Processing Training *Zero Waste* Becoming a Craft Product of Economic Value for Coastal Women in Lalowaru Village

Asriyana[1], La Ode Muhammad Yasir Haya[2], Dedy Oetama[1], Haslianti[3], La Ode Muhammad Arsal[4]
Halu Oleo University, Kendari

Abstract
Liquid and solid waste is still a problem today. The existence of waste pollution can damage the environment, bring natural disasters, and disrupt public health and other living things. An example of solid waste is garbage that is often found both in the yard of the house and around the coast. Inorganic waste has a decomposition time of 1 year to more than 1,000 years because it is made of chemicals so that bacteria are unable to decompose it. If inorganic waste is burned, air pollution will occur because the smoke produced can interfere with public health. The purpose of this service is to introduce the application of zero waste which can be a product that can improve the household economy of the Lalowaru Sub-District. This activity was carried out by conducting a demonstration of making handicrafts. The results of the service show that with this training, service participants get an educational understanding of waste that can be processed into handicraft products that have added value.

Keywords: *Processing, Waste, Product, Household Fishery*

Abstract
Liquid and solid waste is still a problem today. Waste pollution can damage the environment, cause natural disasters, and disrupt the health of people and other living creatures. An example of solid waste is rubbish which is often found both in home yards and around the coast. Inorganic waste has a decomposition time of 1 year to more than 1,000 years because it is made from chemicals so bacteria are unable to break it down. If inorganic waste is burned, air pollution will occur because the smoke produced can harm people's health. The purpose of this service is to introduce zero *waste, which* can be a product that can improve the household economy of the people of Lalowaru Village. This activity is carried out by conducting a demonstration of making handicrafts directly and then providing assistance. The results of the service show that with this training, service participants gained an educational understanding of waste that can be processed into a craft product that has added value.

Keywords: *Processing, Waste, Products, Household Fishery*

INTRODUCTION

Sources of waste in Lalowaru Village generally come from residential activities, public facilities, tourist areas, public markets and school environments. Each waste source has its own characteristics regarding the generation, composition and characteristics of the waste produced (Juhaidah, 2018). Waste sources consist of household and non-household sources with the types of waste being organic, inorganic and B3 waste. Apart from that, fishing activities also produce waste such as shells of marine life that are usually unused, bones and fish scales.

Coastal communities have the behavior of throwing household waste into the sea (Ilma et al., 2021). Community apathy occurs because it is based on several internal and external factors. So to change people's behavior requires understanding and education regarding proper waste sorting (Simatupang et al., 2021), the impact of waste on living creatures (Dalilah, 2021), and how to process waste so that it is useful for humans (Ambar Tri Ratnaningsih et al. , 2021). To support this program, the government needs to provide rubbish bins in every public facility and tourist area. As well as empowering housewives to improve skills that can be useful to help the family economy.

Coastal women generally have formal education, graduating from elementary school, then marry early, so their knowledge and skills tend to be minimal. In fact, the role of coastal women is very helpful in fulfilling the family's living needs (Nurlaili & Muhartono, 2017). This is based on the amount of income earned by the head of the family which is sometimes uncertain every day (Donna NP Butarbutar et al., 2020). In the life of fishermen's households, the role of a wife is very important because apart from being responsible for taking care of the household, she

is also required to do adaptive work so that the family economy remains viable (Tebaiy et al., 2018).

Application of concepts zero *waste* can be carried out in the processing of fishery products. The goal of zero waste is to produce as little waste as possible, namely managing waste with 3R: *Reduce*, *Reuse*, and *Recycle*. Some examples of fishery waste that can be processed are fish washing water and fish waste which contains nutrients such as nitrogen and potassium which can be used as organic fertilizer for plants (Lepongbulan et al., 2017). So that people can reduce the use of expensive artificial fertilizers. Then, unused shellfish waste can also have added value by turning it into crafts (Hasryningsih Asfar et al., 2021).

Lalowaru Village is one of the areas that has mangrove forests which is a study area (Hasuba & Permatahati, 2022) and a tourist area so that every week local tourists visit the place. So, seeing this, it can become a new center in the trade of handicrafts made by housewives.

Based on the conditions of this situation, it is necessary to carry out skills training for housewives to help the family economy and implement zero *waste* about Lalowaru Village.

METHOD

Place and time. This service activity was carried out in Lalowaru Village, North Moramo District, South Konawe Regency in August 2023.

Solutions offered. To help strengthen the household economy of coastal women, the community service team provides processing training and zero *waste* to become an economically valuable product.

Target Audience. Audience The targets are local coastal women consisting of housewives who either have a business or don't have a business. The number of training participants involved in this activity was 10 people. The goal is for all participants to be active in processing training zero *waste* into economically valuable craft products.

Stages of implementing activities. This activity program first carried out a service location survey and observation. This was done to collect information related to problems that exist around the community in Lalowaru Village, apart from that, to collect data on MSMEs engaged in craft processing. Next, outreach activities are carried out through the lecture method to provide education regarding the dangers of waste, proper waste sorting and zero waste processing. Then a handicraft demonstration stage was carried out in the form of making flower vases from drinking water bottles and fisheries waste.

Success Indicators. Training participants can be said to have absorbed well the education and handicraft demonstrations carried out if: (1) The socialization activity is considered successful if there is an increase
understanding of the community participating in the activity at least 50% of the total attendance; and (2) Training activities are considered successful if there is an increase in the skills of the people who take part in the activity by at least 50%.

Monitoring and Evaluation Methods. Next, the service team will monitor and evaluate the training participants through information provided by the Head of the Lalowaru Village as the head of the training participants and the head of the ta'lim assembly.

RESULTS AND DISCUSSION

Observation Search Results

Based on observations, it was found that around 60% of housewives' daily activities in Lalowaru Village, after doing housework, would gather at one point to stay in touch with each other, for example holding a ta'lim assembly. Furthermore, around 15% of housewives carry out sales and processing activities of salted fish and 25% of housewives are distributed as grocery store owners, MSMEs, and ASN employees.

Lalowaru Village has a pier which functions as a community access bridge to carry out fishing and marine resource fishing activities. On the left side of the bridge there is a mangrove forest which can be used as a recreation area for the public and tourists who visit and a mangrove study center for students and university students. One of the potential attractions of the pier is that there is a spring. The drawback is that there is no provision of rubbish bins by the local government so that people who visit the location throw rubbish all over the place. Utilizing this potential, it is considered important to provide outreach regarding waste and fisheries waste

management. Apart from that, seeing that this area is always visited by students to learn about mangrove forests and tourists who want to enjoy the nature of Lalowaru, it can be used as a place to trade craft products or food and drinks in Lalowaru Village.

The location of Lalowaru Village is strategic because it is one of the main roads leading to Kendari City. This area is usually used as a stopover for transportation heading to other sub-districts in South Konawe Regency and Konawe Regency as well as to Kendari City.

Based on the results of these location observations, it is necessary to follow up with further activities, namely conducting outreach and processing training zero *waste* into craft products with economic value.

Socialization: The Importance of Protecting Coastal Conservation from Plastic Waste

Distribution of education by providing material content related to understanding the impact of waste disposal, types of waste, how to sort waste properly and process waste with application zero *waste*. Participants showed an interest in education. This could be seen from the socialization participants paying attention and listening to every explanation given by the service team regarding the presenters. Then there was a discussion interaction between the participants and the service team.

Participants were also introduced to the types of waste consisting of organic, inorganic and B3 to sort waste properly. Next, a demonstration of waste processing using the 3R concept was carried out. Inorganic waste can be converted into craft products that still have other functions to avoid and reduce unnecessary expenditure on goods and can also generate profits. use visual aids that are easy to understand. Meanwhile, organic waste can be used as compost for plants and vegetables. This learning method is designed to be interactive with questions and answers regarding the socialization material that has been delivered. This is done so that the material presented can be understood by participants (Anshori, 2018).

Figure 1. Providing Education *Zero Waste* To Training Participants

This socialization is intended to raise awareness and be able to implement environmental care in their own homes and invite family members to participate. On the other hand, the younger generation indirectly cares about the environment because this pattern has been implemented in their internal environment. So that there will be changes in the order of life that will form a character that cares about the coastal and marine environment.

Training: Making Flower Vases from Plastic Waste and Shellfish Waste

One way to reduce inorganic waste and fishery waste is through processing it into craft products. This method is an effective solution that can be applied to coastal women's groups in Lalowaru Village Zero *waste* (Nizar et al., 2017). Apart from that, it can also produce creative products that have promising commercial value because they have selling power that can improve the family economy of coastal communities (Arico & Jayanthi, 2018).

Many large cities in Indonesia have started waste recycling businesses and involved waste banks as a forum to help educate the public in waste management. The positive impact of having a waste bank can delay or even reduce the accumulation of waste in landfills (Widyayanti, 2022). Apart from that, the waste bank program is able to help the community's economy from the waste they deposit (Ghaffar et al., 2021).

At this stage, first prepare the materials and tools that will be used in the training to make craft products from inorganic waste. The materials and tools in this activity are bottled water bottles, scissors, glue sticks,*glue gun*, ribbons, flowers, shells, paper glue, colored sand, and hemp rope. Furthermore, training

demonstrations and direct assistance were carried out in making handicraft products. The result was that the participants carried out the instructions correctly in making flower vases. Each participant is given a training media package to support the training process.

Figure 2. Training Process for Making Flower Vases from Plastic Waste and Fishery Waste

In the era of globalization, not only hard *skills* that humans must have but also soft *skills*. Improving the quality of human resources (HR) can be done by conducting skills training for coastal women so they can produce quality human resources in the fields of creativity and innovation. The current economic and social dynamics prove that creativity and innovation provide choices, opportunities and have a huge impact on improving human resources (Romarina, 2016).

Success of activities

Several indicators that serve as a reference for the success of this service activity can be seen in Table 1.

Table 1. Activity Program Achievement Indicators

Program	Target	Output	Indicator
Socialization of the Importance of Protecting Coastal Conservation from Plastic Waste	Increase public knowledge and understanding	foster concern for the environment	discussion interaction between participants and the service team
Processing training zero *waste* into craft products	Increasing the skills and innovation of coastal women	Producing handicraft products from recycled rubbish and fishery waste	Active participation of training participants

CONCLUSIONS AND RECOMMENDATIONS

Providing education and skills to coastal women in Lalowaru Village can be seen through achievement indicators, namely that this service activity can help increase the community's insight and understanding of management. *Zero waste* where previously the community did not know that waste could be processed based on the type of waste and the training participants were active in participating in making handicraft products. Efforts to encourage coastal women to have an entrepreneurial spirit include conducting regular training and the local government initiating the formation of waste banks.

Bibliography

Ambar Tri Ratnaningsih, David Setiawan, & Latifa Siswati. (2021). Pemberdayaan Masyarakat Melalui Pemanfaatan Sampah Anorganik Menjadi Produk Kerajinan yang Bernilai Ekonomis. Dinamisia : Jurnal Pengabdian Kepada Masyarakat, 5(6), 1500–1506. https://doi.org/10.31849/dinamisia.v5i6.5292

Anshori, S. (2018). Pemanfaatan Teknologi Informasi Dan Komunikasi Sebagai Media Pembelajaran. Civic-Culture: Jurnal Ilmu Pendidikan PKn Dan Sosial Budaya, 9924, 88–100. file:///C:/Users/HP/Downloads/70-Article Text-536-1-10-20191223.pdf.

Arico, Z., & Jayanthi, S. (2018). Pengolahan Limbah Plastik Menjadi Produk Kreatif Sebagai Peningkatan Ekonomi Masyarakat Pesisir. Martabe : Jurnal Pengabdian Kepada Masyarakat, 1(1), 1. https://doi.org/10.31604/jpm.v1i1.1-6.

Dalilah, E. A. (2021). Dampak Sampah Plastik

Terhadap Kesehatan dan Lingkungan. Dampak Sampah Plastik Terhadap Kesehatan Dan Lingkungan, 1–5.

Donna NP Butarbutar, Lelo Sintani, & Luluk Tri Harinie. (2020). Peningkatan Kesejahteraan Ekonomi Masyarakat Pesisir Melalui Pemberdayaan Perempuan. Journal of Environment and Management, 1(1), 31–39. https://doi.org/10.37304/jem.v1i1.1203.

Ghaffar, Z. M. Al, Syamsih, M., Widyati, N. A., & Wasonowati, C. (2021). Pengelolahan Bank Sampah dalam Meningkatkan Perekonomian Masyarakat di Desa Banangkah Kecamatan Burneh Kabupaten Bangkalan. Buletin Pemberdayaan Masyarakat Dan Desa, 1(1), 13–19. https://doi.org/10.21107/bpmd.v1i1.11997.

Hasryningsih Asfar, A., Wahyuni, N., Paradila, A., Putri Indira, E., & Al Fitriani, P. (2021). Pkm Pengolahan Limbah Cangkang Kerang Menjadi Cinderamata Di Tengah Pandemi Covid-19 Di Karangantu Kelurahan Banten. Indonesian Collaboration Journal of Community Services, 1(3), 44–51.

Hasuba, T. F., & Permata Hati, Y. I. (2022). Pengelolaan Pesisir Lalowaru Melalui Pembuatan Kebun Bibit Mangrove Jenis Rhizophora sp . Lalowaru Coastal Management Through the Establishment of Mangrove Seedlings of. 6(4), 789–794.

Ilma, N., Nuddin, A., & Majid, M. (2021). Perilaku warga masyarakat dalam pengelolaan sampah rumah tangga Di Zona Pesisir Kota Parepare. Jurnal Ilmiah Manusia Dan Kesehatan, 4(1), 24–37.

Juhaidah, S. (2018). Pengelolaan Sampah TPA Tamangapa Kota Makassar. Jurnal Fakultas Teknik Universitas Brawijaya, 1–112.

Lepong Bulan, W., Tiwow, V. M. A., & Diah, A. W. M. (2017). Analisis Unsur Hara Pupuk Organik Cair dari Limbah Ikan Mujair (Oreochromis mossambicus) Danau Lindu dengan Variasi Volume Mikroorganisme Lokal (MOL) Bonggol Pisang. Jurnal Akademika Kimia, 6(2), 92. https://doi.org/10.22487/j24775185.2017.v6.i2.9239.

Nizar, M., Munir, E., Munawar, E., Program Doktor Program Studi Pengelolaan Sumberdaya Alam dan Lingkungan USU, M., Pengajar Fakultas Teknik, S., Serambi Mekkah, U., Aceh, B., Pengajar Biologi, S., Mipa, F., Syiah Kuala, U., & Corresponden, M. (2017). Manajemen Pengelolaan Sampah Kota Berdasarkan Konsep Zero Waste: Studi Literatur. Jurnal Serambi Engineering, 4(2), 93–102.

Nurlaili, N., & Muhartono, R. (2017). Peran Perempuan Nelayan Dalam Usaha Perikanan Tangkap Dan Peningkatan Ekonomi Rumah Tangga Pesisir Teluk Jakarta. Jurnal Sosial Ekonomi Kelautan Dan Perikanan, 12(2), 203. https://doi.org/10.15578/jsekp.v12i2.6481.

Romarina, A. (2016). Economic Resilience Pada Industri Kreatif Guna Menghadapi Globalisasi Dalam Rangka Ketahanan Nasional. Jurnal Ilmu Sosial, 15(1), 35. https://doi.org/10.14710/jis.15.1.2016.35-52.

Simatupang, M. M., Veronika, E., & Irfandi, A. (2021). Edukasi Pengelolaan Sampah : Pemilahan Sampah dan 3R di SDN Pondok Cina Depok. Prosiding Hasil Pengabdian Masyarakat, 34–38. http://journal.undiknas.ac.id/index.php/partahttp://journal.undiknas.ac.id/index.php/parta.

Tebaiy, S., Leiwakabessy, J., & Wambrauw, E. T. (2018). Kontribusi Pendapatan Kelompok Usaha Perempuan Pesisir dalam Pengolahan Hasil Perikanan di Manokwari. Jurnal Sumberdaya Akuatik Indopasifik, 1(2), 31. https://doi.org/10.30862/jsai-fpik-unipa.2017.vol.1.no.2.29.

Widyayanti, E. R. (2022). Metode Memaksimalkan Peran Kelurahan Terhadap Pengelolaan Bank

Sampah Melalui Program 3R (Reduce , Reuse dan Recycle) Di Yogyakarta 120 .