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# Training on the Utilization of Waste Woods from Used Containers as Clothes Hanger for Youth Organization (Karang Taruna)

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**ABSTRACT**

Waste wood from used containers has the potential to be utilized as a product that has economic value. As one of the efforts to provide new horizon of skills and knowledge about an alternative use of used wooden containers, the Product Design Study Program of the Faculty of Fine Arts and Design of Trisakti University held a Community Service program in the form of training in the use of waste wood from used containers into clothes hangers. Aside from being an alternative to reduce container wood waste. This activity was to empower the community in this case is Youth Organization of "Karang Taruna", this program is carried out in Cawang Village, District of Kramat Jati, East Jakarta, with target communities of Karang Taruna in the region. Considering the educational background of the target community who have never studied matters related to design principles, it is necessary to be given understanding and knowledge of the basics of design. Thus, in processing this used container wood, the artistic side will also be taken into consideration. The experimental method was carried out in an effort to solve the problems related to the processing of waste wood from the container so that the final product was produced in the form of a clothes hanger that was functional with selling value.

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## INTRODUCTION

Wood is a natural material that has strong characteristics but is easily cut and processed in various forms. Most of the wood comes from felled tree trunks. The role of the forest products industry, especially wood in Indonesia, currently faces quite serious challenges, related to the imbalance between the need for industrial raw materials and the ability to sustainably produce wood. If you pay attention to the declining condition of natural forests, it means the rarity of wood raw materials and the greater challenges of various aspects, especially in the forestry sector (environment, ecolabeling, carbon trading). Therefore it is necessary to make fundamental changes in forestry development policies, one of which is by promoting the role of technological innovation that is more pro-community, especially small industries, increasing the efficiency of processing forest products, as well as maximizing the use of wood and biomass waste leading to zero waste. Based

on this, it needs to be a concern for us to make the most of wood and its waste. One way to maximize wood waste is to use it to become a product that has a functional value and will be even better at the same time as having a sale value.

In big cities like Jakarta, used container wood is easily found, one of them is in a market where goods loading and unloading activities are often found there. Likewise with the availability of human resources to process this used wood. Many young people has the potential to process used wood, but do not have the provision of appropriate knowledge and skills. Some small industries have started to pioneer making products by utilizing used wood containers, but due to the lack of aesthetic knowledge, especially the application of design aspects of the product, causing the end product has not been maximized and reduce the selling value. The design factor on a product becomes important because it will affect people's interest to buy the product. Design is a form of human physical and spiritual needs that are described in various fields of experience, expertise and knowledge that reflect attention to appreciation and adaptation to their surroundings, especially those related to the shape, composition, meaning, value, and various goals of man-made objects ( Archer, 1977).

The Product Design Study Program FSRD at Trisakti University as one of the educational institutions in West Jakarta on an ongoing basis has contributed knowledge in the form of training to people in need who are expected to be equipped to be implemented in order to improve the welfare of people's lives. One of the routine programs carried out is Community Service activities. On this occasion, the Community Service Team consisting of 3 lecturers and 2 students provided training on the utilization of wood waste, becoming a clothes hanger. The main focus of this training in addition to providing skills, also provides an understanding of the basics design and aesthetics of a product. In terms of aesthetics, there is a design aspect contained in it that is something that can be absorbed by the five senses, elements captured by the five senses are visually called sensory elements namely lines, shapes, textures, colors, light, and space (Irawan, 2013).

This community service activity aims to provide horizon of skills and knowledge about one alternative to the utilization of used wood containers which are expected to be developed independently by the target both individually and in team-work. Through this activity the participants are expected to have new insights and be able to increase creativity in designing more innovative designs by utilizing available natural resources, in this case used wood containers. In the long run, it is hoped that after attending this training participants will have additional knowledge about the process of making simple products and design elements that must be considered in utilizing wood waste and have the ability to identify its potential. Thus it is expected to develop similar activities in the broader scope.

## METHODS

The approach taken in an effort to solve the problem related to the processing of used wood waste into a functional product in the implementation of community service programs is an experimental method. Through this method, several experiments were carried out to make various alternative products using waste wood from container materials by considering design aspects such as: shape, size, function, color, finishing, and so on. The aim is to get the right type of training to be given to the target community. This activity was carried out by involving community participation (participatory approach), namely youth organization" Karang Taruna" in the Cawang Village, Kramat Jati District, East Jakarta. The number of participants who attended the training was 11 participants, aged between 17-21 years with a duration of activity for approximately 8 hours consisting of several stages, namely: introduction, theoretical explanation of the design principles and character of used wooden container materials, practice of making hangers using waste wood from containers, and evaluation of training results.

## RESULT AND DISCUSSION

This training activity on the utilization of used wood waste into clothes hangers was carried out at Gudang Suara Pembaharuan, Jalan Arus, Cawang sub-district, Kramat Jati District, East Jakarta. The choice of location is based on the agreement between the FSRD and stakeholders in the area with consideration of the ease of access for the training participants because they come from several RTs that are scattered in the Cawang area. A typical multi-ethnic and plural Cawang Kelurahan community is considered to be very friendly, unified, and has a good togetherness.

**Explanation of Training Stages**

The training begins with explaining the training material, the objectives and benefits of the training and the expected results later. Furthermore, the Community Service Team (PkM) explains the stages of training that will be applied and that creativity and motivation have a very important role in the effort of independence. The training stages provided are as follows:

a. Open communication and familiarity with participants by explaining the aims and objectives as well as the benefits and results provided and obtained from the training program.
b. Explain the stages of the training to prepare the trainees' mentality.
c. An introduction to the character of used wood waste materials and the techniques to process them into a clothes hanger along with the equipment and supporting materials needed.
d. Discuss, question and answer to further open communication and information between the trainer and the trainee so that the training will run well.
e. Give examples of the practice of making clothes hangers by utilizing used wood container directly, according to the theory that has been explained. Some variations of samples of ready-made products are shown to show what the final result will be like after the manufacturing process is complete.
f. Give the training participants the opportunity to try to make products that have been explained by utilizing the materials that have been provided by the community service team.
g. Invite participants to take part in evaluating the work of other participants in turn.

Besides that, it is also necessary to explain the importance of good quality and maximum results on public appreciation, selling value, and economic value, which ultimately affect the sustainability of the business. In connection with these matters, the importance of the role of design must be conveyed to the trainees. The importance of understanding and knowledge of design is one of the important factors that must be given to the trainees before the design is realized. Provision of material about the basics of design related to shape, color, size, composition, harmony, rhythm, and so on, received a positive response from them because this was a new knowledge that they had never known and learned. This can be seen from the level of enthusiasm that they show through discussions, questions and answers that take place actively and intimately.

Figure 1. The instructor is giving an explanation of the training stages

**The process of manufacturing wood waste into clothes hangers**

Before training, participants carry out the stages of work that have been submitted, first is explain in detail the character of the material to be used. The main material needed in this training is used container wood waste. According to Margana (2014: 4), wood waste or organic waste is waste that consists of materials that make up living things (plants and animals) that come from nature. Meanwhile, according to Simarmata (1986) that wood waste is the remnants of wood or parts of wood that are considered to be no longer economic value in a particular process, at a certain time and a certain place that may still be used in different processes and times. Waste wood that can still be treated is classified as economical waste.

The intended container wood is a series of pieces of wood of a certain standard size commonly used as a base or outer coating of industrial goods to be sent either by sea, land or air, especially for long distance shipments. Usually after the goods are sent and arrive at their destination, the pallets that have been made based on the size of the goods sent will become a pile of garbage in the industrial area because it is not necessarily the size that was previously suitable for reuse for the next sent item, sometimes also in the market or the sea port area, which is later resale by the wood collectors.

Waste wood from containers that will be used as the main raw material in this training is the type of pine wood. Pine wood is one of the typical wood species from the tropics that is of good commercial value in the market. Pine wood is light brown-yellow, an average specific gravity is 0.55 and belongs to a strong class III and a durable class of 6-8 cm, hardness of shrinkage and moderate cracking strength, the nature of the work is more easily broken but rather difficult to saw. Stems are generally round and straight skin dark brown, rough, deeply rooted and flake in long pieces (Steenis, 2003). The types of pine used in this training are light yellow pine, there are not many knots, are not cracked, and are approximately 35 x 10 cm in size. This knowledge about pine wood needs to be conveyed to the training participants so that they recognize the character of pine wood as the raw material for the clothes hanger they will process

After the Community Service team gave a theoretical explanation, it was time for the participants to be given the opportunity to try to make this used wooden container product according to the techniques taught and the equipment provided with the supervision of the instructors. The ingredients that will be used consist of old pine container, sandpaper, vernish, nails for hanging, and so on. While the equipments that will be used are scissors, cutter, pliers, glue gun, ruler, pencil, spray paint, and others. During the manufacturing practice, participants are also encouraged to look at each other's work, so that they can evaluate their work while at the same time be able to make judgments about the work process and the correct results

The stages of making clothes hangers by utilizing used wood waste are as follows:

a. The character of pine wood veins is quite unique, especially in the number of ‘eyes’ veins on its surface. This 'eye' can become flawed if it breaks and falls so that it becomes holes in the surface of the wood which naturally disturb aesthetically. But it can also be a unique enhancer of character and makes pine wood quite easily recognizable. In addition to wood eyes, the presence of nail holes also needs to be handled first, by filling the holes with water-based wood filler or putty with the original color of wood using kape.
b. Next, the wooden planks are cut and perforated to install hangers according to the standard size of the designed clothes hangers. The cutting process uses a wood saw
c. If wood is profiled, putty / wood filler must be diluted using clean water first. After that, just apply it using a small brush or can also be sprayed and then rubbed with a cloth so that it can enter the pores of the wood.
d. After about 2 hours and the putty is completely dry, then sand it again with sandpaper no. 240 to bring up the wood fiber again which had been covered with putty.
e. After the wood has smoothed its surface and is ready to be colored, the next step is to give the desired finishing color (main color). In this coat hanger design, the color chosen is transparent from vernish. The coloring with vernish is with consideration to show the original color of pine wood which is bright and has beautiful fiber.
f. The last step is to put a clothes hanger on the finished boards.

Figure 2. The process of working on a clothes hanger from wood waste containers

**Evaluation of Training Results**

As a measurement of the ability to absorb knowledge, further observation and evaluation are needed, because this aspect will actually be seen when the trainees work on their own initiative and rely on their own creativity. As a result of skills that meet marketable product quality standards, the products made in this training still require a more comprehensive and multi-disciplinary evaluation. However, considering that the training took place in only 8 hours, the results achieved were quite good and satisfying. The visible shortcoming is in the finishing stage because the drying process of

filler and vernish takes a certain amount of time to obtain maximum results. The participants seemed quite satisfied with the results of their work and the instructors felt they had successfully guided the participants to the end of the training. Nevertheless, the trainees expressed their desire to continue to try to practice what they have gained from the training.

**The Activities Impact**

This training to process used wood is carried out as an effort to educate the public on the importance of carrying out concrete activities to utilize existing waste around us. There are still many other ways that can be done to utilize used wood waste into valuable products. Through this activity, Youth Organization “Karang Taruna” who took part in the training had gained a lot of new knowledge, especially those relating to basic principles in design, knowledge of types of wood including container raw materials, simple practices on how to process wood, and others. Besides that, the Community Service Study Program of the Faculty of Art and Design at the Trisakti University also provided training participants with equipment to process wood. With creative ideas, willingness to work, and the support of the equipment needed, products such as ornaments, chairs, tables, cabinets, display cases, bookshelves and furniture will be produced. Simple steps like this besides helping to reduce the pile of garbage / waste, also encourage people's creativity to improve their quality of life through their works.


Figure 3. Hasil pelatihan berupa gantungan baju

**CONCLUSION**

Through this short-lived community service program, additional knowledge and skills have been provided on alternatives to the use of waste wood from used container into functional and valuable products. The participants seemed to be serious about participating in the training and could follow instructions well. This can be seen from the training results in the form of clothes hangers that they made. Although not perfect, but the hangers that they produce are decent enough to be used privately and if they continue to be developed, there is a big chance to be marketed. Through this activity the participants are expected to continue to strive to improve their insights in designing products made from used wood containers and able to hone the creativity of more innovative designs by utilizing other available natural resources. In the long term, it is hoped that after attending this training participants will have additional knowledge about the process of making simple products and design elements that must be considered in utilizing wood waste and have the ability to identify its potential. Thus it is expected to develop similar activities in the broader scope.

Such training needs to be carried out on an ongoing basis and focused on turning productive-age youth in Cawang Village into creative and independent individuals. Thus, their role in society can be further developed, especially in terms of thought and creativity, which in turn will positively affect the family and surrounding community. FSRD in this case is one of the parties that is able to instill awareness and open insight into the importance of being creative and independent through education and training that is oriented to creativity and skills that lead to independence of mind and life.

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