

**WASTE MANAGEMENT OF DISPOSABLE BABY DIAPERS INTO FLOWER POTS  
IN PADUKUHAN SENGIR, KALIREJO VILLAGE, KOKAP DISTRICT, KULON  
PROGO REGENCY**

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**Abstract** – *The usage of baby diapers without proper disposal and processing can lead to environmental pollution. This issue also occurs in Padukuhan Sengir, Kalirejo Village, Kokap District, Kulon Progo Regency. The problem of used baby diapers, which are non-organic waste, remains unresolved in Padukuhan Sengir. The local residents often dispose of these used diapers irresponsibly, leading to potential sanitation pollution or burying them in the ground, which might be dug up by wild animals, creating unpleasant sights. This project aims to minimize and address the used diaper waste problem in Padukuhan Sengir by providing socialization and training to the community on how to utilize and process used baby diapers into economically valuable crafts such as flower pots. The method used includes conducting outreach and training by involving the community in the activity of making flower pots from used baby diapers. The results show that the community can process disposable baby diaper waste into useful and economically valuable items such as flower pots.*

**Keywords:** *Baby Diapers, Plant's Pot, Economic Value, Waste*

## **1. INTRODUCTION**

Waste is something discarded that comes from human activities (Setyaningrum, 2015). Classified into organic and inorganic waste. Organic waste comes from living organisms (nature) such as decaying plants and food scraps, while inorganic waste results from industrial processes and takes a long time to decompose (Taufik et al., 2015). A common type of inorganic waste produced by households is baby diapers. The decomposition of inorganic waste like baby diapers takes a very long time, leading to environmental damage. A 2017 World Bank study on marine debris composition mentioned that diapers are the second- largest contributor to waste (Novi et al., 2023). The convenience and safety of using disposable diapers have increased the demand, leading to environmental pollution due to the accumulation of used baby diapers. These diapers are difficult to decompose by microorganisms, causing an increasing accumulation over time.

Currently, parents prefer using disposable diapers because they do not have to wash and dry cloth diapers as in the past. However, the increasing use of disposable diapers without proper waste management or utilization becomes an environmental problem. The decomposition time for baby diapers is very long, ranging from 250-500 years (Fazrian et al., 2023).

Interviews conducted by the KKN UIN Sunan Kalijaga Yogyakarta team with the residents of Padukuhan Sengir revealed that many environmental problems arise from diaper waste. The geographical condition of the mountains creates challenges in managing baby diaper waste. The lack of waste disposal sites in Padukuhan Sengir leads to residents disposing of waste in their yards, especially baby diaper waste, which is difficult to decompose. This not only creates environmental cleanliness issues but also disrupts community harmony. Therefore, it is crucial to conduct training on utilizing and processing waste into economically valuable items like flower pots in Padukuhan Sengir. This activity is expected to increase community creativity and serve as a solution to reduce diaper and sanitary pad waste in the community.

## **2. METHOD**

The waste processing activity of disposable baby diapers into flower pots and ornamental plant media was carried out in Padukuhan Sengir, Kalirejo Village, Kokap District, Kulon Progo Regency. This activity took place during the KKN Semester Break of UIN Sunan Kalijaga Year 2024, Batch 114, on August 8, 2024. The participants were women from Padukuhan Sengir. Before conducting this activity, the KKN team held discussions with the local community about the waste problems they face. Data collection was done offline during the group program presentation. The data revealed that the community struggles with managing disposable baby diaper waste.

The method for implementing this activity involved providing socialization and creativity training on processing baby diaper waste to the community of Padukuhan Sengir. The activity invited the head of BUMDES (Village-Owned Enterprise) Palbapang to explain the environmental impact of waste and the importance of applying zero waste through the 3R (Reuse, Reduce, and Recycle) principles. After the socialization, the activity continued with a practical session on processing baby diaper waste into flower pots.

This activity aims to be implemented and practiced in daily life to reduce the amount

of baby diaper waste in Padukuhan Sengir, ensuring a cleaner environment and turning waste processing into a positive new habit that also generates economic value.

### 3. RESULTS AND DISCUSSION

Baby diapers are a type of waste that absorbs like tissue fluff pulp, functioning as an absorbent of excretory fluids such as urine and solid waste from babies' bodies. The impact of baby diaper waste on soil is negative as they are difficult to release absorbed water (Safrizal et al., 2022). Therefore, processing baby diapers into flower pots is necessary to reduce diaper waste. The waste processing activity in Padukuhan Sengir involved socialization on waste management and the application of Zero Waste through the 3R principles: Reuse, Reduce, and Recycle. This activity lasted one day at the Sengir Hamlet Hall, with material presented by the head of BUMDES, and participants ranging from teenagers to women of Padukuhan Sengir.



**Figure 1.** Waste Management Socialization of Baby Diapers

After the material presentation, the activity continued with a practical session on processing used diapers into flower pots. The head of BUMDES Palbapang explained that the waste used as planting media is not only from diapers but also from old fabrics. This training aims to reduce diaper waste in Padukuhan Sengir and enhance community creativity in processing waste into useful and economically valuable items.



**Figure 2.** Training on Processing Used Baby Diapers into Flower Pots

The steps carried out during this training are as follows:

- 1) The tools and materials required for the training include a 15 cm mold bucket, gloves, scissors, masks, plastic, clean water, and cement.
- 2) Cut the inner part of the used baby diaper following the pattern to remove the hydrogel.
- 3) Then, wash the outer layer of the used baby diaper that has been separated from the hydrogel and dry it in the sun.
- 4) After drying, mix the used baby diaper with cement mixed with water in a ratio of 5 water to 10 cement. The cement should be twice as much as the water to ensure that the cement mixture is not too runny and the pot is strong.



**Figure 3.** Cement Mixture Preparation

- 5) The used baby diaper mixed with cement is molded using a bucket lined with paper. One pot uses 3 used baby diapers.
- 6) After being molded in the bucket, it is dried and left for 24 hours. Finally, the pot is removed from the mold.



**Figure 5.** Flower Pot from Baby Diaper Waste

This activity demonstrated the community's enthusiasm for processing

disposable baby diaper waste, as evidenced by their focus and participation in making flower pots. However, there were some challenges in processing disposable baby diaper waste. Most participants were elderly women who no longer had children but had grandchildren, and housewives who faced time constraints due to their busy schedules. Another challenge felt by other participants was the unpleasant odor from the disposable baby diapers. Despite these challenges, it is hoped that participants will apply and practice what they have learned in their daily lives, managing disposable baby diaper waste rather than just discarding it and causing environmental pollution.

### **3. CONCLUSION**

The socialization program conducted by KKN students of UIN Sunan Kalijaga Yogyakarta in Padukuhan Sengir brought positive changes to the community. The waste processing training is expected to increase the community's knowledge of inorganic waste management and the importance of environmental preservation. The community now understands how to make flower pots from used baby diapers, providing a solution to the baby diaper waste problem in Padukuhan Sengir.

For this program to be sustainable, innovation and new ideas from the Padukuhan Sengir community and related parties are needed, along with involving more participants and utilizing communication media to spread information on processing baby diapers into flower pots. This effort will help optimize the utilization of non-organic baby diaper waste.

### **4. ACKNOWLEDGMENTS**

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