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The Role of Mosques in Managing Flood Natural Disasters through Environmental Education

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Abstract

The background: the natural disaster of flooding in many areas at the end of this year which has caused people to face an alarming risk of life, the mosque has become one of the evacuation sites for affected communities. From this situation the role of the mosque becomes very important in conditioning the community to remain safe. The method: qualitative method in which descriptive research describes the results of the analysis of facts in the field. The results: a) The role of the mosque in community empowerment must be carried out in a sustainable manner as a control for organic waste processing as a coordination center for the community. b) Organic waste is processed into liquid and solid local micro-organisms that can be used to fertilize the soil, eliminate bad odors in the home environment, streams and its surroundings, neutralize post-flood bacteria, insecticides, handsanitizers, environmentally friendly disinfectants. c). Make written instructions for practical production methods that the community can easily and independently carry out. The conclusion: is to very important the practical role of mosques education in flood disaster management through community empowerment in processing organic waste into local micro-organisms.

Keywords: community empowerment, local micro organisms, natural disaster management.

1 INTRODUCTION

Flooding has become an increasingly worrying phenomenon in life. The frequency and area of floods tends to expand, on the other hand, flood management efforts are faced with various obstacles that cannot yet be fully overcome (Dube, Nhamo, & Chikodzi, 2022). High rainfall in the last semester of each year has provided blessings for farmers to cultivate the land. Rain brings coolness to the universe, increasing fertility in dry soil (Murphey & Stapleton, 2019). Rain makes grains, spores and other reproductive organs active again, making land green again, producing oxygen that the world's citizens really need. Living creatures fulfill their needs from natural resources through rainwater (Moore & Bell, 2018).

The fall of rain gives blessings and freshness to the entire universe. However, on the other hand, the presence of high and continuous rainfall has resulted in flooding that hit various residential areas. The fall of rain has triggered fears of natural disasters in the form of landslides, floods and other related problems (Matpady et al., 2023). Many people are aware that floods are not entirely caused by natural phenomena. Thus, floods that hit settlements cannot fully be categorized as natural disasters. There is a lot of awareness among the public that floods are also caused by wrong management of life and environmental management. Floods have become the simplest indicator that people do not pay attention to environmental sustainability when farming, living and managing waterways. Instead of being cleaned and maintained, waterways have been filled with

various types of rubbish (Amminudin et al., 2020). Floods at a certain level are considered "destiny" which must be accepted with patience, where the mosque is a space of surrender, a space for spiritual prayer to create a sense of surrender, spiritual strength and patience to accept the situation (Smith & Wardatun, 2022).

In fact, the flood phenomenon has a social dimension, where collective awareness of citizens in managing household waste has contributed significantly to increasing the risk of flooding, as a result of decreasing the capacity and dimensions of rivers covered in household waste. It is time for community members to focus on waste management as an effort to reduce flooding in residential areas. The mosque, which was previously a place for flood evacuation, needs to be shifted as a place to hold various programs to overcome it, so shift the role of the mosque from a place for flood evacuation to become a headquarters for change to reduce flooding early on, with a collective movement (Aboul-Enein, 2018). Currently, floods are still often understood as a natural phenomenon, so that natural indicators are measured, such as the height of the water level in various rivers, but there is no measure of environmental awareness, even though the real perpetrators of environmental imbalance are the community (As-Salafiyah, Rusydiana, & Mustafa, 2022).

Even though the current flood phenomenon has occurred throughout the year and caused suffering for those affected, it has not been enough to mobilize the collective awareness of society to manage household waste properly. Even those affected by the flood, facing the reality of having to evacuate due to being submerged, still do not move residents to better manage their waste. Many other residents who live in river basins that are prone to flooding are not motivated to manage waste, this is very worrying.

Poor organic waste management and worsening flooding have exacerbated the impact of flooding and worsened the quality of life (Echendu & Georgeou, 2021). There needs to be a movement for collective waste management, because rain is not the main cause of floods, human environmental management is the main trigger.

Thus, efforts such as dredging rivers, raising embankments, cleaning drainage channels will be meaningless if waste as the main problem cannot be managed. River dredging is carried out not once a year but the community works together without realizing it to fill it back with household waste, drainage channels are built but at the same time they are filled with piles of rubbish, which are not managed, the amount of tons of rubbish every day is not managed properly, it becomes a kind of ongoing environmental horror. For example, as reported on various televisions on October 9 2022, on the banks of the Manggarai River in Jakarta, which is again prone to flooding every year (Nita, 2022). Ironically, based on the results of the investigation, it was discovered that the flood that hit the Manggarai river area was caused by the large amount of rubbish which reduced the dimensions of the river. Garbage is the main material that blocks rivers, dominated by household waste such as various types of plastic, used mineral water bottles, cardboard, diapers, food wrappers and even large pieces of wood.

This waste material complements the blockage of the Manggarai river flow. In other areas, for example, the Bone Bolango River, Gorontalo, often overflows and floods in areas along the river due to the identification of large amounts of household/organic waste being thrown away residents, thus causing obstruction of water channels (Habibie, 2022). The Tarogong Kidul area, precisely on the Cimanuk River, Garut Regency, West Java, where some time ago there was a natural flood disaster caused by a large amount of organic waste from households being thrown directly into the river. This phenomenon increasingly emphasizes that household/organic waste has excessively covered river channels and is one of the causes of natural flood disasters (Liputan6.com, 2022).

From the KF Doctoral Select Capita Literary study in chapter 2 with the title "Initiating Complete and Fast Solutions for Household Waste Management Through Community and Village Empowerment as a National Issue", it is explained that community empowerment through outreach to local residents and the wider community to manage organic/waste household into local micro-organisms, is one solution that must be hastened (Marlina, 2021).

Several areas are often affected by flooding, for example in the Duren Sawit area, East Jakarta, precisely in one of the tahfidz houses which makes efforts to live cleanly, overcome floods, one of which is processing the resulting organic waste into local micro-organisms, the results of which are reused for other needs daily in the tahfidz's house (Yuliani et al., 2021). At the Yuliwis Resman Home, Depok City, they also process organic waste as flood prevention by processing organic waste into local micro-organisms. Residents around the Bone Bolango river, Gorontalo Province, are also trying to process organic waste from their homes into local micro-organisms.

Thus, what is the state of the art from this research is that organic waste is produced into local micro-organisms in liquid and solid form, which is very useful for soil fertility, fertilizer, deodorizing in the home environment, rivers, livestock, hand sanitizer, disinfectant, insecticide. Making mole is very practical so that people throughout Indonesia can be empowered through the production of local microorganisms from every home. In the context of collective community movements, the role of mosques is very important. Local residents can be coordinated by mosque administrators in each neighborhood. The mosque thus plays a role as a center for community consolidation so that it can continue to make moles. Mosques can become a node of togetherness and keep people enthusiastic so that it becomes one Indonesian habit and culture.

A habit that is very necessary to convert organic waste into local microorganism products. This mosque-based movement can be done anywhere, because there are mosques in all areas, even around factories there are mosques. Likewise, trash is everywhere, even in industrial complexes, as long as the employees are still eating. There is always organic waste. Waste can be produced from every house, factory, building and other places, thus directly supporting the reduction in the volume of organic waste which currently dominates the amount of waste in Indonesia, namely around 40.9% of organic waste from households from the total of all types of waste (MenLHK, 2019).

The hypothesis is formulated that "the role of mosques in overcoming natural flood disasters through community empowerment in processing organic waste into local microorganisms, can be an effective and efficient solution in handling the problem of natural flood disasters in Indonesian society." Mosques play a very important role when mosque administrators move to collaborate with community members. These efforts are very effective when religious leaders empower local residents to do simple things. The action required is directing the collection of organic waste from each house in one container, and giving direction to the production process and its utilization. Monitoring and sources of coordination and consolidation through mosques are very effective and efficient functions in empowering communities to manage organic waste.

Empowerment is an effort to help community members become independent and build a mindset that cares about the norms of life in realizing the development of personal, family, religion, nation and state integrity (Maryani & Nainggolan, 2019). Empowerment carried out. This effort has proven to be able to optimize the role of mosques, through a family approach and education for residents from house to house to become a culture. The togetherness and awareness of citizens gives rise to groups an empowered and cultured community in one village/sub-district (Marlina, 2020). The role of mosques in mobilizing residents to get used to producing local microorganisms every day is quite effective. The benefits of making Micro organisme local can be enjoyed immediately, such as increasing the health index of life by being free from organic waste, sanitation, economical against dependence on chemicals. Micro organisme local can also be used as a household hygiene ingredient such as deodorizing (Marlina, 2019a).

The community can also use mole to support the urban farming movement. mole is used as an organic insecticide, fertilizer, soil fertilizer, hydroponic fertilizer. Mol can also be a medium for growth and development of magot cultivation, as well as accelerating decay. Residents can also use Mol as a hand sanitizer, disinfectant, neutralize river/gutter/sewer flows or the like. There are many derived benefits that can be enjoyed from the use of Mol, these various benefits can slowly be understood and put into practice. In the long term, malls can also be used for fogging purposes, etc. based on the function

of local micro-organisms, the research process of which is still being developed. From a social and cultural perspective, mole making is one of the entry points to strengthen community relations by using the mosque as a place of coordination. Mol is a shared object to overcome environmental problems that are felt collectively (Bhutta et al., 2021). Micro organisme local is an environmental instrument and at the same time a mosque-based social instrument.

The community discusses environmental issues and supports each other in the mosque environment, this activity increases the strength of close relationships between residents, forms a culture of solidarity, *silih asah silih asih silih asuh*, and at the same time is productive in managing organic waste, organic waste is no longer an enemy, but becomes added value, which is environmentally friendly, creates a safe, comfortable and healthy environment as per the Sustainable Development Goals (SDGs) program regarding the balance of land ecosystems and marine ecosystems.

2 RESEARCH METHODS

This article explains a phenomenon in as much depth as possible regarding the role of mosques in overcoming natural flood disasters through community empowerment in processing organic waste into local microorganisms. The data collection method is through in-depth interviews and literature review (Sugiyono, 2019). This method is based on the philosophy of postpositivism which is used in researching objects in natural conditions (real conditions, not set or in experimental conditions), where the researcher is the key instrument. This research was carried out by conducting interviews, counseling and training to mosque administrators, RT/RW, and community representatives in three districts/cities. Research in semester 1 of 2021 was carried out with mosque administrators as well as administrators of the Yuliwis Resman home in Depok City, in semester 2 of 2021 it was carried out with mosque administrators as well as administrators of the Duren Sawit tahfidz house in East Jakarta City, and in the first semester of 2022 it was conducted with mosque administrators Loji village, Karawang Regency.

This research design is not only strong and scientifically verified but must also be commercialized, thus the research is designed to produce very applicable results. In simple terms, the research design/stages carried out refers to Marlina (2019b), and it is presented in Figure 1.

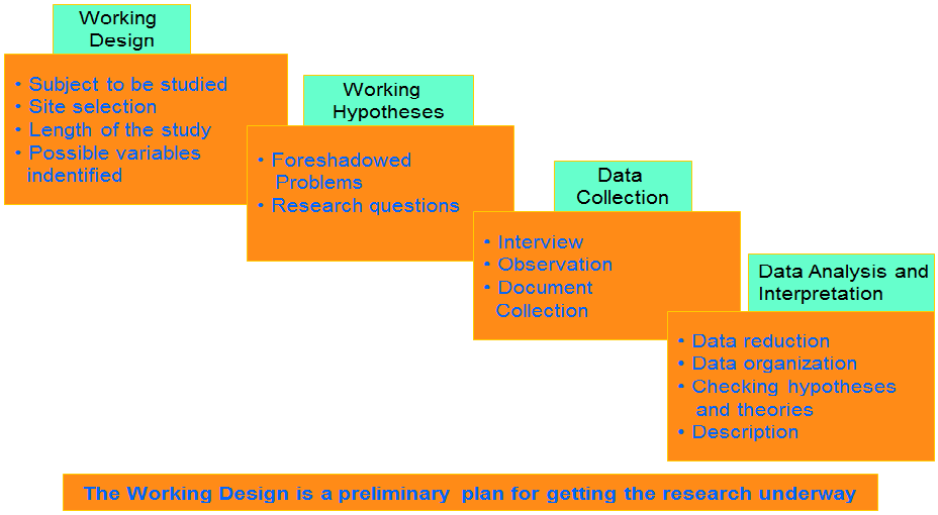


Figure 1. Research Design on the Role of Mosques in Managing Flood Natural Disasters

3 RESULT AND DISCUSSION

Research that has been carried out in several areas involving mosque administrators as mobilizers of local community members, to coordinate the organic waste management agenda, has given new enthusiasm to all parties involved. This research expands the role of mosques, because usually the role of mosques is only in the scope of religious studies, religious agendas, and the like.

The construction of a mosque-based Mole has increased new motivation in society as a shared responsibility for the safety, health and security of the surrounding environment in particular, and the wider environment in general. Empowering the community by managing organic waste into local micro-organisms has become a new culture for the community in promoting a waste-free culture. The activity stage begins with providing information and socializing the what, why and how about local microorganisms to mosque administrators.

They are then trained in practical ways to produce organic waste which is produced into local micro-organisms. Research shows that it doesn't take long for socialization until they are able to produce local micro-organisms, it even only takes one hour for mosque administrators to be able to practice it very well. And it didn't take long for the administrators to socialize it again and start empowering local communities in managing organic waste. Through neighborhood association and community association administrators, mosque administrators are assisted in quickly disseminating information about local microorganisms.

By instilling an attitude of environmental concern in the community, the role of mosques will be balanced spiritually as well as socially and environmentally. Mol has become a way to invite community members not only theoretically to direct community members to be able to realize increased faith and piety (imtaq) but also practically manage the environment. The role of mosques can apparently be expanded as a medium for disseminating knowledge and technology (science and technology), one of which is by producing Local micro-organisms using simple technology with extraordinary results can save families, religions and nations. This condition is in line with what Putrawan (2014) stated that "Environmental education can play a role in shaping people to have a "Sustainable Ethics" thinking pattern, so that the goal of making citizens responsible for the environment (responsible environmental behavior) will be more easily achieved".

The Micro organisme local production program can also directly answer the waste problem, as it is known that the waste data every year is dominated by organic waste. Mol, if done collectively and massively, can be a very achievable solution. Mosques can be optimized to be encouraged widely, ideally even nationally, we can no longer rely on TPS and TPA without empowerment. Waste management as it is now must be ended, where the waste is picked up by waste collectors, it has been proven that it does not provide a solution to reducing the volume of waste. The volume of waste continues to increase every year along with the increase in population, especially household waste. Waste data in 2022 (Kementerian Lingkungan Hidup dan Kehutanan, 2022) can be seen in Figure 2.

The population of Indonesia in the first semester on June 30 2022 was recorded at 275,361,267 people (Annur, 2022). The population of Indonesia, currently between 2015-2022, continues to increase, of course as the population increases, so does the amount of waste that will be produced. This increase will no longer be a problem if the solutions that already exist and have been implemented continue to be integrated into one culture. community, as well as empowering society as a whole in realizing a waste-free society. The following figure for Indonesia's population (in Annur, 2022) can be seen in Figure 3.

From this data (Figure 3), it can be analyzed that if the role of mosques in each region drives community empowerment through flood prevention by managing household waste generated from each house, then the volume of waste will slowly decrease to zero. It is not impossible if cooperation between mosque administrators, religious leaders, community members, government and community members is well established and sustainable and becomes a long-term work agenda until it becomes the nation's culture,

then no matter how much the population increases, there will be no special problems regarding the issue of organic waste.

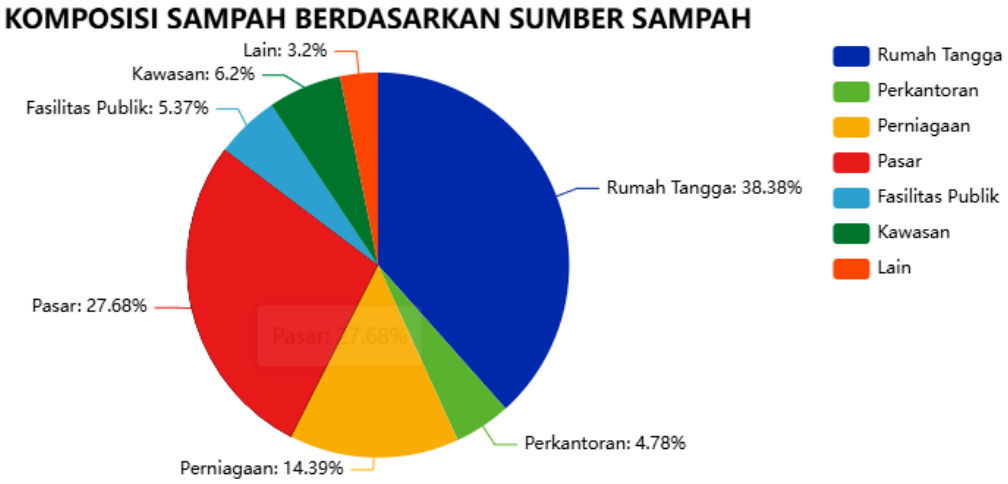


Figure 2. Waste Composition Based on Waste Source

The current preparations are both in the form of theoretical and practical knowledge, all of which is only intended so that the next generation can experience a better life and provide a good, sustainable cultural heritage as an embodiment of supporting sustainable development goals (SDGs), namely development that maintains the continuous improvement of the economic welfare of the community, development that maintains the sustainability of the social life of the community, development that maintains the quality of the environment as well as inclusive development and the implementation of governance that is able to maintain the improvement in the quality of life from one generation to the next.

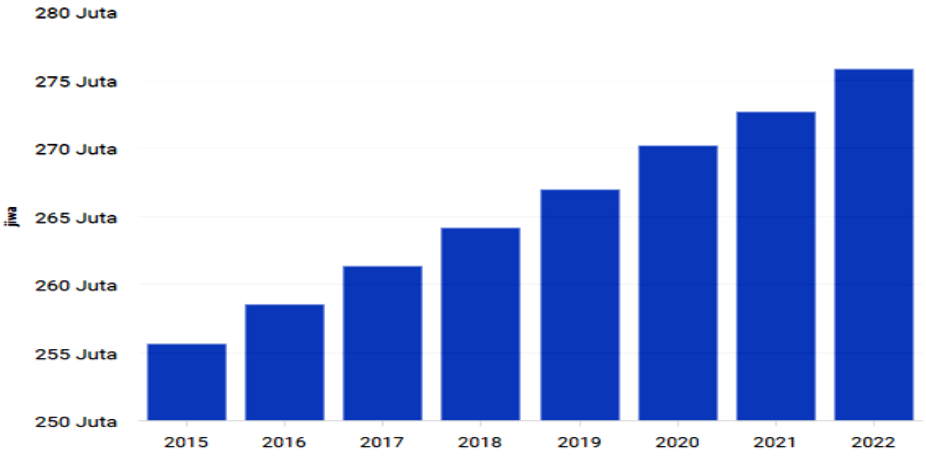


Figure 3. Graph of Indonesia's population for 2015-2022

The steps for producing organic waste into local microorganisms according to Habibie (2022) are presented in Figure 3.

4 CONCLUSION

The role of mosques in overcoming natural flood disasters can be achieved by empowering the community through processing organic/household waste produced from each house by

producing local microorganisms. This alternative organic waste processing is supported by mosque administrators who are the central mobilizers of the community, religious leaders and the government, so it will reduce the volume of organic waste which dominates overall waste, which is a classic problem for the country every year.

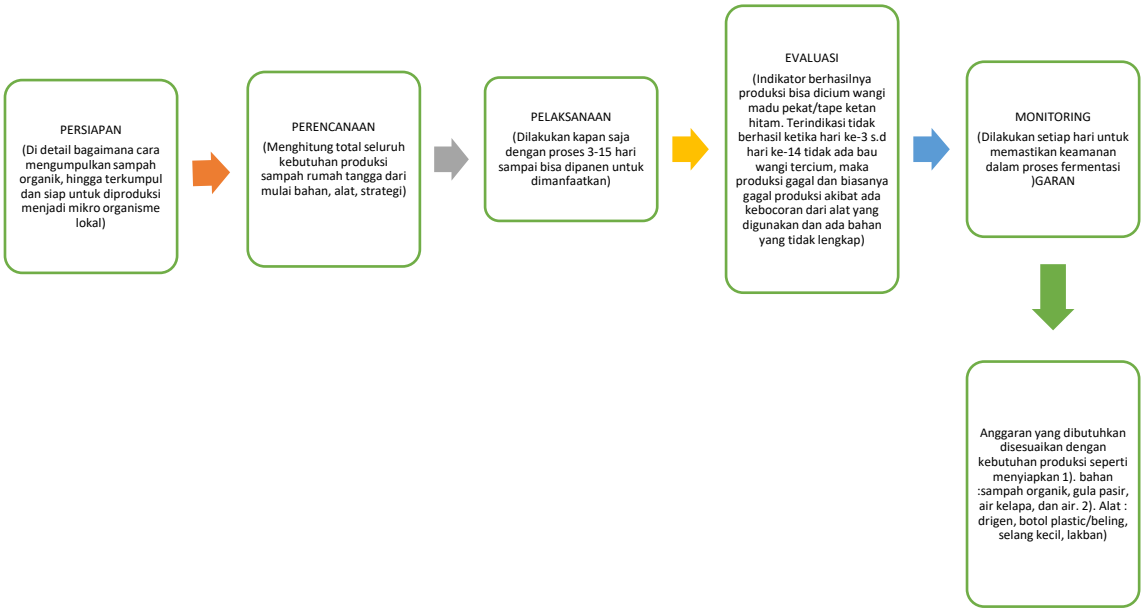


Figure 3. Stages of Local Micro Organism Production

Easy and cheap waste production using used tools and materials from waste as well as materials that are easily available in the environment, will enable people to learn easily and independently. Apart from that, the benefits of local micro-organisms are multifunctional as soil fertilizer, liquid fertilizer, solid fertilizer, odor remover, insecticide, hand sanitizer, disinfectant, etc.

This helps the community's economy to live economically and can develop entrepreneurship from organic waste. It is an urgent matter that must be hastened for the community and government to work together to support the movement of local microorganism production through the role of mosques. Hundreds of thousands of mosques can be used simultaneously as the main place for moral and socio-cultural changes in society in managing the environment. Mol is one of the simplest, cheapest and easiest efforts to deal with natural disasters such as flooding due to poor organic waste management. Flood disasters need to be understood as not just natural disasters, but also moral disasters and social disasters, so that moral and social solutions based on regular mosques become the complete solution.

If a compact and sustainable collaboration between the community and the government is realized immediately, this collaboration will have the impact of becoming a new Indonesian culture, namely a culture free of organic waste, which in the process involves empowering the community to be more empowered in terms of culture and science and technology as well as being economically empowered and independent.

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