

Analysis of The Utilization of Palm Oil Waste in Review from The Theory of Maslahah Case Study CV. Agro Hijau Aek Torop KM 5 Labuhan Batu

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ABSTRACT

The area of smallholder oil palm plantations is directly proportional to the amount of waste produced, the Maslahah Theory plays a role here as a way to overcome it. However, with the waste of palm oil skewers on CV. Agro Hijau Aek Torop can make palm oil skewer waste that was once considered waste into a staple material with economic value. This study aims to find out how the impact of the use of oil palm sticks on increasing the income of the community's economic welfare in Aek Torop District. This study uses qualitative research methods. Data collection was carried out through in-depth interviews and then supported by literature studies. Results and research show that waste from palm oil produces finished goods of economic value such as bags, plates, serving hoods & baskets and thus can have a positive impact on the surrounding community by opening new jobs for the surrounding community so that it can increase community productivity and reduce the unemployment rate.

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INTRODUCTION

Oil palm is one of the types of plantation plants that play a major role in agriculture and plantation. Palm oil is one of Indonesia's leading commodities that is experiencing very fast growth. Factors that must be considered in finding suitable land for oil palm planting are environmental conditions, physical characteristics of the land, and soil fertility level or soil chemical quality. Oil palm plants in the fields used for business purposes are able to grow optimally in the temperature range of 24-28oC. In order for oil palm cultivation to be maximized, it is important to pay attention to the physical and chemical properties of the soil, such as soil composition and drainage quality. (Pahan, 2006).

Generally, the solid waste of the palm oil industry contains high levels of organic matter, which can lead to environmental pollution. Improper waste handling will contaminate the environment (Shakir & Firdaus, 2024). Various efforts have been made to manage and increase the economic value of solid waste from palm oil. Palm oil waste refers to residues produced from oil palm plants that are not included in the main product or are the result of the oil palm processing process, either in the form of solid waste or liquid waste. Solid waste from palm oil can be in the form of empty fruit, peels and fibers (coir).

Table 1.

Total Palm Oil Production of Smallholder Plantation Crops by Regency/City 2021-2024

City Regency	Production (tons)		
	2021	2022	2023
Mandailing Natal	306.172.73	31.5129.09	319.945.45
South Tapanuli	71.677.27	78.831.82	81.754.55
Central Tapanuli	36.390.91	42.290.91	44.113.64
North Tapanuli	263.64	331.82	340.91
Toba	11.977.27	14.000.00	15.013.64
Labuhan Batu	505.372.73	532.600.00	546.372.73
Asahan	1.622.468.18	1.631.013.64	1.654.040.91
Simalungun	512.095.45	520.518.18	566.190.91
North Padang Lawas	339.345.45	347.286.36	351.922.73
Padang Lawas	515.231.82	521.672.73	569.436.36
South Labuhanbatu	637.304.55	682.302.73	729.009.09
North Labuanbatu	108.3036.36	111.7481.82	116.3022.73
Padangsidempuan	536.36	736.36	950.00

Source : BPS North Sumatra 2024

Along with the increase in palm oil production every year, there will also be an increase in waste produced, as happened in Labuhan Batu Regency. Data shows that palm oil production in the district continues to increase from 2021 to 2023. In 2021, the production was 505,372.73 Tons, then increased to 532,600.00 Tons in 2022, and reached 546,372.73 Tons in 2023. This shows an increase in production over the last 3 years in Labuhan Batu Regency.

According to the Ministry of Energy and Mineral Resources (EMR), each palm oil mill (PKS) usually produces around 25-30% of the main products, such as palm oil (CPO) by 20-23% and palm kernel/kernel by 5-7%. The other 70-75% is the result of the waste processing process in the form of waste. This means that this can be a very serious threat to the population in the production area, which can cause negative impacts on the environment in the future.

However, palm oil waste can actually be used as a sustainable step to preserve the environment by turning it into other useful materials. Based on the results of the study, one ton of palm oil can produce waste in the form of empty oil palm bunches as much as 23% or equivalent to 230 kg, shells as much as 6.5% or equivalent to 65 kg, palm sludge 4% or 40 kg, fiber (13%) or 130 kg, and liquid waste as much as 50% (Mandiri, 2012). TKKS is a source of macro and micro nutrients that are important for plant growth. The composition of these nutrients includes 42.8% carbon, 2.9% potassium oxide, 0.8% nitrogen, 0.22% phosphorus oxide, 0.30% magnesium oxide, as well as copper content of 23 parts per million and zinc as much as 51 parts per million (Singh et al. n According to Padil et al. (2010), the outer shell of palm oil is the hardest part of all parts in palm oil in 1989. According to Yarman (2006), palm oil shells are an unoptimized by-product of palm oil production. Palm fiber contains nutrients such as phosphorus, calcium, magnesium, and carbon, so this waste can be used as a growth environment for bacteria. According to Manusawai (2011), these microorganisms can be used to process waste.

In accordance with the concept of *Maslahah*, namely something that can provide convenience and support for each other's existence, as well as something that can provide beauty, perfection, and optimization for each other's existence. According to Asmawi (2014), palm oil waste will have negative consequences for the environment if it is not processed into useful materials. If the waste is not treated, it can be categorized as waste. However, if processed into a useful product, it will actually provide benefits and beauty.

According to Che Maail et al., (2014) and Zainuri (2019), the amount of palm frond waste produced by oil palm plantations annually reaches 92.86 million tons. This is comparable to about 60% of the total volume of solid waste generated each year in the production process. Based on this information, it can also be concluded that the amount of palm frond waste produced will continue to increase. Therefore, efforts are needed to reuse palm fronds into useful products so that they can produce benefits from

palm oil waste with the principle of benefits from the Maslahat theory.

By referring to the background description that has been submitted, the purpose of this study is to evaluate the possibilities and methods of using palm oil waste by considering the principles of the Maslahah Theory in CV. Agro Hijau Aek Torop, located at KM 5, Labuhan Batu, investigates the optimal way to utilize waste efficiently and effectively.

LITERATURE REVIEW

1. Palm Oil Waste

Palm oil waste is the residue of oil palm plants that are not included in the main product or are a by-product of oil palm processing. This waste comes from various processes in the palm oil industry, such as the processing of palm fruit into palm oil, and can be in the form of solid waste and liquid waste.

Solid Waste of Palm Oil

- a. **Palm Fibers:** Palm fiber is a part of fresh fruit bunches (FFB) that cannot be used as palm oil. This fiber can be used as an alternative fuel, but its use must be done correctly so as not to have a negative impact on the environment.
- b. **Palm Shells:** Palm shells are the part of FFB that cannot be used as palm oil. These shells can also be used as an alternative fuel, but their use must be done correctly so as not to cause a negative impact on the environment.
- c. **Empty Bunches:** Empty bunches are the part of FFB that cannot be used as palm oil. Empty bunches can be used as organic fertilizer, but their application has not been able to significantly increase the amount of nutrients in oil palm leaves.

Palm Oil Liquid Waste

- a. **Liquid Waste Treatment:** The liquid waste of the palm oil industry is the rest of the processing process of FFB into palm oil. This liquid waste has the potential to pollute the environment if not treated properly. The treatment of liquid waste is important to reduce the impact of environmental pollution.
- b. **Land Application (LA):** The liquid waste of the palm oil industry can be reused as an alternative fertilizer on plantation land. Research shows that this liquid waste can be used as fertilizer with the right flow rate and appropriate pH.

Impact of Palm Oil Waste

Palm oil waste has a significant impact on the environment, natural resources, population, and settlements. Based on research conducted by (Andi Ramliany Hashim, 2020) Here is a full explanation of the impact of palm oil waste:

Impact on Natural Resources

- a. **Water Pollution:** Palm oil liquid waste contains many organic substances, such as oils and fats, as well as chemicals such as processing plant waste and pesticides. If not treated properly, the waste can pollute rivers and lakes, which will indirectly reduce water quality and damage aquatic ecosystems.
- b. **Air Pollution:** Palm oil liquid waste can also produce gases that pollute the air. These impacts can cause health problems for humans and animals, such as respiratory problems, eye or nose irritation, and even lung disease.

Impact on Residents

- a. **Health:** Palm oil waste can have a negative impact on public health. An unpleasant odor from waste can cause respiratory distress and irritation to the eyes and nose.
- b. **Quality of Life:** Palm oil waste can degrade environmental quality and environmental aesthetic value. Waste that is disposed of carelessly can reduce the quality of life of people living around the factory.

Impact on Settlements

- a. **Noise and Smoke:** Palm oil mills often produce smoke and noise that can interfere with the activities of residents and children during the teaching and learning process.
- b. **River and Wellwater Pollution:** Palm oil waste can pollute rivers and wells of residents, which can affect drinking water quality and public health.

Economic and Social Impact

- a. **Energy Costs:** The utilization of palm oil waste can incur higher energy costs compared to other energy sources. For example, the energy cost of using palm oil fibers and shells is more expensive than diesel.
- b. **Processing Efficiency:** The efficiency of palm oil waste treatment must be improved so that energy costs can be reduced. For example, palm oil mills must be adjusted to electricity needs so that energy costs can be reduced.

Impact on the Environment

- a. Environmental Pollution: Palm oil waste can cause significant environmental pollution. Palm oil empty bunch waste (TKKS), fibers, shells, and liquid waste can reduce environmental quality and environmental aesthetic value.
- b. Waste Management: Palm oil waste management must be done correctly so as not to cause negative impacts. For example, liquid waste can be used as an alternative fertilizer on plantation land, but it must be done with the right experimental methods and research variables.

2. Maslahah Theory

Etymologically, al-maslahah refers to goodness, usefulness, relevance, suitability, balance, and precision. The term al-maslahah is the opposite of al-mafسادah which refers to unkindness. Technically, the concept of maslahah has been defined by several scholars of ushul al-fiqh. Al-Ghazali (505 AH) stated that the true meaning of maslahah is to achieve benefits or avoid harm. According to al-Gazâli's view, in the context of shā'a, maslahah means maintaining and achieving the goals of Sharia in maintaining religion, soul, intellect, heredity, and wealth. Al-Gazâli emphasized that anything that can ensure and protect the existence of these five things is considered maslahah; Meanwhile, anything that can interfere and damage these five things is considered mafsadah. (Asmawi, 2014)

The meaning of maslahah was also introduced by 'Izz al-Din Abd al-Salam, According to 'Izz al-Din 'Abd al-Salâm, maslahah is the same as virtue, benefit, and goodness. When Najm al-Din al-Tufi in Al-Maraghi argues that the meaning of interests can be seen from the point of view of tradition and law. According to al-Ta'fî, in a general sense, maslahah is a factor that produces goodness and benefits, such as a business that generates profits. Meanwhile, in the context of sharia, maslahah is a factor that leads to the goals set by sharia, both in terms of worship and transactions. He firmly stated that the public interest is included in the scope of sharia goals. Islamic Sharia is suitable for all needs and demands of human life. Sharia texts can create goodness for human beings in every legal regulation. No legal problems arise unless there is a solution contained in the Bible as a guideline for the solution.

Realizing benefits is the core of Islamic Sharia principles. Each rule of al-Sharia' law communicates the public interest to create good and prevent damage, which will result in prosperity for mankind and strengthen devotion to Allah. The true goodness is to guard and pay attention to the goals of the Shari'a with the aim of achieving the goodness and benefits desired by the Shari'a, not by the impulse of human lust. According to Mohammad Hashim Kamali, the conclusion regarding the identification of maslahah as the core of maqasid al-sharia can come from: (1) sharia texts, especially commands and prohibitions, (2) reasons and wisdom contained in sharia texts, and (3) reasoning. The introduction of benefits through the interpretation of sharia texts, especially commands and prohibitions, is an

approach used by Islamic legal thinkers of the Zâhirite School - an intellectual group in the school of Islamic legal thought.

According to Mohammad Hashim Kamali, *maslahah* is not bound by restrictions like *qiyâs* and *istihsân*; He encouraged Mujtahid to take the initiative in setting the necessary standards, including establishing laws for new situations, to achieve something that is considered beneficial to the general public. Further, an authentic public interest, which supports the achievement of the goals of Islamic Sharia, and which is in accordance with the *nass* of Sharia, is a strong foundation and a valid reference for the formation of Islamic law.

The concept of *Maslahah* as the essence of the purpose of sharia is the best choice for the development of *ijtihad* methods, where the Qur'an and Sunnah must be understood through *ijtihad* methods with a focus on the dimension of salvation. The concept of benefits in the use of Palm Oil Waste is in accordance with the principles that have been set.

MATERIAL AND METHOD

This research method uses a descriptive qualitative approach method by using qualitative research techniques with data collection using literature review, by analyzing and examining a problem in a directional and integrated manner (Syahbudi, 2023b), interviews with observations in the field from primary data collected from the source of the research object in Labuhan Batu Regency, namely Aek Torop District.

The data collection process using interviews is based on the principles of the *Maslahah* theory, namely looking at the benefits of waste from oil palm which actually has many benefits. The object of the research is in CV. Agro Hijau Aek Torop Km 5 Labuhan Batu. Using one of the data collection methods, namely interviews, in order to get more valid and empirical results, because the most appropriate way to build empirical legal research is in qualitative research where it is more appropriate to use the expert interview method to collect empirical qualitative data. The *Maslahah* theory is used as a basis to overcome the problem of oil palm waste and turn it into economically valuable materials that are beneficial to the surrounding community. *Maslahah* theory is a concept in Islamic economics that emphasizes the benefits or public interests that can be taken from an action or policy in this study.

RESULT AND DISCUSSION

The skewer is a key component in the process of making wicker plates. The skewers need to have a comparable level of flexibility and almost the same length in order to be perfectly woven. There are at least 500 pieces of palm fronds which are then taken from each frond to produce at least a thousand sticks which are then processed into basic materials for production. Choosing a skewer that has similar

flexibility can be done by grasping several skewers at the end and then lifting them. If the skewer falls due to gravity, it means that the skewer has the same flexibility as the others. While a skewer that does not fall (stiff) indicates that its flexibility is different from other skewers. The more advanced a country is, the more people get education, but also the more people are unemployed. With limited government resources, the country's development must be driven by entrepreneurs who are able to create their own jobs. Entrepreneurs are the potential for national development both in quantity and quality. Entrepreneurship means looking for opportunities and then creating companies to take advantage of those opportunities. (Pratama et al. 20022)

Opening your own business is a suitable option to reduce the problem of unemployment. Motivation is very important to support the entrepreneurial spirit. Without motivation, passion will just be a movement without a clear purpose. These two things, enthusiasm and motivation, are a harmonious combination to encourage passion in achieving one's dreams. Applied art refers to works of art that are applied in daily life and have a practical purpose or use. Fine art works have two kinds of functions, namely the function of beauty and the function of practical use. Aesthetics serve to meet human needs for beauty in their lives. Examples include drawings, engravings, and ornaments. The practical function aims to meet human needs for items used in daily life. Examples include flower pots, chairs with carvings, and frames for photos. A skewer plate is a type of applied art that consists of weaving using a skewer. "This wicker has a uniqueness that is different from other wickers" Generally, the wicker is made from rattan, but in this case it is made from palm skewers. Palm skewers or in Sundanese called kawung skewers are materials that have pliable properties and are easy to arrange or use as patterns. The benefit of these skewer containers is to serve food in restaurants or restaurants, and can be used as decoration or decoration. In addition, this container can also be used in sacred events such as traditional processions in areas that still hold their customary traditions. One of the components used to make skewer crafts is coconut leaves taken from coconut trees. Concluding from the text, it can be said that coconut leaf skewers have various benefits besides being used as skewer brooms. (Pratama, Alvi.) Harhap, Goddess. Sahaputra, 2022) Household items such as plates, fruit baskets, and vases can be made from this material. One example of a skewer waste processed product is a skewer plate, which is a plate made from coconut leaves/palm leaves/palm oil skewers that have been processed until smooth and assembled to resemble a dinner plate.

Company Establishment CV. Agro Hijau Aek Torop is a very positive step in the processing of palm oil waste in Aek Torop district. In addition, this also has a positive impact on improving the economy of the local community. With this effort, the community becomes more creative in utilizing waste to be used as products of economic value. Many people participate in the production process at this factory, so that it can increase employment in the sub-district.

Table 2.

Types of production, Unit Price & Unit Value of Oil Palm Skewers in an average of one month CV. Agro Hijau Aek Torop

No.	Production Type	Production Quantity	Unit Price	Unit Value
1.	Bag	800 Units	IDR 40,000	IDR 32,000,000
2.	Plate	1700 Units	IDR 4,500	IDR 7,650,000
3.	Tudung Saji	524 Units	IDR 35,000	IDR 18,340,000
4.	Baskets/Bouquets	400 Units	IDR 30,000	IDR 12,000,000
Total				IDR 69,990,000

From the information presented above, it can be seen that the production of CV. Agro Hijau Aek Torop offers great potential in increasing income, such as processing bag products and other items made from palm oil skewers can generate an income of Rp. 69,990,000 every month Thus, palm oil skewer processing offers the potential to increase income for people involved in processing or joining this skewer blessing group. Apparently, in addition to being processed into products, palm oil skewers from Labuhan Batu Regency are also exported to countries such as India, Uzbekistan, Japan, and other countries. With the increasing demand for oil palm skewers, people flock to look for oil palm skewers from company plantations and surrounding community plantations. People who are looking for oil palm sticks sell them to skewer traders (toke lidi) in their sub-district area. Traders then collect the skewers to larger skewer traders, before finally exporting them abroad.

Crafts are a type of art that demands high skills such as wood carving, weaving, batik making, puppet making, and meticulously done leather work. According to Soedarso's opinion in 1987, fine art is a branch of art that produces small-sized applied works of art, such as chair carvings, puppets, and batik. According to the Great Dictionary of Indonesian (1991:1040), weaving is a handicraft product made of yarn (both cotton and silk) which is arranged by inserting feed horizontally between the warps. Weaving is a textile product made of yarn, both from silk and cotton. To produce quality weaving, order is needed in arranging warp and weft threads. When viewed from a socio-cultural perspective, weaving crafts show a variety of forms and motifs as well as their uses that have been known by the community for 21 years, all of which reflect the nation's cultural richness.

Weaving is a skill that can be improved by utilizing creative and imaginative ideas to create a variety of diverse handicraft products, so that it can enrich the works produced by weaving. In addition to using yarn materials, weaving handicraft products can also be made using natural fibers. This natural fiber can be obtained from plants such as leaves, twigs, stems, bark, and roots that belong to the cellulose group. The characteristics of this natural fiber are very attractive when used as accessories, interiors, or other household needs. During the weaving process, the threads act as fuel. One of the natural materials used in the artisan process is oil palm skewers.

The process of weaving crafts from these materials is a form of art, just like other works of art. The work is in the form of items that have functions such as accessory boxes, table covers, tissue holders, newspaper storage, bags for women, and others. The handicrafts are produced and united with other materials such as rattan, wood, rubber, and textiles. In the process of making skewer weaving crafts, careful planning is essential. Starting from the preparation of materials, it must be ensured that no materials are wasted and must meet the standard criteria in skewer weaving crafts, such as color balance, texture, material proportions, ergonomic aspects, and overall dimensions that show a harmonious unity. Coconut leaf skewers are the main ingredient in making skewer crafts, which come from coconut leaves that grow on coconut trees. According to Budiwono (2018), in addition to being used as a broom, coconut leaf skewers can also be used to make plates, fruit baskets, vases, and various other household products. One example of a skewer waste processed product is skewer plates, which are made and assembled to resemble dinner plates. Most of the residents in Aek Torop District, Labuhan Batu Regency work in oil palm plantations.

The community is generally only involved in routine activities such as planting, caring for and harvesting oil palm fruits to sell to palm oil mills. In addition to palm fruit, oil palm skewers are also an important source of additional income for oil palm farmers. However, due to the lack of knowledge in managing palm skewers into crafts that have economic and aesthetic value, many palm branches or fronds are not used properly. As a result, there is a large accumulation of palm fronds in the plantation area. People often only know palm sticks as a material to make broom sticks, but in fact this material has many other potentials that can be used to earn additional income. Generally, oil palm skewers are only used as brooms which are low in price because they are easy to manufacture and raw materials that are easy to find due to the abundance of oil palm trees. However, some communities have tried to make other crafts using palm oil sticks that have a higher selling value and can be marketed through social media. The process of making crafts from oil palm skewers requires creativity and skill because the raw materials are difficult to shape and prone to breaking. However, the end result can provide a considerable income for the community without requiring large capital.

Skewers are the staple material used to make bamboo eateries. The skewers need to have a similar level of flexibility of almost the same length in order to be perfectly sewn. To choose a skewer that has

uniform flexibility, you can try bending a certain number of skewers at the ends. A skewer that falls due to gravity indicates that the skewer has good flexibility, while a skewer that does not fall indicates that the skewer is rigid and does not have the same flexibility as the others (Parianti, 2020). Transforming skewers from just skewer brooms into the main ingredient for handicrafts will increase their value. Crafts from these skewers also belong to the category of accessories (Rahardjo et al., 2023), so that it has high marketability among the community (Adnani, 2019). In the process of making skewer weaving, basic skills and creativity are needed to produce various attractive shapes so that they can become products that have a selling value. Knowledge of product marketing is needed after successfully making skewer weaving, so that the right economic strategy can be applied and skewer weaving crafts can be a source of income for the village community. An example is the one carried out by Irianti (2019), where people can make woven palm skewers in various forms such as plates, fruit holders, drink holders, and so on.

Thus, the proposer will carry out a community service program by organizing skills training in processing palm skewer waste for the community in Aek Torop, Labuhan Batu Regency. In this region, palm skewer waste is very abundant but has not been utilized optimally. With expertise in processing palm skewers, this waste can be turned into useful goods, such as woven dishes in the form of plates, bowls, and fruit parcel holders. Woven skewers are often used as decorations at events such as weddings and other events. Palm oil is a fruit-producing plant that is used to make oil. Indonesia is known as one of the producers of palm oil.

Overall, the Palm tree is made up of several components such as root system, trunk, fronde, flowers and fruits. The use of palm frond waste, which used to be just thrown away, has now become a source of inspiration to create innovative household appliances, namely weaving dishes from the waste. These plates are suitable for formal events such as weddings or other formal activities, and can be used in restaurants or eateries. By utilizing palm oil waste, this can provide financial assistance to the community, especially during the current pandemic which has an impact on the economy. It is hoped that the utilization of palm frond waste can continue to be improved so that it can produce other interesting innovations (Januar Al Amien et al. 2021).

The people in Aek Torop District, Labuhan Batu Regency are people who live in the oil palm plantation area. In this area, there is a lot of waste from oil palm plantations that was previously unused. This potential will be developed so that the people of Aek Torop can be more creative in generating income for themselves and their families. The issue that arises in this study is the condition of people who are still living in poverty due to unstable agricultural products due to weather factors and fluctuations in crop prices which are often detrimental to farmers. In addition, the low level of education of the community is also a problem, the difficulty of obtaining capital to start an independent business, and the lack of skills and motivation in developing themselves. (Syahbudi, 2023).

CONCLUSION

Palm oil skewers are one of the staples for making various kinds of handicraft products that have good benefit values such as plates, fruit holders, baskets and so on. Besides being easy to get, palm oil skewers are of higher quality than coconut skewers, this is because palm oil skewers are of higher quality than coconut skewers, this is because palm oil skewers are stronger and not easily broken. Handicrafts are classified as part of the creative economy, because in addition to lifting cultural wealth, they can also produce economic value carried out through the process of creativity by the community. The types of handicrafts that can be customized from palm oil sticks are items such as plates, fruit holders, spoon holders and so on. From the data above, it can be seen that the production from the CV factory. Agro Hijau Aek Torop of Labuhan Batu Regency is very promising in increasing income, such as the production of processed bags and others made from palm oil skewers can contribute income of Rp.69,990,000 per month. Several areas in Labuhan Batu have oil palm plantation production that is quite potential, which is 546 Ha, This makes people flock to look for oil palm skewers considering the very high selling value of oil palm skewers even higher than the oil palm fruit itself.

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