

COMMERCIALIZATION TRAINING OF WASTE UTILIZATION

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ABSTRACT

Waste management is not only a concern of the government but also of the attention of the community at the household level. One way to manage waste is to *reuse* and *recycle*. *Reuse* is the reuse of waste directly, without making any effort to add value to the waste. While recycling is the reuse of processed waste, to increase the use-value of the waste. In this time of community service, Mercu Buana University through its Undergraduate Study Program and Masters in Mechanical Engineering will conduct training on waste utilization by introducing *reuse* and *recycle* techniques. to the community of North Kembangan Village.

Keywords: Reuse, Recycle, Garbage

1. INTRODUCTION

The problem of waste, especially in urban communities, is one of the issues that need to be considered not only by the local government but also by every community member to feel directly obligated in their efforts to overcome them. The level of urban population density and the limited land and management of waste management by the local department that is less effective can make garbage keep piling up. Therefore, public awareness is needed about the importance of waste management, especially at the household scale.

Based on the results of the 2005 WJEMP (Western Java Environmental Management Project) study and the Waste Composition and Characteristics Study in DKI Jakarta in 2011, it can be seen that the largest percentage of the waste is an organic waste. Organic waste is an item that is not used and discarded by the owner but can still be used or reprocessed so that it can be useful again. Organic waste can also be interpreted as originating from the rest of the living things that break down naturally. Organic waste is divided into two types, namely wet organic waste such as vegetable waste, rind fruit, rotten fruit and so on, while dry organic waste such as wood, tree branches, and dry leaves. The high level of organic waste occurring in urban areas, especially in DKI Jakarta, arises because of the dense population, where the waste is produced not only from residents' houses but also from offices and commercial areas. The increasing modern lifestyle of urban communities also adds to the form of organic waste, followed by paper waste from offices and plastic waste.

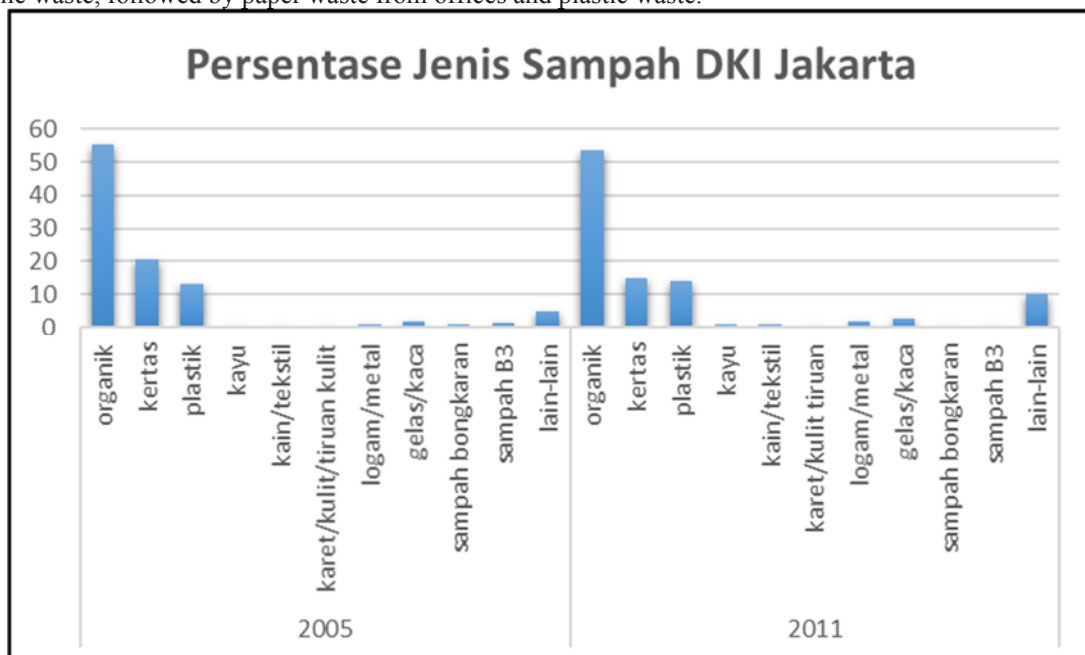


Figure 1.1 Comparison of DKI Jakarta Waste Types in 2005 and 2011
 (Source: WJEMP and the Office of the Environment, 2015)

Waste management, especially in urban areas, cannot only be the responsibility of the local government, but there needs to be an active role from the community to improve their environment. The Mechanical Engineering Masters Study Program and the Mercu Buana University Mechanical Engineering Undergraduate Study Program work together to contribute to solving these problems. This community service program will focus on educating the public about the use of waste through *reuse* and *recycle* techniques and commercializing the results. This community service is a series of activities carried out by the Mechanical Engineering Masters Study Program and the Mercu Buana University Mechanical Engineering Undergraduate Study Program in educating the public about waste management using incinerators.

Kembangan Utara Village is located in the Kembangan sub-district, West Jakarta has a population of 42,616 people and an area of 492 km². This village is bordered by Meruya Utara Village in the north, Joglo Village & Meruya South Village in the west, Kelapa Dua Village in the east and Ulujami Village in the south. With the number of inhabitants was so high, it is directly going to affect the amount of garbage that is going on. Most residents already know that it is enough about how to manage trash to properly but most others still throw trash in places that are not supposed to be, as an example there that throw it in the embankment of the river (Viky Eko Kritianto) that pollute the environment and can cause flooding. The Data is no mention that that September 2016, the case of flooding due to the overflowing of times Angke the which passed in the area of this.

2. METHOD

This activity will involve permanent lecturers from the Mechanical Engineering Masters Study Program and the Mechanical Engineering Undergraduate Study Program who will act as facilitators in this community service activity. Other parties who will also be involved in this activity are Masters and Bachelor of Mechanical Engineering students. These students will be included in the organization and implementation of activities.

This community service work procedure starts from an internal meeting conducted between the Bachelor Study Program and the Master of Mechanical Engineering at Mercu Buana University with the North Kembangan Village, making training modules, preparing training events, conducting training, and evaluating training.

Mercu Buana University has a Master Plan study, one of which relates to environmental engineering, where most of the research is the Tirrenus in the form of dedicated people who to provide maximum benefit to the community. Event service is, also, to provide the benefits that great for the community, as well as one of the ways to promote the University of Mercu Buana to the public.

Realization of Problem Solving

In this activity, the Head of North Development Sub-district was invited through an official letter, and then community service activities were carried out following the adjusted schedule together.

The schedule for implementing community service is carried out at:

Day, date: Wednesday, March 13, 2019

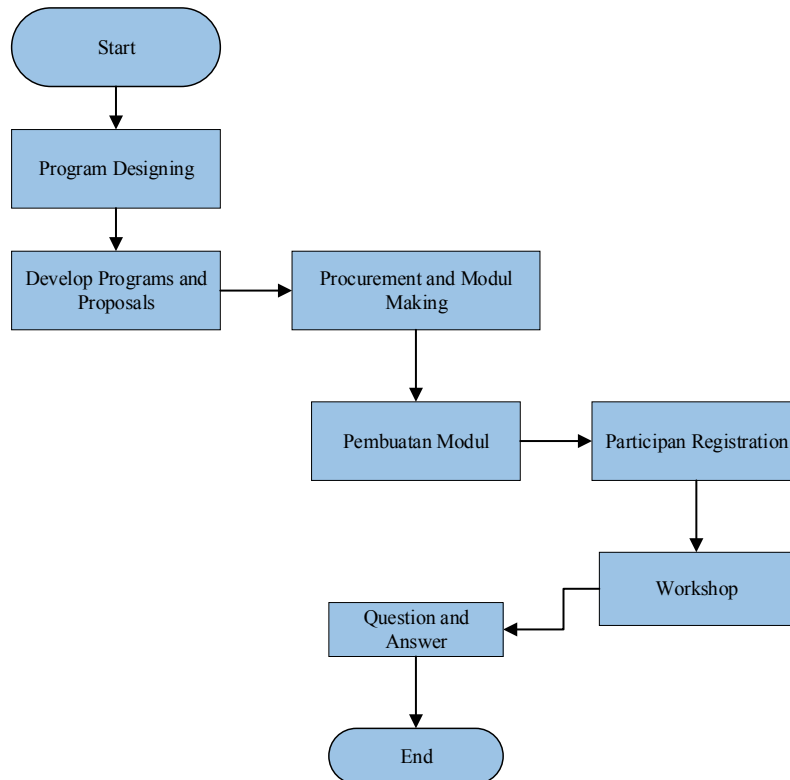
Time: 08.00 WIB - Finish

Target Audience

This commercialization of waste utilization training programs will be targeted at communities in settlements around the North Kembangan area, West Jakarta.

Activity Method

The work procedures needed to support the achievement of these methods are as follows:



Picture 1. Flowchart Activity

Socialization -making tool incinerator and recycle the garbage is done by providing a direct explanation to the participants as well as provide practice Immediately. At the end of the activity give a questionnaire to find out the responses and suggestions of participants for this activity. The activity will be held in the North Village of Kembangan North Jakarta and the target audience will be the local community. Work procedures or stages of service activities include preparation in the form of internal team meetings and contacting the North Kembangan village, making modules, registering participants, carrying out services, and making reports.

Mercu Buana University has a Research Master Plan, one of which is related to product innovation, in which some research results are manifested in the form of community service conducted to provide maximum benefits to the community. Besides providing great benefits to the community, this service activity is also a way to promote Mercu Buana University to the community.

Lecture

This stage is carried out by theoretical debriefing and concepts about the activities to be carried out.



Picture 2. Lecture Method

Practice

This stage is carried out by practicing directly from the theories and concepts that were delivered in the previous session.



Picture 3. Practice Method

3. RESULTS AND DISCUSSION

The Community Service activity was held on Wednesday, March 13, 2019, located in Kembangan Utara District. Participants who attended the Community Service received training modules, lunches, and sign certificates for training. The form of training is in the form of theory and material as well as direct practice, with a weight of 30% for the provision of material, and 70% for practice.

Activity Evaluation

The evaluation of this activity are :

- a) Through the list of attendance notes that the participants numbered 15 people out of 20 who will be planned to attend.
- b) The presentation of *workshop* materials was carried out according to the training schedule.
- c) At the time of implementation of the burning of rubbish using an incinerator also goes by smoothly
- d) From the results of the Recapitulation sheet evaluation *workshop* in mind that the participants stated the training was very useful, participants greatly helped with the activities of Reviews These to add to the knowledge about the tools of the destruction of garbage that can Overcome the problem of garbage in the neighborhood.

Activity Result

Some of the results were obtained from the counseling and training reuse and recycle waste bins are :

- a) Society has the skills to recycle the trash paper and plastic into things that are useful as a place for a pencil and flower plastic and can be commercialized.
- b) Society can create and operate the incinerator tool which serves to burn garbage that is can not recycled again without polling the environment around it as well as the energy of heat that is generated bias to the needs of others.

Participant Feedback

After the activity is completed, the training participants are asked to provide feedback or input to this training, inputs from participants include:

- Participants expect the continuity of training in the use of home industry tools because training is very useful for solving existing problems and developing skills.
- Participants expect that in the next training, the problem resolved will intersect with new problems that have not been resolved.

4. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on the results of the implementation of the activities of dedication to the community 's and the description of the discussion on the above, it can be summed up some things as follows.

1. This training is useful to increase public knowledge about the impact of waste.
2. Participants looked enthusiastic and interested in the activities of the extension of this.
3. The activities take place smoothly, the right time and by the expected.

Recommendation

1. Event training can be improved such as the holding of the *workshop* to become the media to remind the awareness of society towards the environment.
2. The development of the training location is broad so that the greater positive impact is felt after the holding of this activity.
3. Giver of material that is more competent than the science which delivered more better and growing more so participants counseling can feel the impact of the positive.

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