

## **ECOLOGICAL CHANGES THROUGH THE WASTE SORTING PROGRAM IN DUKUH KARANG, PLAWIKAN, KLATEN**

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**Abstract** - Dukuh Karang in Plawikan, Klaten is a village occupied by many agencies. On the one hand, the many institutions located in Karang hamlet make this area a strategic location for doing and starting a business. But on the other hand, this actually has a negative impact on the surrounding environment, one of which is ecological pollution. Departing from this condition, the students of the Thematic KKN 105 UIN Sunan Kalijaga together with youth and villagers carried out waste sorting activities to save the ecological conditions in the Karang hamlet. The waste sorting activity begins with door to door socialization, education through social media (video) and print media (posters), and community assistance. The result of this activity is the improvement of the ecological conditions both around the Mekar Jaya TPS and along the padukuhan road. The improvement in ecological conditions is evidenced by the appearance of clean, odor-free TPS and garbage that is not scattered.

**Keywords:** Sort garbage; ecology; clean

## 1. INTRODUCTION

Waste is a problem that has never been discussed from time to time. This condition is caused by the amount of waste generated by the community from year to year. As pointed out by Andina, the World Bank estimates that the waste produced by the Indonesian people every day is 85.000 tons in 2018, and it will increase till 150,000 tons in 2025. With details, 40% of this amount is solid waste originating from households, 20% from markets, 18% from public facilities and roads, 8% from offices, and 6% from industrial waste (Andina, 2019).

The residents of the Dukuh Karang, Plawikan, Klaten are especially worried about this waste pollution. The reason is that there are a number of large institutions in this mix. Among them, the Plawikan State Elementary School, Jogonalan 1 Middle School, Marriage Hall, and Gendhis Saraswati Hotel. The large number of institutions in Dukuh Karang, makes the Mekar Jaya Garbage Disposal Site (TPS) bins overflow and look shabby. This condition is not only visible around the Garbage Disposal Site (TPS), but also along the village entrance.

In response to this situation, we, the Students of Thematic KKN 105 UIN Sunan Kalijaga gathering with several residents and village youths then carried out a waste sorting movement. This movement aims to make the Dukuh Karang environment look clean and healthy, especially the location around the Mekar Jaya Garbage Disposal Site (TPS). In this regard, this paper would like to discuss two things. Namely, what are the efforts to change the ecological conditions made by students of thematic KKN 105 UIN Sunan Kalijaga in Dukuh Karang, Klaten Regency. As well as how the changes in the ecological conditions in Dukuh Karang after the waste sorting program was carried out. Through this paper, we would like to describe the efforts to change the ecological conditions that we are doing, as well as reviewing the changes in the ecological conditions in Dukuh Karang after the waste sorting program was carried out.

Community service programs in the form of waste sorting programs have been carried out by previous KKN students. So, it is important to display the results of the KKN activity report. The activity reports include, first, the activities carried out by Kadek Dwi Indra, et al. with the title "Education on Waste Segregation to Make Communities Independent in Managing Waste in Kaba-Kaba Village". This paper has been published in the Logista Journal: Scientific Journal of Community Service, Vol. 4, No. 1 of 2020. As written in the journal, KKN students who are located in one of these villages in Bali, namely the village of Kaba-Kaba, are making improvements to the waste problem that occurs by conducting centralized socialization at the Banjar Gaduh village hall. The material presented in the socialization was education about the importance of sorting waste before being disposed of in the Final Disposal Site (Putra, 2020).

Second, is the waste sorting KKN activity carried out by PGRI Adi Buana University students, Surabaya. The activity was reported through a journal written by Achmad Fanani, et al. with the title "Dry Waste and Wet Waste Processing in Gampang Village, Kec. Prambon Kab. Sidoarjo". This article has been published in

the *Adi Buana Abadimas Journal* Vol. 1, No. 1, July 2017. The methods used in carrying out the activities are observation, questionnaires and counseling. As a result, waste can be economically valuable if people can process it again. For example, dry waste can be processed into bags and wet waste can be processed into organic fertilizer (Fanani, 2017).

Third, the waste management program implemented by Ahmad Dahlan University KKN students as written in a journal entitled "Community Empowerment in Dukuh Jodog, Karangasem, Kadisoro, Gilangharjo Village, Pandak, Bantul in Waste Processing". The journal stated that the waste management program they carried out was motivated by the condition of the three hamlets that still dispose of waste in the traditional way, namely by burning, stacking it in the yard, and throwing it into the river. In fact, disposing of waste in this way will pollute the soil and water. So that the purpose of this KKN UAD group carrying out a waste management program is so that the community can actively participate in creating a healthy and clean environment, improving the waste management system, and empowering the community through recycled waste products (Wahyuningsih, 2018).

## **2. METHOD**

Method The implementation method used in this activity is the Community Based Research method. Namely the research method in which every process, starting from building the basic principles and concepts of research, planning, analysis and action, requires active participation from both parties, both the researchers and the community. The special characteristic of the CBR method lies in the role and position of researchers with equal research subjects, so that collaboration between the two leads to social change. Therefore, there are several main principles in using this method, including, first, participatory or active role of researchers and the community, second, shared benefits or benefits that can be felt together, third, reciprocity or reciprocity, fourth, meeting community defined needs. or fulfillment of community needs determined by the community concerned, and fifth, equality in the form of decisions and mutual agreements between researchers and the community in various matters during the research process (Susilawaty, 2016, 7)

In carrying out this KKN, we cooperate with several elements of society, such as village officials, namely the head of the RT and RW, as well as residents and youth of the youth organization. The work program that we have compiled is the result of observation and coordination with elements of society, both online and face-to-face. Because of PPKM is being held, we can only hold two face-to-face meetings, namely on June 15, 2021 and August 5, 2021. Likewise, in carrying out activities, we also work closely with these community elements.

### **3. RESULT AND DISCUSSION**

#### **A. Efforts to Change Ecological Conditions of Dukuh Karang Kabupaten Klaten**

As mentioned earlier, that Dukuh Karang is a hamlet that has many institutions, so that this makes the Garbage Disposal Site located in this hamlet look shabby and dirty. So starting from this condition, we together with the villagers and youth of the village made several efforts to make changes for the better to the existing conditions. These efforts include, firstly, conducting socialization related to door to door sorting of waste. This socialization of waste sorting was carried out as the first step to make changes to the slums of the Mekar Jaya Garbage Disposal Site. According to our monitoring and that of local residents, this condition is caused by the mixing of all types of waste. Organic waste makes the Mekar Jaya Garbage Disposal Site cause unpleasant odors and the growth of maggots. Therefore, to overcome this, it is important that residents sort waste before the waste is disposed of to the TPS. We carried out this outreach door to door, due to the Covid-19 pandemic situation and the PPKM rules. So that socialization cannot be carried out in the form of seminars. While doing this socialization, we also distributed trashbags, stickers and posters for sorting garbage to residents.

In addition to being done offline with door to door, socialization of waste sorting is also carried out online. Namely using social media Instagram, with the account name @kkn105\_plawikan. This online socialization is carried out to reach people who cannot be reached during the door to door socialization and is targeted at youth social media users, especially local youth organizations, who will continue this work program. But not only as a socialization medium, our Instagram also contains educational content for ecotourism, street food, and knowledge about plants.

Second, pasting posters related to the types of waste and the steps in sorting waste in several corners of the Dukuh Karang area. The aim of this poster is to remind people of the types of waste and the steps for sorting waste. Posters were pasted in several strategic locations, including on the walls of the waste bank building, bulletin boards, and patrol posts. Placing posters is very important to do as feedback from socialization, because posters are repetitive. We hope that the community will continue to be inspired to be consistent in the practice of sorting waste.

Third, maintain the cleanliness of the main village road. A clean environment is everyone's dream. The benefits of keeping the environment clean are that the environment becomes neater and more comfortable to live in, improves physical and spiritual health, maintains harmony between neighbors and avoids disease. Keeping roads clean is one of our work programs in the Community Service Program at UIN Sunan Kalijaga in Plawikan village. This work program is carried out every day by dividing the picket schedule in the morning and afternoon to maintain road cleanliness such as sweeping and watering plants. The purpose of this activity is to maintain the cleanliness of the main village road so that it looks well maintained and beautiful. In addition to picket, every Sunday we do mutual cooperation with women

of PKK (Family Welfare Movement) and cut the grass along the main road and village park.

Fourth, take care of the village garden. Ecotourism is an effort to maximize and at the same time preserve the potential of natural and cultural resources of the local community to be used as a sustainable source of income. One of the efforts to maximize the potential of Plawikan Village as an ecotourism village is to promote the village park, and the first thing that can be done to advance the Plawikan Village park is to care for and manage the park so that it looks beautiful. At the beginning of the arrival of Students of Thematic KKN 105 UIN Sunan Kalijaga Plawikan Village, the condition of the park in the village was not very good. The plants are starting to dry up, the grass is elongated, and the arrangement is less attractive. To help overcome this, we carried out several activities such as watering the plants, mowing the grass, and decorating the garden.

This village park maintenance activity is carried out routinely every day at 16.00 WIB. Starting with sweeping the area around the garden, cleaning up leaf litter in the fish pond, pulling weeds, pruning dry plants, and watering plants. Furthermore, the activity of mowing the grass was carried out twice with the assistance of the villagers. The equipment used to carry out these activities has been provided by local residents.

To maximize the condition of the garden, we make flower pots which can then be used as plant containers as well as decorations to beautify the village garden. This flower pot is made using an old towel moistened with cement mixture and then molded and dried. After drying, the pot is then coated with white paint. The activity of making flower pots was carried out in front of the Mekar Jaya Waste Bank with the aim of attracting the attention of local residents. After the flower pots were made, we moved some of the plants in the village garden into the pots. In the future, the activities of caring for this village park will be continued by the youth of Karang Taruna by implementing a picket system.

Fifth, reactivate the Mekar Jaya waste bank. The amount of waste produced by daily human activities becomes a problem that is quite crucial because the waste problem itself can cause new problems such as cultural, social, educational, environmental, economic, and so on. To reduce problems regarding waste, good waste management is needed, and one of the efforts to manage waste is by holding a Waste Bank activity. Waste Bank is a place for sorting and collecting waste that can be recycled and/or have economic value. The Waste Bank has also become a medium to straighten out the public's understanding that waste is not a completely useless waste. More than that, waste also has value and can be used.

In Plawikan Village, especially in Dukuh Karang, there is already a waste bank, namely the Mekar Jaya waste Bank. However, the activities of the Waste Bank were stopped due to an immature management plan. Considering that the existence of the Waste Bank is able to have a positive impact on the environment, social and economy, so we work together to reactivate the Garbage Bank activities. The process

of reactivating the Waste Bank is also an effort to maximize the potential of Plawikan Village as an ecotourism village.

This work program begins with cleaning the Waste Bank. The Garbage Bank which had previously been converted into a storage area for goods was then cleaned and rearranged. In addition, we, together with the youth of Karang Taruna, also renovated the Waste Bank by building a fence and painting it. This is done so that the Waste Bank looks more alive.

The program to reactivate the Mekar Jaya Waste Bank is of course mutually sustainable with the door to door socialization work program for waste sorting. After conducting socialization and distributing pamphlets to residents, we also made banners with similar content to be placed near the Waste Bank so that local residents can read information related to the Waste Bank. Mekar Jaya Waste Bank activities will start again on Sunday, August 22, 2021. In the future, Mekar Jaya Waste Bank will continue to operate every Sunday at 16.00 – 17.00 WIB.

## **B. The Ecological Conditions After the Waste Sorting Program Was Implemented**

After the implementation of various series of activities as described above, we observed that there were various changes in the ecological conditions in Dukuh Karang, Plawikan, Jogonalan, Klaten. Changes in ecological conditions that can be seen after the socialization of waste sorting is an increase in cleanliness in the Mekar Jaya the Mekar Jaya Garbage Disposal Site and its surroundings. Before the waste sorting movement was carried out, the conditions around the Garbage Disposal Site were very shabby, with a lot of garbage looking scattered, smelly and overgrown with maggots. But now, the garbage disposal site already looks clean and tidy. This is supported by the provision of special places for various types of waste, organic, inorganic, recycled and glass waste. That way, garbage collection officers are also easier and safer than before. Not only does it look clean around the garbage disposal site, this change can also be seen along the main village road, the Mekar Jaya waste bank, and the village park.

## **4. CONCLUSION**

Through this research, it can be concluded that it is very important to manage waste properly and correctly for the community. Because this has many benefits in various aspects, both in terms of environmental comfort, aesthetics, health, or community empowerment. Self-awareness to continue to protect the environment from waste needs to be nurtured and always maintained from an early age. Waste management can be started by sorting daily waste and from the smallest scope of leisure, such as household. Because, the small things we do through the habit of sorting out waste, are the first steps we can do to have a big impact on the safety of the earth. We realize that this research is still limited and not perfect, but we hope that this research can benefit the wider community in general and the Dukuh Karang community in particular. We also hope that this research can be useful for

academics, researchers, and environmental activists as reference material in further research related to the theme of tourism ecology.

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