

## **Education About Plastic Waste into Fuel in Bingkeng Village, Dayeuhluhur Sub-District, Cilacap Regency**

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### **Abstract**

Plastic is one of the materials that are widely used in everyday life, because it has advantages including strong, light and stable. But the plastic on the market today is a synthetic polymer made from petroleum that is difficult to decompose. This plastic waste is very much a complex problem in this bingkeng village environment because in 2020 in bingkeng village there is plastic waste of 1 ton. Therefore we aim to conduct extension of plastic waste treatment tools so that the community can use plastic waste treatment as fuel oil (BBM) can also be made saving block from the results of the waste burning of plastic waste and useful also for the community in the pre-economics sector. Counseling activities were conducted in September 2021 in Bingkeng village, inviting community leaders as many as 29 participants participated in extension activities.

**Keywords:** Plastic, BBM, Plastic Waste.

### **INTRODUCTION**

Plastic waste is a global environmental problem. Plastic is widely used in everyday life, because it has advantages such as being strong, light and stable. However, the plastics on the market today are synthetic polymers made from petroleum which are difficult to decompose. As a result, the more people use plastic, the more environmental pollution such as soil pollution will increase, so it is necessary to find a solution to handle it. From survey data from one of the "greenliving" accounts posted on online mass media, if in one day the amount of waste generated per individual is 9 plastic, 3 styrofoam and 1 single-use bottle, assuming that there are around 228 million people in Indonesia. So in a day Indonesia produces 2,052,000,000 plastic bags, 684 million styrofoam and 228 disposable bottles. (Source: detikforum.com/greenliving members).

Judging from the nature of the constituent plastics which are composed of petroleum hydrocarbon components, plastic waste has the potential to be converted into fuel oil. The technique used to restore the plastic material is by breaking down carbon or polymer chains so that they become hydrocarbons, (Mahendra Fajri Nugraha, et al, 2013).

Currently (in 2020) the raw materials used in making fuel from plastic waste are quite abundant. It is even estimated that waste production in Indonesia will increase. The Minister of Environment and Forestry Siti Nurbaya said the amount of waste production in Indonesia would increase, or increase from the average

annual production rate of 67.8 million tons. In 2020, waste in Indonesia is expected to continue to grow. To overcome this problem, the author has the idea of making an extension “Tools for Processing Plastic Waste into Fuel Oil”. This tool will help reduce plastic waste and can be used as fuel oil.

## **METHOD**

In this study the author intends to reveal data from information by studying, observing, examining waste management in Bingkeng Village, by looking at visible facts or actual factors in the situation being investigated. Therefore, in this study used a descriptive research method with a qualitative analysis approach. The use of this method with the consideration that a problem under study is a problem that exists at the present time. Descriptive research is a form of research aimed at describing the phenomena that occur. Data collection techniques are the most important step in research, because the main goal of research is to obtain data that meets the established data standards. The techniques used in data collection in this study use observation, interviews, literature studies and documentation.

## **RESULT AND DISCUSSION**

Education activities will be carried out starting in September in the village of Bingkeng 2021 :

- Preparation. In the preparation stage for thematic KKN UMTAS formed a committee for counseling events.
- Implementation phase which includes:
  - a. Distribution of letters to community leaders with 29 community leaders who were invited to counseling events
  - b. Extension of Plastic Waste Tools

The training on plastic waste to become fuel was attended by the people of Bengkeng village.



**Figure 1.** Education activities

## **CONCLUSION AND SUGGESTION**

Community service activities in Bingkeng village can increase community knowledge about: (1) utilization of plastic waste (2) sorting plastic waste, (3) ways to prevent the use of plastic waste into fuel oil that can be utilized by the community. The suggestion in this activity is to increase the participation of the community to care about the environment.

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