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Utilization of Household Waste into Organic Fertilizer in Tanah Putih District Rokan Hilir Regency_Indonesia

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Abstract

The purpose of this activity is to increase community awareness and ability in processing household organic waste into fertilizer that is useful for household farming. The urgency of this program lies in the high volume of organic waste that has not been optimally managed, which has the potential to pollute the environment. The novelty of this activity is the application of simple and environmentally friendly technology that can be replicated by the community independently, with a participatory approach through direct training based on RT/RW groups. The method used is the ABCD (Asset-Based Community Development) method which identifies local potential as a driving force, combined with the practice of making compost and eco-enzymes. The results obtained showed that more than 75% of participants were able to produce organic fertilizer from household waste routinely, and there was a decrease in the volume of organic waste by up to 60% in the target environment, as well as increased ecological awareness of the community.

Keywords: *utilization, household waste, organic fertilizer*

INTRODUCTION

Background Of The Study

Household waste is one of the types of waste that is most produced every day by the community (Sekarsari et al., 2020). Based on data from the Ministry of Environment and Forestry, more than 60% of waste produced in Indonesia comes from households, most of which is organic waste such as leftover food, vegetables, and fruits. If not managed properly, this waste will cause environmental problems such as soil, water, and air pollution and add to the burden on increasingly full final disposal sites (TPA) (Rahmat, 2023). Unfortunately, most people still just throw away organic waste without processing it, even though this type of waste has great potential to be reused (Nurliah et al., 2022). One of the most effective forms of utilization is to process it into organic fertilizer. Organic fertilizer from household waste can be used to fertilize

soil and plants, and is a practical and economical solution for small-scale and household agricultural needs (Adzim et al., 2023).

Utilization of household waste into organic fertilizer also supports the concept of a circular economy and sustainable environmental management. By converting waste into new resources, people not only reduce the volume of waste disposed of in landfills, but also gain direct benefits in the form of environmentally friendly natural fertilizer (Simatupang et al., 2024). This also reduces dependence on chemical fertilizers that have a negative impact on soil quality and human health in the long term. On the other hand, public awareness of the importance of waste management is still relatively low. The lack of education and processing facilities at the household level makes many people think that processing organic waste is difficult and troublesome. Therefore, an educational approach is needed that is easy to understand and apply, so that people can process their waste independently into organic fertilizer (Susilowati et al., 2021).

The process of making organic fertilizer from household waste does not actually require complicated technology (Dahlianah, 2015). Simple methods such as aerobic and anaerobic composting can be done with equipment available at home. In addition to being easy, this method is also cheap and can be a productive activity involving all family members. In fact, the results of the organic fertilizer can be used to grow vegetables in the yard (Noviana & Sukwika, 2020). The use of household waste as organic fertilizer also has quite significant social and economic value. In various regions, communities have begun to emerge that manage waste collectively and produce organic fertilizer for resale. This activity opens up new business opportunities and creates jobs, especially for housewives and other vulnerable community groups (Abdirahman et al., 2023). Environmental education starting from the household is the key to success in participatory waste management efforts. When people understand the benefits of processing organic waste, new habits will be created that are oriented towards environmental sustainability. Active community involvement in managing waste into fertilizer can also increase awareness of global environmental issues such as climate change and land degradation (Simatupang et al., 2024).

With this background, the utilization of household waste into organic fertilizer needs to be continuously developed and widely socialized. Training programs, mentoring, and the provision of simple facilities can trigger changes in community behavior towards wiser and more productive waste management. This is important to create a clean, healthy, and sustainable environment in the future. Tanah Putih District in Bengkalis Regency is an area with great potential in community-based environmental management. One of the pressing issues faced is the increasing volume of

household waste that has not been managed optimally (Widhiarso et al., 2023). This condition not only causes environmental pollution, but also reflects the less than optimal public awareness of the principles of a circular economy and the utilization of waste as a resource (Suciati, 2017).

In this context, mentoring on the utilization of household waste into organic fertilizer becomes very important. Mentoring is not only limited to providing technical training on how to process organic waste into compost, but also touches on aspects of behavioral change, increasing ecological awareness, and empowering the community's economy (Yuliananda et al., 2019). Through a participatory approach, the community is encouraged to see waste not as a burden, but as an opportunity that can provide added value, especially for the local agricultural sector. Organic fertilizer from processed household waste has dual benefits: in addition to being environmentally friendly and being able to increase soil fertility, it also reduces dependence on chemical fertilizers that have long-term impacts on soil health. In areas such as Tanah Putih which still rely heavily on the agricultural and plantation sectors, compost production from household waste is an appropriate solution that is in line with local potential (Widiantoro, 2023).

With ongoing mentoring—both from the government, non-governmental organizations, and universities—it is hoped that community independence will be created in managing waste independently and sustainably (Yulistia et al., 2023). This initiative can also be a model for community-based environmental management in other areas. Ultimately, mentoring the use of household waste as organic fertilizer in Tanah Putih District is not only an ecological solution, but also a path towards stronger and more resilient local food and economic security (Damayanti et al., 2021).

Research Gap

Household waste management has become a strategic issue in sustainable development, especially in the context of waste reduction and increasing food security through the use of organic fertilizers. Various previous studies have shown the effectiveness of converting organic waste into compost in reducing waste piles and supporting environmentally friendly agriculture (Suryani et al., 2020; Ramadhan & Fitriani, 2019). These studies generally focus on urban or semi-urban areas, and focus on the technical aspects of composting, such as the bokashi, takakura, or aerobic composting methods (Cahyawati et al., 2022).

However, there is a significant research gap related to the utilization of household waste into organic fertilizer in rural areas such as Tanah Putih District, Bengkalis Regency. First, the lack

of empirical studies that explore local characteristics, including community behavior in managing household organic waste, is one of the main research gaps. Previous studies have not described much about how local culture, environmental awareness, and daily practices of the Tanah Putih community sort and utilize organic waste. Second, there has been no study that has in-depth examined the participatory-based community empowerment approach in processing household waste into organic fertilizer in this area. In fact, this approach is believed to be able to increase the sustainability of community-based environmental programs (Iskandar, 2021). Third, aspects of local policies and institutional support have also not been the focus of the study, even though the role of regulations and institutions is very crucial in encouraging behavioral change and implementation of environmental-based programs at the sub-district level (Nurazizah et al., 2021).

In addition, the limited research that tests the effectiveness of organic fertilizer from household waste on soil quality and agricultural productivity in Tanah Putih shows a gap in the ecological and agronomic dimensions. Therefore, a study on the utilization of household waste into organic fertilizer in Tanah Putih District is very important to be carried out, in order to fill the gap in literature and provide a real contribution to sustainable waste management based on local potential (Syadik et al., 2021).

Rationale Of The Study

The problem of household waste has become a crucial environmental issue in various regions, including in Tanah Putih District, Bengkalis Regency. As one of the districts experiencing population growth and increasing domestic activities, the volume of household waste produced every day continues to increase. Unfortunately, most of this waste is disposed of without processing, resulting in negative impacts on public health, environmental pollution, and disruption of the aesthetics of residential areas. Most of the household waste in Tanah Putih is organic waste such as food scraps, vegetables, and leaves which actually have great potential to be processed into organic fertilizer. However, low public awareness and limited knowledge and skills in waste processing mean that this opportunity has not been utilized optimally. In fact, with an approach based on community empowerment and the use of simple technology, organic waste processing can be a dual solution: reducing the volume of waste and providing natural fertilizer for agriculture or home gardens (Gunawan et al., 2015).

This study is important because it offers a sustainable approach to community-based waste management. In addition, the use of organic fertilizer from household waste can support

environmentally friendly agricultural practices, reduce dependence on chemical fertilizers, and open up microeconomic opportunities at the household level. By examining the use of household waste into organic fertilizer in Tanah Putih District, this study not only contributes to environmental conservation efforts, but also opens up discourse on community empowerment models based on local wisdom in waste management.

Literature Review

The issue of household waste management is a classic problem that continues to be a challenge for many regions in Indonesia, including in Tanah Putih District, Bengkalis Regency. The volume of household waste that continues to increase every day can have a negative impact on the environment if not managed properly (Dewi, 2015). The literature shows that the approach of utilizing organic waste into fertilizer is one of the effective and sustainable solutions in overcoming this problem (Sutrisno, 2018; Rahmawati, 2021). Several previous studies have confirmed that around 60-70% of total household waste is organic waste that can be recycled into compost. According to Fitriani (2019), composting is a cheap, environmentally friendly method of processing organic waste that can be done at the household level with simple technology. In rural areas such as Tanah Putih, where most people still depend on the agricultural and plantation sectors, the use of organic fertilizer from household waste has great potential in supporting sustainable agriculture (Amelia et al., 2019).

Several processing models that are relevant to be applied in Tanah Putih District include aerobic methods (static composters) and anaerobic methods (biopores and drum composters). A study by Arifin (2020) showed that the aerobic method using a Takakura composter is very effective for areas with high community participation. Meanwhile, the concept of waste banks and compost houses initiated in several urban areas can also be an inspiration in building collective community awareness of the importance of environmentally-based waste management (Handayani, 2020). The literature also emphasizes the importance of environmental education and technical training for residents as part of the strategy for the success of waste recycling programs. Community-based waste management programs are considered more successful if they involve elements of active participation, local leadership, and regulatory support from the village or sub-district government (Nurhadi, 2022).

In the context of Tanah Putih District, there is not much academic documentation that specifically evaluates the household waste conversion program into organic fertilizer. Therefore,



local studies are needed to answer this gap and contribute to the development of a sustainable waste management system based on local potential and local community wisdom.

Novelty Of The Study

This study presents a novelty in the approach to household waste management through direct utilization of organic waste into compost at the household and local community levels in Tanah Putih District, Bengkalis Regency. The uniqueness of this study lies in the integration of environmental education based on local wisdom and simple composting practices that are accessible to rural communities. So far, household waste management in the area is still dominated by open burning or disposal to vacant land, which has a negative impact on the environment and health. This study utilizes a participatory method by involving groups of housewives and teenagers as the main actors in waste management, and developing a simple composter model that is cheap, environmentally friendly, and can be made from used goods. This approach is new because it not only focuses on the technical aspects of waste processing, but also builds ecological awareness and economic value from the results of composting that can be used for household farming or resold. Thus, this study enriches the literature on community-based waste management in rural areas and offers a replicable model for other areas with similar characteristics.

Purposes/Hypothesis Of The Study

This study aims to examine and analyze the potential of household waste utilization into organic fertilizer as an alternative solution for environmentally friendly waste management in Tanah Putih District, Bengkalis Regency. Specifically, the objectives of this study are: (1) to design an applicable and sustainable organic waste utilization model; and (2) to determine the social, economic, and environmental impacts of the utilization of organic fertilizer from household waste processing on the welfare of the local community. Through this study, it is expected to contribute to the development of productive waste management strategies and support local food security.

METHODS

Research Design

This study was designed to examine the utilization of household waste as a raw material for making organic fertilizer in Tanah Putih District, Bengkalis Regency. This study aims to explore the potential, practices, challenges, and socio-economic impacts of household-based waste



management that is oriented towards environmental sustainability and increasing agricultural productivity. The method used in this study is a qualitative approach with a case study design. Tanah Putih District was chosen because of the still high volume of household waste that has not been optimally managed, as well as the existence of local initiatives that have begun to process organic waste into compost. Data collection techniques include direct observation, in-depth interviews with residents, community leaders, waste bank managers, and village officials, as well as documentation of waste processing activities (Karyati et al., 2022).

This study also uses a descriptive quantitative method as a complement, by distributing questionnaires to 100 households in three villages selected purposively. This questionnaire aims to explore the level of knowledge, attitudes, and behavior of the community towards organic waste management.(Andriani et al., 2021) Data analysis was carried out using triangulation techniques, namely combining qualitative and quantitative findings to obtain a complete picture. The main focus of the analysis is directed at the process of converting organic waste into fertilizer, obstacles faced by the community, and empowerment models that can be applied sustainably. The expected results of this study are the preparation of an effective and contextual household waste utilization model, based on community participation and local potential. These findings are expected to contribute to local governments in formulating integrated waste management policies and be an inspiration for other regions facing similar problems (Simbolon & Diansafitri, 2021).

Research Target/Subject

This study focuses on households and community residents in Tanah Putih District, Bengkalis Regency, which are the main subjects in managing household organic waste. This area was chosen because it has great potential in producing organic waste every day, but has not fully implemented an environmentally friendly waste processing system. The majority of household waste in this area consists of leftover food, vegetables, and leaves, which actually have great potential to be used as organic fertilizer through a simple composting process. The research targets include housewives, farmer groups, and MSMEs engaged in agriculture and the environment, as well as sub-districts and districts that have the authority to manage local waste. In addition, this study also targets communities or community groups that have or are willing to become pioneers in the practice of recycling organic waste. The main focus is directed at the behavior, knowledge, and obstacles they face in utilizing organic waste, as well as the potential for collaboration between residents and related parties in building a sustainable waste processing ecosystem.

By exploring the active involvement of local communities, this study aims to map the extent of community participation in managing household waste into fertilizer, as well as identifying effective empowerment models to replicate the practice in other areas in Bengkalis Regency.

Research Procedure

This study uses a qualitative approach with a case study method that focuses on the process of utilizing household waste into organic fertilizer by the community in Tanah Putih District, Bengkalis Regency. The research procedure is carried out through several stages as follows:

1. Preliminary Study and Field Observation

   The initial stage begins with a preliminary study to identify problems related to household waste management in the research area. Researchers conduct direct observations of environmental conditions, household waste volume, and community habits in disposing of or managing waste.

2. Determination of Location and Research Subjects

   The research location was determined in several villages that represent the characteristics of the Tanah Putih District community. The research subjects include households that have practiced processing waste into organic fertilizer, village officials, and community leaders or self-help groups involved in the waste management program.

3. Data Collection

   Data were collected through in-depth interviews, participant observation, and documentation. Interviews were conducted with residents who were active in composting, village heads, and the local environmental agency. Observations were conducted to directly see the process of making organic fertilizer from household organic waste. In addition, documentation was conducted to record photos of activities and record local statistical data related to waste management.

4. Data Analysis

   The data obtained were analyzed using data reduction, data presentation, and conclusion drawing techniques. Waste management patterns and constraints in the utilization process were identified to provide a comprehensive picture of the practice and effectiveness of the program.



5. Data Validation

   Triangulation techniques were used to validate the findings, namely by comparing the results of interviews, observations, and documentation data. This was done to increase the validity and credibility of the research results.

6. Reporting and Recommendations

   The research results are compiled in the form of an academic report containing findings, analysis, and policy recommendations. Recommendations are addressed to local governments, non-governmental organizations, and the wider community to develop a sustainable household-based waste management model (Mar'ah & Farma, 2021).

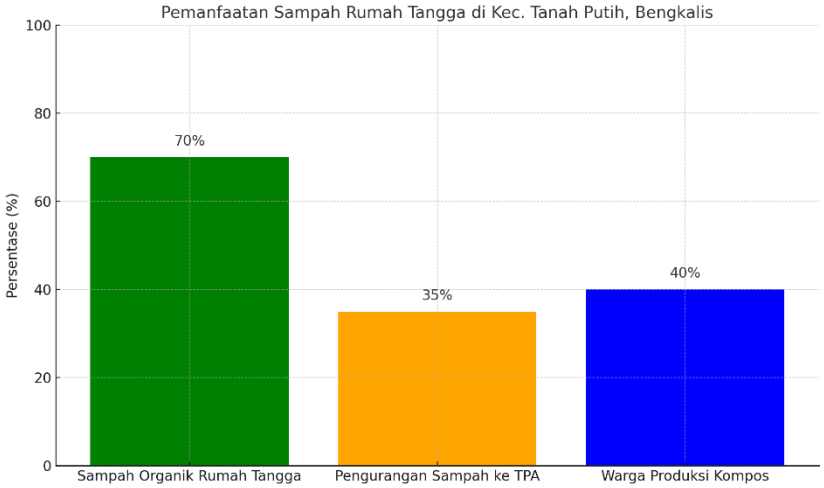
RESULTS AND DISCUSSION

Research Results

This study aims to examine the extent to which the utilization of household waste into organic fertilizer can be applied as a solution for waste management and community economic empowerment in Tanah Putih District, Bengkalis Regency. Based on observations and interviews with local residents and the village government, it was found that most households in this area produce significant amounts of organic waste every day, but it has not been managed optimally. The results of the study showed that around 70% of the household waste produced is organic material such as food scraps, rotten vegetables, and leaves. Through a simple training program conducted by the community service team, residents were introduced to composting techniques using the stacked bucket method and a simple aerobic system. Within 4 to 6 weeks, the compost produced can be used for the needs of yard and household garden agriculture. Some residents have even started selling the organic fertilizer to neighbors or small farmer groups.

The impact of this activity can be seen in two main aspects: first, a reduction in the volume of household waste disposed of in landfills (TPA) by 35%, and second, increasing public awareness of the importance of environmentally-based waste management. In addition, there is a local initiative to form an integrated waste processing group based on RT as a sustainable effort. Overall, this study proves that the utilization of household waste into organic fertilizer is not only relevant in the context of environmental conservation, but also has local economic potential that can be continuously developed through training, mentoring, and regulatory support from the local government.

Figure 1



Grafik utilization household waste organic fertilizer 2025

The following is a bar graph that illustrates the results of research on the use of household waste in Tanah Putih District, Bengkalis Regency. This graph shows:

- 70% of household waste is organic waste.
- 35% reduction in waste volume to the landfill after composting.
- Around 40% of residents have started producing their own compost.

Applicable and Sustainable Organic Waste Utilization Model in Tanah Putih District, Bengkalis Regency

Tanah Putih District, Bengkalis Regency, is an area with quite high agricultural and residential potential, resulting in a fairly large volume of household and market organic waste. However, the challenge of waste management is still a serious problem because most of the waste is still dumped in open areas or burned, which has a negative impact on the environment. Therefore, an applicable, participatory, and sustainable organic waste management model is needed. The proposed model prioritizes a community-based waste management approach based on a circular economy. First, the source of organic waste is identified, most of which comes from household kitchen waste and traditional markets. The next stage is strengthening community capacity through training in making solid and liquid compost, as well as cultivating maggots

(Black Soldier Fly larvae) as an effective method of decomposing organic waste. The technology used is simple and can be applied by residents directly at home or at the RT/RW group scale.

This model also includes the formation of organic waste management business groups (KUPSOR) in each village or sub-district facilitated by the sub-district government and assisted by environmental extension workers. The compost produced can be used for family gardens or sold to local farmers as organic fertilizer, while maggot cultivation can be an alternative source of animal feed (Yanuar et al., 2024). In addition, management is carried out with a work rotation system and product incentives, thus encouraging sustainable community participation. Support from local regulations, strengthening community institutions, and cross-sector cooperation (government, NGOs, academics, and the private sector) are determining factors for the success of this model. Thus, the use of organic waste not only solves environmental problems, but also opens up new economic opportunities and strengthens local food security. This model can be replicated in other areas in Bengkalis Regency with adjustments to the social and geographical characteristics of each village (Tuhumury et al., 2023).

This program involves the community at the RT and RW levels to sort organic waste from households, such as food scraps, leaves, and kitchen waste. The waste is then collected in a compost house built independently on empty land owned by the village. Using the takakura and aerobic composting methods, organic waste is processed into natural compost fertilizer that can be reused by residents, especially farmers and productive yard farmer groups. To support the sustainability of the program, periodic training is carried out on simple composting techniques, household waste management, and the use of compost in organic farming. This activity is also supported by local schools through environmental education programs and direct practice of compost making by students, in order to form a culture of environmental awareness from an early age.

In addition to producing compost, this activity encourages the formation of environmentally-based micro-businesses, such as the sale of organic fertilizers and planting media, as well as the development of independent vegetable gardens in residents' yards. Thus, this activity not only reduces the volume of waste, but also encourages economic independence and local food security. This initiative is a model for organic waste management that is applicable, cheap, and environmentally friendly in rural areas, as well as a real manifestation of community empowerment in Tanah Putih District in maintaining environmental sustainability.

Figure 2



Source: independent organic waste center in Tanah Putih sub-district

The image shows community activities in an environmental empowerment program called the Independent Organic Waste Center which is part of the Tribio Puluhan Program. This activity was carried out under a semi-permanent building structure with a thatched roof and transparent UV plastic walls that show the function of a compost house or waste management education house. Active participation from various groups of people, including housewives, youth, and children, is seen, indicating an inclusive and community-based approach in implementing this program. A large banner in the background identifies the activity by displaying the program logo, supporting agencies (including PKM, universities, and partners), and classifications of types of organic waste such as wet and soft waste. This visual education is part of a socialization strategy to increase community literacy regarding waste sorting.

Participants in the photo appear to be posing while forming a hand symbol that resembles the letter "T", thought to be a symbol of "Tribio" or an abbreviation of the program's main values. The presence of children in this activity shows that the program is not only practical but also educational, building environmental awareness across generations. Academically, this image can be analyzed as a representation of the implementation of a community-based waste management approach that emphasizes community participation, local sustainability, and environmental

education. The presence of visual elements and direct involvement of residents shows the integration between community empowerment theory and real practices in managing organic waste that are applicable and support sustainable development goals.

figure 3



organic trash bin image

The image above shows a waste sorting facility consisting of four colored and labeled bins, placed in a public space as part of a source-based waste management system. The bins show the classification of waste based on the type of material, namely:

1. Small Green Bin (B-3): Intended for hazardous and toxic waste (B3), although the label only says "B-3" without further information. The use of green and a closed container indicates special handling.
2. Green-Blue Bin with Red Label: Intended for plastic waste such as plastic bags, food plastic, and packaging plastic. The striking red label color is likely used to warn of potential plastic pollution.
3. Orange Bin with Yellow Label: Used for paper, cardboard, newspapers, and boxes. The label color and illustrative design depict urbanization, emphasizing the importance of recycling paper waste in an urban context.
4. Yellow Bin with Blue Label: Designated for bottles, cans, glass, metal, and beverage cups. Blue coloring is generally associated with recyclable materials in the industry.

Each bin is decorated with murals or artistic images that not only beautify the environment, but also function as a visual engagement strategy to attract public attention to be more concerned and participatory in the waste sorting process. The existence of these bins shows the application of the 3R concept (Reduce, Reuse, Recycle) and an educational approach in community-based waste management. Clear arrangement and labeling are indicators that this program aims to increase ecological awareness and the effectiveness of recycling systems in residential areas or public facilities.

figure 4



process of making organic fertilizer

The image above shows the activity of sorting and disposing of household organic waste. Two hands are seen holding a plastic container filled with organic waste such as fruit peels, vegetable scraps, and leaves that will be put into the compost bin. Inside the bin, various types of other organic waste are visible, including banana peels, orange peels, leaf stems, ash, and other kitchen scraps that can be biodegraded. This image represents one of the basic practices in sustainable waste management, namely the separate collection of organic waste for composting purposes. The presence of kitchen ash in the pile also indicates the possibility of using the takakura-based organic compost method or aerobic composting, where organic waste is mixed with carbon-rich materials such as ash or rice husks as odor absorbers and moisture controllers.

Academically, this image illustrates the application of the "waste to resource" principle, namely the transformation of organic waste into productive resources such as compost. This activity is part of the circular economy approach in the household context, which aims to reduce dependence on chemical fertilizers while reducing the amount of waste that ends up in landfills

(TPA). From an environmental behavior perspective, the act of sorting and disposing of organic waste into separate containers reflects the success of educational interventions and ecological awareness at the individual level. This image also supports the Sustainable Development Goals (SDGs) indicators, especially point 12 (Responsible Consumption and Production) and point 13 (Addressing Climate Change), because proper management of organic waste can reduce greenhouse gas emissions such as methane from the waste decomposition process in TPA.

Figure 5



utilization of organic fertilizer

This image illustrates the final process of organic waste processing through the composting method. On the left side of the image, there is a pile of organic waste such as carrot peels, onion skins, vegetable scraps, and fruit peels that are still in the early stages of decomposition. On the right side of the image, there are two hands holding mature compost — loose, nutrient-rich black soil resulting from the decomposition of the organic waste. This process is part of the bioconversion of organic waste into natural fertilizer, an environmentally friendly and sustainable method. The resulting compost has a high nutrient content, such as nitrogen (N), phosphorus (P), and potassium (K), which are very useful for increasing soil fertility and plant productivity. Composting also plays an important role in reducing waste disposed of at the Final Disposal Site (TPA), while reducing greenhouse gas emissions from anaerobic decomposition of waste in the open.



Academically, this image represents the practice of a closed-loop system in the concept of industrial ecology and sustainable agriculture, where waste from consumption returns to the production system as input. Activities like this are also a real example of the reduce-reuse-recycle (3R) principle, especially in the reuse aspect in the form of reusing food waste as natural fertilizer.

Discussion

The utilization of household waste into organic fertilizer in Tanah Putih District has shown significant results in reducing the volume of waste and increasing public awareness of the importance of environmentally friendly domestic waste management (Supriyanto et al., 2023). Based on the results of mentoring and field observations, it is known that most of the household waste produced by the community is organic waste, such as leftover food, vegetables, and fruits, which have great potential to be composted. Through a participatory approach and intensive socialization, the community began to understand that waste is not just waste, but also a resource that can be reprocessed for household agricultural needs. The composting process is carried out using simple methods such as takakura and closed bucket composters, which have proven effective in densely populated residential areas (Saptaji et al., 2021).

The processing results show that the organic fertilizer produced has good enough quality to be used in residents' yard gardens, ornamental plants, and small farms. Several residents also stated that their plants have grown more fertile since using homemade compost. This not only has an impact on a cleaner environment, but also contributes to family food security and savings on spending on buying chemical fertilizers (Firdani et al., 2023).

The obstacles found in implementing this activity include limited space for composting in houses with narrow land, lack of initial technical knowledge, and the still low interest of some people who have not seen the direct benefits of this process. Therefore, continued support is needed from the village government and environmental stakeholders to provide ongoing training, composter tool incentives, and integration of this program with waste banks or local farmer groups. Overall, the household waste utilization program into organic fertilizer in Tanah Putih District has great potential as an ecological and economic solution. The success of this program is highly dependent on the continuity of education, community support, and cross-sector commitment in encouraging a sustainable lifestyle.



CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the implementation of the household waste utilization program into organic fertilizer in Tanah Putih District, the following conclusions can be drawn:

1. High Potential of Organic Household Waste. Household waste in Tanah Putih District is predominantly organic, consisting of food scraps, vegetable waste, and dry leaves. This indicates a significant potential as raw material for compost production.
2. Increased Public Awareness. After outreach and training activities, there has been a significant improvement in community understanding and awareness regarding waste management. Residents have begun sorting their waste and processing organic waste into compost independently.
3. Economic and Environmental Benefits. Processing organic waste into fertilizer has provided dual benefits: reducing the volume of waste sent to landfills and producing natural fertilizer that can be used for home gardens. Some residents have even started selling organic fertilizer as an additional source of income.
4. Limited Stakeholder Support. Despite the positive results, support from local government, especially in terms of providing community-scale composting facilities and sustainable technical assistance, remains limited.

Suggestions

1. Strengthening Environmental Institutions at the Community Level. It is recommended to establish organic waste management groups at the neighborhood (RW/RT) level to ensure program sustainability. These groups can serve as centers for training, compost production, and distribution.
2. Integration with Local Environmental Policies. The Tanah Putih District government is encouraged to integrate household waste processing programs into local environmental management policies, including budget allocation and supporting regulations.
3. Continuous Education and Assistance. Ongoing education and training activities are necessary, particularly targeting vulnerable groups such as housewives and school children, to build a culture of waste management from an early age.

4. Use of Simple and Eco-Friendly Technology. The development and dissemination of simple composting tools (such as bucket or aerobic composters) that are accessible to the community should be promoted to support more efficient processing.
5. Multi-Stakeholder Collaboration. Collaboration between the government, NGOs, universities, and the private sector is suggested to support training, research, and the development of compost-based derivative products, such as organic liquid fertilizers or botanical pesticides.

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