



The Role of Religious Institutions in Overcoming the Waste Problem

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Abstract. The high volume of waste has resulted in new problems at PPPM Baitul Makmur Surabaya (PPPM BM) because the waste management process is still not optimal. The purpose of the study is to solve the waste problem in the PPPM BM Surabaya environment by utilizing maggots as decomposers of organic waste and helping PPPM BM Surabaya students to become entrepreneurs through processing BSF maggot larvae into fish feed. The research method used is descriptive with a Qualitative approach. Research instruments are interviews, documentation, and observation. From these problems, the cottage expects assistance to overcome the waste problem there in order to create a more comfortable environment because it has an impact on student activities. So the solution we provide is the use of bioconversion as a decomposer of organic waste with maggots (BSF). The organic waste produced by the students can be decomposed by the BSF maggot larvae as the larva's food and before the larvae turn into flies, the students can process the maggots into pellets or fish feed. Pellets or fish feed processed by maggots can be used for sale and learning entrepreneurship, the results of which will also be managed independently by students supervised by the cottage management.

Keywords: BSF maggot larvae, Overcoming the litter problem, The role of religious institutions.

1 Introduction

Since the dawn of civilization up until the current globalization era, we have dealt with a wide range of societal issues. One of them is the issue with environmental hygiene, and rubbish is one of the things that contributes to environmental hygiene issues. Garbage is anything that needs to be rid of since it is no longer wanted or used [1-3].

Metropolitan places frequently have garbage, and Surabaya is one of them. Because urban areas generally struggle to effectively manage waste, the amount of waste generated by industrial industries and domestic waste can harm the environment. One of the factors contributing to the wasteful distribution of garbage in the area is the rapid population increase and the density of activity [4-7].

There is a mountain of Final Disposal Sites without practical solutions as a result of the general lack of awareness about efficient waste management. After China,

Indonesia is noted as the second-largest producer of waste globally. In social life, environmental cleanliness is crucial. Living in a clean environment can improve productivity and health.

Regulations on waste management have been set by the regional government and the Republic of Indonesian government. The Republic of Indonesia's Law No. 18 of 2008 on Waste Management, the Government Regulation No. 81 of 2012 on Household Waste Management and Types of Household Waste, the Surabaya City Regional Regulation No. 5 of 2014 on Waste Management and Hygiene in the City of Surabaya, and other regulations all address waste management.

In an effort to control home garbage, society as a whole is attempting to put existing rules into practice. In this situation, religious organizations will actively participate in managing the everyday trash generated, as well as household waste in general. Since there is a functioning hut within this place of worship, it would be more pleasant if we did [8].

Baitul Makmur Islamic Boarding School and Students (PPPM BM) Surabaya has students with a total of approximately 100 people. Every day students get 2 meals, but currently the majority of students are active in the cottage environment so that the meal portion is added with activities self-made cooking. Increasing the portion of food has an impact on the increase in the volume of waste produced by the students in cottage environment. The female student who is in charge of cooking food every day often produce a considerable amount of waste 8-10 kg from leftover food and ingredients. So that in one month the students at Baitul Makmur PPPM produce 300 kg of waste. The high volume of waste has resulted in new problems in the PPPM Baitul Makmur Surabaya (PPPM BM) due to the management process waste is still not maximized.

The chairman of the PPPM BM student Ikhwanudin said: that the garbage in the cottage is relatively large, which is around 8-10 kg per day. Due to the lack of officers who manage waste in the lodge, the accumulation of garbage in front of the students' rooms, causing an unpleasant odor and disrupt the process of boarding school activities. Even though I used to go RT garbage disposal service, but some days the garbage is not picked up by garbage man, finally the garbage piled up in front of the chairman's house cottage, around the mosque and girls' dormitory. From these problems, the cottage expects assistance to overcome the waste problem there in order to create a better environment comfortable because it has an impact on the activities of students in the boarding school as well as to reduce accumulation of garbage in the waste bank. With more environment convenient because the waste that can be handled will have an impact on the smoothness and the comfort of the students in carrying out activities and worship around cottage.

In addition, the accumulation of waste in the waste bank due to waste production from PPPM BM can also be minimized. Therefore, Mr. Radit as the chairman of PPPM BM asked us to help solve partner problems. Then the solution we provide is the use of bioconversion as a decomposer of organic waste with maggot (BSF). The organic waste produced by the students can be decomposed by maggot larvae BSF as food for larvae and before the larvae turn into flies, the students can process maggot into pellets or fish feed. Pellets or fish feed Processed maggot can be used to sell and learn

entrepreneurship The results will also be managed independently by the students under the supervision of the administrator cottage.

2 Theoretical Study

Concept of Consciousness Understanding one's physical features, personality, character, and temperament as well as their inherent skills and having a clear idea of who they are, including all of their strengths and shortcomings, is known as self-awareness. Self-awareness is the mindset of people who voluntarily follow all rules and are conscious of their obligations.

There are four indications of awareness, beginning from the lowest to the highest, each of which is a stage for the following stage and pertains to specific activities: Knowledge, Understanding, Attitude, and Behavioral patterns (actions). Community concept is a system of norms and practices, of authority and collaboration between different groups and classifications, monitoring of behavior, and protection of individual liberties. Social relationships make up society, which is constantly evolving. Society essentially consists of the same parts, including the following: Humans who live together, mixed in quite a long time, They realize that they are one unit, They are a living system together

3 Method

This investigation is exploratory and more of a waste management literature review. Data is gathered by qualitative documentary and conducting interviews. With the help of this program, the community will be better equipped to turn trash into usable products. Steps to Measure Problems: (1) Discussions, discussions are conducted online via whatsapp and google meet as the first step to find a solution to overcome the waste problem in the PPBM Surabaya Islamic boarding school; (2) Observations and Surveys, observations and surveys are carried out directly to the location Pondok PPPM BM to deepen information related to the basic ideas that have been previously formulated by collecting facts and information through internet, books, and online and offline partners. Based on the results observations and surveys that have been carried out, it was found that the waste data 5 produced by pesantren every day reaches 8-10 kg in the waste category organic.

The main factor in the problem of waste in the cottage environment is the lack of management related to organic waste and inorganic waste. From that trash produced by the cottage indirectly have an impact on increasing capacity waste every day in the waste bank of the Royal Plaza Mall and supported by non-profit human resources. The results of this observation show that Pondok PPPM BM Surabaya has the potential to be used as a location for the implementation community empowerment program based on the existing background in field. It also aims to provide an alternative to the waste problem by managing larvae as waste decomposers with program results sustainability in the form of fish feed products. Determination of Partners, after conducting observations and surveys then carried out determining partners as partners in implementing

programs as well as making MoU with PPPM Baitul Makmur Surabaya. 4. Program Fixation, after observations, surveys, and determination of program partners then fix the program so that it can be implemented immediately by students.

4 Results and Discussion

Baitul Makmur Islamic Boarding School and Students (PPPM BM) Surabaya has students with a total of approximately 100 people. Every day students get 2 meals, but currently the majority of students are active in in the cottage environment so that the meal portion is added with activities self-made cooking. Increasing the portion of food has an impact on the increase in the volume of waste produced by the students in cottage environment. The female student who is in charge of cooking food every day often produce a considerable amount of waste 8-10 kg from leftover food and ingredients. So that in one month the students at Baitul Makmur PPPM produce 300 kg of waste. The high volume of waste has resulted in new problems in the PPPM Baitul Makmur Surabaya (PPPM BM) due to the management process waste is still not maximized. The chairman of the PPPM BM student Ikhwanudin said: that the garbage in the cottage is relatively large, which is around 8-10 kg per day. Due to the lack of officers who manage waste in the lodge, the accumulation of garbage in front of the students' rooms, causing an unpleasant odor and disrupt the process of boarding school activities. Even though I used to go RT garbage disposal service, but some days the garbage is not picked up by garbage man, finally the garbage piled up in front of the chairman's house cottage, around the mosque and girls' dormitory.

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The target object of this community service creativity training program is a Baitul Makmur Islamic Boarding School and Students located in Jalan Jetis Kulon Gang 07 Number 10 Wonokromo, Surabaya, East Java 60243. Baitul Makmur Islamic Boarding Schools and Students have a total of 35 male students and 37 female students. Every day students get 2 meals. Adding meal portions have an impact on increasing the

volume of waste produced by the students in the cottage environment because the majority of students are active in the cottage.

In addition, there are independent cooking activities by students resulting in an increase in the volume of waste generated, both waste inorganic and organic waste. The garbage is put in unsorted plastic bags. Garbage generated from cooking activities or garbage from daily activities piled up in the hallway and in front of the hostel. This creates an unpleasant odor in the environment dormitory.

Based on the results of observations, it is known that students take part in mandatory activities cottage from 16.00 WIB to 21.30 WIB, continued after dawn until 06.00 WIB. Outside these hours, students use their time for college or other activities. So far, the students still haven't done it activities that are profitable and still rely on pocket money from their parents. Given the environmental and economic problems in the BM PPPM, it is hoped that the program we offer can handle the problems in cottage. At the same time helping students and the community around them huts to distinguish trash between to be deciphered and to help students to learn entrepreneurship through the use of maggot produced into fish pellets. Then this fish pellet product will be sold through Kopsyah Baitul Makmur Cooperative and through an online store that will be managed independently by students.

Strategic steps are used to realize activities so that The expected positive impacts for program partners can be achieved, including: 1. Implementation stage, at this implementation stage there are three processes implementation of activities. First, the maggot cultivation stage. Second, the decomposition process organic waste with maggot. Third, the maggot production process as an alternative fish feed. 2. Prepare the Maggot Cage, the function of this cage is as a place for type flies Black Soldier produces eggs that will become BSF maggot seeds. The cage is also a place for feeding maggot in the form of garbage organic [9-10]. Adjust the size of the cage with the number of BSF maggots that will be used cultivated. Generally, the cage for maggot cultivation is 2.5×3 . meters. 3. Prepare Egg Hatching Media and Larvae Enlargement Place, process then incubate the larvae eggs in the containers provided with providing feed media that are soft and easily penetrated by maggots small, such as fruit, tofu pulp, or coconut pulp. Feed is only given once without the addition of feed, except for hot areas must give additional water after a few days when the feed starts to dry out. saplings maggot will live in the hatchery container for 5-7 days, counting after the eggs hatch. After the size reaches a size of 3-4 cm, then the maggot is ready to transferred to the reactor/biophone. The reactor, or biopond, is where the larvae maggot will use up organic waste. In processing organic waste kind of household, it must be realized that the organic waste contains 70-80% water.

Stages of Using BSF Extruder and Maggot Processing Machines As Fish feed : 1) Mixing stage (blending) to the extruder mesin 2) The stage of adding water, adjust the added water until it reaches the moisture of the dough becomes even and sufficient. So, the dough can perfectly extract and accommodated. 3) Printing or extrusion stage. The dough that is put into the machine is printed into BSF maggot pellets with uniform shape and content. 4) Post-extrusion stage. The BFS maggot pellets must be inserted into the in the dryer provided on the extruder machine. 6. Drying Process To Make BSF Maggot Pellets Lighter and Easier Accommodating, we chose maggot as an alternative

to substitute fish feed fish meal as a basic material for pellets because maggot has a high fat content is above 20%. In addition, the oil content of maggot can increase and improve FCR (feed conversion ratio), dried larvae too produced a fairly high PK of BSF larvae, reaching 38%. So as with high enough gross energy and calcium, meaning that it can increase feed efficiency on pellets and no negative effect on fish organs. This matter 7 it can be concluded that the oil from maggot can be used as functional fat, because it contains a lot of medium chain fatty acids and enters the body meat that can produce quality meat. We get this data from the conclusion of the online seminar of the Faculty of Animal Husbandry IPB University.

Realization Stage, the final stage of processing from the utilization of maggot that will be produces a fish pellet product called GOTTER. GOTTER products will assist by the cottage to sell it through the Kopsyah Baitul Makmur shop and the proceeds from the sale will be used by the students. Therefore, for produce GOTTER as a quality fish feed product, processing and its manufacture also needs to be considered. So, the team will do assistance during the processing of maggot into fish feed. The following stages of assistance in the processing process: 1) The preparation stage, the team prepares the tools and materials needed to processing maggot into GOTTER. The important tools to prepare are fish pellet making machine or manual extruder machine. 2) The socialization stage, the team will conduct socialization regarding the work steps taken will do, namely: first, grind all the ingredients until smooth and add tapioca flour with a dose of 10% -20% of the total mixture of ingredients pellets. Second, mix using a fish pellet molding machine [9], [11-13].

Design of Measurement and Evaluation of Activity Results Evaluation of activities by monitoring and evaluating for now the development of the organic waste bioconversion program and the process fish feed production that has been carried out to find out program constraints so that solutions can be found to overcome the obstacles so that they can running smoothly. Report preparation is carried out after the programs bioconversion of organic waste and fish feed production processes are running, so that obtained data about the program that has been run and will be submitted to the RISTEKDIKTI party. The results of the activities will be measured by carrying out a survey partner satisfaction after the implementation of activities to partners.

5 Conclusion

Economic aspect, this Gotter product will later be sold at the Kopsyah Baitul Store Prosperous through the intermediary of Islamic boarding school cooperatives and through online stores shopee, tokopedia and others. This is in the hope of GOTTER fish feed products able to become a product that has high selling value and is accepted by the community, then it can be used economically and can help boarding school economy. Judging from the environmental aspect, with the presence of maggot, it is expected to be able to decompose organic waste in Islamic boarding schools, can also solve the problem of accumulation of organic waste every day in the cottage environment and the surroundings of the lodge.

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