

COMMUNITY SERVICE VILLAGE DEVELOPMENT PARTNER PKM- PDM WASTE INDEPENDENT VILLAGE IN KELING JEPARA VILLAGE

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Keywords:
 Waste independent
 village, Personal
 Hygiene, Magot
 Cultivation

ABSTRAK

Background: Breast milk is also an important source of energy and nutrients during illness, and reduces mortality among malnourished children. Breastfeeding is a physiological process to provide nutrition to the baby optimally. To review evidence related to factors that influence the success of exclusive breastfeeding for working mothers. In Scoping review using the framework from Arksey and O'Malley, which focuses reviews with the PEOS framework, conducts literature searching using relevant databases and gray literature, selects relevant studies using inclusion and exclusion criteria, conducts critical appraisal for article quality assessment, conducts data extraction, analyzes and can report results. There were 8 articles selected and received Grade A. 8 articles were obtained research conducted in developing countries. There are 7 factors that affect the success of exclusive breastfeeding for working mothers, namely knowledge, educational status, breastfeeding facilities, employment status, husband support, family support, and health worker support.

INTRODUCTION

The area of Jepara Regency has a diverse relief, consisting of highlands (around Mount Muria and Mount Clering), lowlands, and coastal areas (Boomgaard, 2008). Topographic conditions between 0 – 1,301 meters above sea level (Jumardi, Ilyas, Nurfalaq, & Putri, 2022). The geographical position of Jepara Regency is located in the northern part of Central Java province, with coordinates 11009'48.02" – 110058'37.40" BT and 5043'20.67" – 6047'25.83" LS, with regional boundaries including: West : Java Sea, North : Java Sea, East : Pati and Kudus Districts, South : Demak Regency, The closest distance from the capital of the Regency is the Annual District which is 7 km and the farthest distance is Karimunjawa District which is 90 km. The area owned is 100,413,189 Ha or around 1,004.13 Km² which includes 16 Districts, 184 Villages and 11 Villages. While the sea area is 2,112,836 km².



CitizenKeling Village, Keling District, Jepara Regency, Central Java, has independently succeeded in making a modern landfill (TPS) or commonly called TPS reuse, reduce and recycle (TPS_{3R}) as a form of their concern to overcome waste problems. The initial idea of making a modern waste processing site with the 3R system emerged from village youth, then cooperating with Village-Owned Enterprises (BUMDES) and assistance from the Jepara Regency Environmental Office which eventually developed until now. The initial capital to build TPS_{3R} was admittedly only one million used to buy tarpaulins. While the place uses the land of local residents. At the beginning of its operation, the modern TPS, which was built in early January 2022, only serves one community pillar (RW), while currently it has expanded to five RWs with the number of families reaching 150 families.



The youths of Keling Village, Keling District, Jepara Regency, Central Java succeeded in managing waste with the Reduce, Reuse, and Recycle (3R) system. Waste managed with various supporting facilities. TPS also looks clean and does not

cause unpleasant odors. Kalingga Mandiri waste manager, Mr. Jumadi said the idea of waste processing was purely from village youth. They then collaborated with local Village-Owned Enterprises (BUMDes) and received assistance from the Environmental Office (DLH) of Jepara Regency. Per day the volume of household waste in Jepara reaches 405 tons. Of that amount, only about 100 tons per day enter the landfill. There are still people who reduce waste by throwing it into rivers, roads, or burned and become environmental pollution. Besides being dangerous, the smoke from burning garbage triggers global warming.

The problems that arise in waste management in Keling Jepara village are 1. Waste management officers still do not understand the importance of health / personal hygiene when grappling with waste. 2. Untapped residue / waste utilization to manage maggots. 3. Waste is still mixed between organic and inorganic so that officers sort waste from people's homes manually.

Service activities that will be carried out Personal hygiene health must be considered in waste management, Waste waste can be managed properly including if inorganic waste can be sold for recycling and organic waste can be used as compost or even as maggot cultivation / for animal feed, maggot is a very high source of protein.

RESEARCH METHODS

"Community Service for Village Development Partner Pkm-PDM Waste Independent Village in Keling Jepara Village" is carried out several approaches together, namely:

Community group based. All community service activities are carried out to the community by using groups as learning and mentoring media, planning and monitoring and evaluating all community service activities.

Comprehensively, all community service activities are carried out simultaneously related to human resources, counseling and assistance from experts to the community, especially the youth of Keling Village.

Based on local potential and local wisdom by developing local attitudes and culture by empowering the community in waste independent village management Furthermore, the three methods above are implemented in 4 (four) stages, namely (1) Socialization, (2) Increasing competence, (3) Implementation of activities, (4) Monitoring and evaluation.

RESULTS AND DISCUSSION

Education to the community related to management must pay attention to personal hygiene, this is done with the intention that waste management also protects the health of community residents (Mir, Cheema, & Singh, 2021). In the management arrived at Keling village, officers still did not use personal protective equipment (PPE), did not wear masks, hand washing stations were not clean and were still contaminated with dirt from garbage / residues, did not wear gloves in sorting organic and inorganic waste, because of waste.

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It is a risk factor for bacterial, viral, fungal and other microorganism diseases so that personal hygiene officers must be considered and also increase immunity with balanced nutrition (Bloomfield, Aiello, Cookson, O'Boyle, & Larson, 2007). Every time you manage to use complete personal protective equipment such as masks, shoes, gloves, glasses, and the provision of hand washing stations and soap, while still paying attention to personal hygiene, it is hoped that officers will always be healthy and avoid disease. Knowledge is needed by the community, especially cadets and officers to know the importance of personal hygiene so it needs to be equipped with education (Holth & Boe, 2017).



Bagot Cultivation: Based on data from the Ministry of Environment and Forestry (KLHK), the composition of waste in Indonesia is dominated by organic waste, which reaches around 57% of the total waste generation. To process this organic waste, in addition to composting, there are other efforts that can be done, namely by cultivating BSF (Black Soldier Fly) or black soldier flies. BSF (*Hermetia Illucens*) is a

type of black fly whose larvae (maggots) are able to degrade organic waste. Maggots or maggots produced from black fly eggs (BSF) are very active in eating organic waste (Song et al., 2021). The bioconversion process by maggots can degrade waste faster, odorless, and produce organic compost, and its larvae can be a good source of protein for poultry and fish feed (Čičková, Newton, Lacy, & Kozánek, 2015). The bioconversion process is considered quite safe for human health because these flies are not vectors of disease. BSF's ability to decompose organic waste is unquestionable (Lohri, Diener, Zabaleta, Mertenat, & Zurbrügg, 2017). Maggots need organic waste to grow for 25 days until they are ready to be harvested (Leong, Kutty, Malakahmad, & Tan, 2016). Maggots have the ability to decompose organic waste 2 to 5 times their body weight for 24 hours (Niu et al., 2017). One kilogram of maggot can consume 2 to 5 kilograms of organic waste per day (Mawaddah & Putra, 2022). Maggots that have become prepupa and BSF fly carcasses can still be used as animal feed because they are rich in protein (Barragan-Fonseca, Dicke, & van Loon, 2017). The cocoon can also be used as fertilizer, so that in the process of cultivation it does not produce new waste (Ali et al., 2015). How to cultivate maggot is also fairly easy. What is needed is a BSF fly cage that functions as a place for BSF to mate and produce eggs until hatching (Čičková et al., 2015). The cage is covered with wire or gauze and put in a place exposed to sunlight (Free & Williams, 1979). For the place of laying eggs for female BSF flies, it is necessary to prepare cardboard, wood, or boards that have gaps (Chia et al., 2018). Put the eggs in the hatching medium in the form of a box or small container (Texier et al., 2013). The eggs will hatch in 3-4 days. Finally, a shelf or biopond for maggot enlargement.





The waste management system, especially for urban areas, must be implemented appropriately and systematically. Waste management activities will involve the use and utilization of various waste infrastructure and facilities which include collection, transfer, transportation, processing and final disposal. The waste problem is closely related to the lifestyle and culture of the community itself. Therefore, waste management is not only a government affair but handling it requires participation society at large. The amount of this waste every year continues to increase in line with the increasing population and the quality of life of the community or humans and accompanied by advances in science and technology which also results in shifts in people's lifestyles that tend to be consumptive (Sahil, Al Muhdar, Rohman, & Syamsuri, 2016). One of the factors that influence the waste management system is the culture, attitude, and behavior of the community. This relates to the community which is the source (producer) of waste.

The amount of waste produced by residents raises general health problems in terms of public health and hygiene (Hamidou Leyo, Moussa Ousmane, Noël, Francis, & Caparros Megido, 2021). Several species of flies are used for recycling organic waste, including *Hermetia illucens*. Maggots or larvae of the black soldier fly (*Hermetia illucens*) are substitutes for feed as a source of protein. There are several cultivators to culture natural feed, namely maggots in order to reduce feed production costs. Maggot (*H. illucens*) is one type of potential organism to be used, among others, as an agent to decompose organic waste and as additional feed for fish (Chen et al., 2022). Larvae and compost-like residues (i.e., a mixture of frass and substrate). Larval biomass is rich in proteins and lipids, and thus, serves as a feedstock for various applications in food systems, such as proteins and lipids in feed for pets (Shaker et al., 2020). The main advantages of BSF larvae include strong body resistance and high nutrient content that can be further developed into more potential agricultural and medical applications (Hol et al., 2021).

Maggot cultivation, of course, must have a BSF fly brood first. You can buy BSF eggs at market prices between Rp 5,000-10,000 per gram. Currently, there are many BSF business actors who sell their eggs online. These BSF eggs are then hatched in hatchery media by giving feed media that are soft and easily penetrated by small maggots, such as fruits, tofu dregs, or coconut pulp. As for the formula, 3 grams of eggs are approximately 5 kg of wet feed per container. Feed is given only once without the addition of feed,

except for hot areas should give additional water after a few days if the feed begins to dry. house flies and green flies, will attempt to lay eggs and seize the food of BSF maggots. The development of green fly maggots and house flies is faster than BSF, so it must be given protection so that the hatchery feed media is not infested by other flies. Most important is that eggs should not be placed directly on organic media.

Because the humidity of the substrate can make eggs damaged and die. For this reason, a cross-section is needed for eggs made of mosquito wire and gauze or cloth or other fabrics with other pores with size pores (Gold et al., 2020)

Maggot chicks will live in hatchery containers for 5 to 7 days, counting after the eggs hatch. After the size reaches 3-4cm, the maggot is ready to be moved into the reactor / biopond. The reactor, or biopond, is where maggot larvae will spend organic waste. In processing organic waste of a type of household, it must be realized that the organic waste contains 70-80% water, so waste treatment must consider water management techniques in the reactor. Biopond can be a floor that has a drainage system by draining the liquid produced by the maggot to another location to be used for the liquid. The activity in the reactor only gives the maggot feed media every day. Maggots do not like light, so they must be given additional caps if the reactor is too bright. Maggots are also sensitive to temperature, especially if it is colder than 24 degrees Celsius, so the maggot's ability to eat will decrease, and if it is hotter than 34 degrees Celsius, the maggot will continue to walk trying to find a cooler place. The litter is required not to be too crushed and soft like porridge to be given to the maggot, because it will make it difficult for the maggot to move and breathe in the medium. This mistake is quite common among maggot breeders in giving too fine feed (Borchard, Zeiss and Recker, 2022).

There are two ways to harvest, distinguished by the age of the maggot, namely harvesting during maggot or when prepupa. Prepupa harvesting will occur automatically, and currently the market that has been formed now is a dry maggot market, so it must be harvested when the maggot is 15-20 days old. Maggots can be harvested using a hoe, and placed in industrial baskets to be taken to sieve machines. Although the maggot looks fragile, it is strong enough to be inserted in the sieve machine and will not die in this sieving process. For short-distance maggot delivery, with a travel time of 2-3 hours, maggots can be packed in sacks made of nets. Nets with a size of 60 cm x 60 cm x 60 cm can contain live maggots of more than 40 kg. Large shipments, and travel time of more than 3 hours are not recommended for live maggots. For long distances at a distance, it is recommended that maggots be dried or frozen first (Gold et al., 2020). The waste management system, especially for urban areas, must be implemented appropriately and systematically. Waste management activities will involve the use and utilization of various waste infrastructure and facilities which include settlement, collection, transfer, transportation, processing and final disposal. The waste problem is closely related to the lifestyle and culture of the community itself. Therefore, waste management is not only a government affair but handling it requires participation society at large. The amount of this waste every year continues to increase in line with and along with the increase in population and the quality of life of the community or humans and accompanied by advances in science and technology which also results in shifts in people's lifestyles that tend to be consumptive (Sahil et al., 2016). One of the factors that influence the waste management system is the culture, attitude, and behavior of the community. This relates to the community which is the source (producer) of waste.

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CONCLUSION

Management until the surrounding areas of Jepara Regency need to pay attention to the health and safety of officers so that they do not pose a risk from waste management such as diarrheal diseases, hepatitis, worms etc. The waste management is still sorted manually so that tools are needed to sort organic and inorganic waste. Waste management is managed by youth coral cadets under Bumdes Kalingga Mandiri, Keling Village, Jepara Regency. The development of organic waste management is not optimal, if inorganic waste is recycled and can increase community empowerment in an effort to improve the economy.

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40(9), 3412–3431.

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