facilitate the release of coconut fiber from the shell.
2. The second step in making planting media is to separate the coconut fiber from the coconut skin, this separation process can be done manually using hands and can also use sharp objects. After the coconut fiber has been obtained, the next step is to soak the coconut fiber in EM4 mixed water for 24 hours. After soaking the next step is drying in the sun until dry
3. For the last step in making planting media from coconut fiber is to obtain fine coconut powder, in this process coconut powder can be obtained from using a nail brush and can also use a grater.

After all stages of making planting media from coconut fiber have been completed, it can be directly used for planting.



Figure 2. Training Activity on Making Coconut Fiber as Planting Media

After the counseling on coconut fiber waste as a planting medium, the women of Kaliaseam hamlet were very enthusiastic in practicing the processing of coconut fiber as a planting medium in their respective homes. The mothers of Kaliaseam hamlet can practice coconut fiber planting media on plants that require a lot of water such as orchids, tomato plants, kale plants, mustard greens, chilies, etc (Wahyuni et., 2022). Women's groups who have agricultural land can also use cocopeat on these types of plants so that by utilizing existing local natural resources it can save expenses, besides that cocopeat also has a selling value and opens up new business opportunities (Ahrisa DP., 2022).

The next stage is the evaluation stage of the activity to see whether this counseling activity is going well or not. With this counseling, participants are very easy to understand and practice at home because it is practical and environmentally friendly. The knowledge of the Kaliaseam hamlet women increased with the counseling from the 69 KSM-T UNISMA student team.

The counseling on making coconut fiber as a planting medium went very well and smoothly, besides that this activity received a very good response from the women of Kaliaseam Hamlet. This can be seen through the large number of Kaliaseam Hamlet women who attended and the many questions that arose on the basis of the great curiosity of Kaliaseam Hamlet women to know more about the procedures for making coconut fiber as a planting medium. This activity provides more knowledge about how to process waste to be useful and useful. Using a very cheap initial capital by using coconut fiber waste can make the women of Kaliaseam hamlet more efficient in using planting media. Coconut fiber planting media is very cheap and every house must also have coconut fiber waste, so it will be very economical and affordable.



Figure 3. The results of utilizing coconut fiber waste as cocopeat and kokedama

Evaluation

The evaluation was carried out through filling out a questionnaire distributed to 20 participants before the activity which aims to measure the success of the implementation of these activities. The indicators used to evaluate the success of the implementation of this service activity include the following:

Table 1. Satisfaction Questionnaire of Training and Socialization of Coconut Coir as Planting Media

No.	Aspects Assessed	Total	Average	Description
1	Application PKM implementation is able to empower the community so that the community is able to work independently	90	4,5	Very Satisfied
2	PKM programs are implemented according to community needs	71	3,6	Satisfied
3	The PKM program has provided provisions to the community in the form of thinking skills or other skills	92	4,6	Very Satisfied
4	The application or implementation of PKM in community learning efforts has been able to increase the community's reasoning power	90	4,5	Very Satisfied
5	The community has benefited or been helped to solve their	82	4,1	Satisfied

problems from the implementation of PKM		
Total Average	4,2	Satisfied

The results of the table above show that the women cadres of Kaliaseh hamlet, Kalipare sub-district, are satisfied with the training and socialization program on coconut coir as a planting medium.

CONCLUSION

The socialization activity of making coconut coir waste as a planting medium went very well with the presence of 20 participants from Kaliaseh Hamlet, Kalipare Village, Kalipare District, Malang Regency. The women of Kaliaseh Hamlet were very responsive when this socialization was carried out, because maybe it was very helpful because it was indeed a new innovation, a coconut fiber that was usually only burned and then discarded was made for planting media. The response of the women of Kaliaseh hamlet was very good and most of them were very interested to try it in their respective homes.

The positive impact of this socialization is the reduction of coconut coir waste into useful and useful planting media. This innovation is a new thing for reducing coconut coir waste, therefore the village government is expected to educate or provide direction to reduce the existence of coconut coir waste. So that with this socialization, the mothers of Kaliaseh hamlet residents can intelligently process waste into something useful and beneficial.

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