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ENHANCING THE AWARENESS OF FOOD WASTE MANAGEMENT THROUGH THE DIGITAL WORLD

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Abstract

Food waste is one of many environmental issues in Indonesia that needs to be solved. One of the solutions to the problem is to manage food waste and turn it to be something useful such as biogas and organic fertilizer. Yayasan Rumah Energi, an Indonesian NGO, is focusing on this matter. They already found a way to manage the food waste, but then, they still need help to spread awareness to the society. To help the organization, the team then using the digital world, to reach more people in society. Another reason for using the digital channel is that in the time of the pandemic, it is not possible to host an off-air event. The activity starts with analyzing the problem of the communication, setting the goals and objectives, preparing the strategy, coaching the communication personnel, and hosting the digital event. Through the digital event, the team has raised awareness and get more people interested in the matter of food waste management.

Keywords: food waste management, digital communication strategy

INTRODUCTION

Waste is an environmental problem that contributes to greenhouse gases which have a real impact on climate change. In efforts to mitigate climate change in Indonesia, based on information from the website of the Ditjen PPI, one of the government's strategic issues in 2020-2024 is the environmental issue (Ditjen PPI, 2020). Waste management is one of the things that is concerned with the effort to preserve ecosystem functions in sustainable development.

The waste problem is an ongoing environmental problem in Indonesian society. In 2025, according to data from the Central Bureau of Statistics, the amount of waste piling up in cities will continue to grow to 1.42 kg/person per day or 2.2 billion tons of waste/year in Indonesia (Badan Pusat Statistik, 2018). One of the contributors to this waste is household waste, which is waste from food or kitchen scraps. The Indonesian government is serious about solving the waste problem by issuing Presidential Regulation No.97 / 2017 concerning the National Policy and Strategy for the Management of Household Waste and Household-like Waste, which targets a 30 percent reduction and 70 percent handling.

One of the non-governmental organizations (NGOs) in Jakarta, Yayasan Rumah Energi (Rumah Energi), has been advocating for the community to continue to encourage the advancement of environmentally friendly energy in Indonesia. One of the clean energy produced is through biogas, which converts livestock manure into gas for cooking and lighting (rumahenergi.org). The waste

from biogas management also produces biogas waste which can be used as fertilizer (bio-slurry). Innovation in the use of biogas from food or kitchen waste is called Biogas Mini Rumah (BioMiRu). Through biogas, Rumah Energi hopes that it can help the community and the Indonesian government to overcome the problem of waste, especially household waste because besides the gas can be used for cooking, the biogas waste can also be used for liquid fertilizer so that it can encourage urban farming activities.

Through discussions with Rumah Energi conducted by the team, it was discovered that the community did not understand how to manage environmentally friendly food waste. Not all people realize the importance of food waste management which also makes it difficult to disseminate the adoption of this technology. This awareness is what the team wants to strive for when planning activities, considering that the public first needs to have awareness, then acceptance, until finally, it comes to action to manage food waste.

Amid the Covid-19 pandemic situation that has occurred since early 2020, awareness efforts have certainly become more difficult because face-to-face activities cannot be carried out. On the other hand, public consumption, especially on basic food needs, does not stop, so food waste remains a problem of high urgency. An online approach needs to be made to the community so that they can start to have awareness of the importance of managing food waste.

According to the BCFN Foundation (2020), this pandemic is also changing human consumption patterns. Forced to stay at home, the closure of restaurants and bars, and restrictions imposed by the government have changed the way the population consumes food, as well as the systems used to produce and sell food.

At the start of the pandemic, people made large purchases as a form of panic buying and piled up food until its expiration date arrived. There are also more food leftovers considering that many restaurant preparations have gone unused and have been thrown away.

According to Charlton (2020), a pandemic also has an impact on mounting food scraps that can threaten the environment. Stacks of food items such as eggs, milk, onions, and other foods occur due to closed restaurants, restricted transportation, and restrictions on human movement, which disrupt the distribution chain and food consumption. When food spoils, it produces methane gas which is bad for the environment.

Even so, even though the human movement is limited, it does not mean that there is no way to spread awareness regarding this matter. Even though they cannot meet face to face, everyone is forced to get used to communication technology. There are several technological trends taking place during the pandemic. According to Xiao and Fan (2020), technology can make humans tougher in the face of a pandemic. Technology has a crucial role in maintaining the functioning of society in this situation. Internet use is increasing during the pandemic. In Indonesia, for example, it is reported that internet usage has increased by 40% since the implementation of PSBB. This data was released by The Communication and Informatics Chemistry as reported by Tempo.co.

Based on these problems, it is necessary to make awareness efforts through digital content regarding food waste, its impact, and food waste processing techniques that are easy to do on a small scale by households. The team strives for awareness through web seminars (webinars) and digital content distribution because these activities are following public needs, have the potential for easy distribution, are low cost, can be sustainable, and can answer digital challenges amid the Covid-19 pandemic which has a profound impact on people's lives.

METHODS

To raise awareness to the community regarding the management of food waste, first, a mapping is carried out regarding what is in the minds of the community when talking about food waste. This was done by holding a Focus Group Discussion (FGD). FGD participants come from the general public and are not limited to certain groups to get various kinds of input from many points of view. The FGD was held on May 20 with the theme Situation Analysis: Awareness of Urban Community Food Waste Processing. Apart from the

teams from UMN and Rumah Energi, seven participants joined the FGD.

The results of the FGD are then processed to become input for the team in determining the right topics and speakers for the next activity, namely the webinar. A webinar is a seminar activity that takes place in a virtual room, on June 23. This was done considering that after the activities were planned, the Covid-19 pandemic occurred which made the public have to postpone all forms of face-to-face activities to break the chain of spreading the disease. Webinars are conducted in a format similar to seminars in general, namely the presence of a presentation from a speaker guided by a moderator, followed by discussion and question and answer.

The selection of speakers and moderators is made with various considerations, such as their level of popularity, background knowledge, and their progress in the area to be discussed. From these various considerations, finally, five names emerged, consisting of one moderator, namely Prita Laura who is a journalist who is also an environmentalist, and four speakers, namely (1) Agung Lenggono who is the Project Manager for the Yayasan Rumah Energi, (2) DK Wardhani who is a food waste management activist and author of books entitled Menuju Rumah Minim Sampah and Bye Bye Sekali Pakai, (3) Maria R. Nindita Radyati who is the Executive Director of CECT at Trisakti University and Deputy Chair of the CSR Committee at KADIN Indonesia, and (4) Angga Ariestya who is environmental communication researcher and lecturer at FIKOM UMN.

The webinar uses the application Zoom as a virtual room that does have the ability to accommodate a large number of participants. At the same time, also carried out live streaming was on the Youtube channel owned by Universitas Multimedia Nusantara to facilitate participants who could not join Zoom. After the event is over, the entire series of webinars can still be seen on the Youtube channel. More than 200 people were recorded who attended the event, with different origins and backgrounds.

RESULT

1. Focus Group Discussion "Situation Analysis: The Awareness of Urban Community in Food Waste Management"

Picture 1. (Poster of FGD)

FGD begins with an explanation from Rumah Energi related to biogas, which is one of the food waste management efforts that can be done starting from the smallest scale, namely the household to a large scale. Furthermore, FGD participants were also invited to discuss the management of household waste, especially food waste, which is a daily problem for the community.

The FGD participants came from various backgrounds, ranging from housewives, researchers in the world of social media, to government officials. Of all the participants, some had done food waste management, but some did not have this experience.

At the beginning of the discussion, participants were asked to write down what was on their mind when talking about food waste, this was done to find out the association of words for food waste in the minds of the participants. The result is the following words: waste becomes a blessing, energy, waste, hidden treasure, dirty, smells, a source of disease, compost, and finally it needs a systematic solution.

These words then triggered a discussion that food waste does have renewable energy potential that the public has not yet realized. So far, according to data held by Rumah Energi, a communal commitment to turn food waste into a renewable energy source has been initiated, but it is not sustainable. To be able to change habits, it is recognized that one must first change the mindset of people in the community to be consistent in managing food waste.

When asking those who have made efforts to manage food waste, it was found that the information they had regarding this matter was still very limited, especially when talking about what was in the media. One participant who is located in Yogyakarta said that she knows this because she has many friends who are related to the topic of managing food waste. She has lived in the Netherlands and has a habit of sorting waste, which she admits is hard to be practiced here. The main motivation is having friends who are active in the same field so that they move as a community in this matter. Another participant who comes from a government agency that is active in food waste management said that the community has not been moved because they do not know what benefits they can get from managing food waste. Besides, other opinions say that economic motivation, such as how much money they can save if they manage food waste into renewable energy, has not been given, so people still find it difficult to understand that they can benefit from the 'hassle' of doing this.

Furthermore, they asked the perspective of those who have never carried out food waste management. From the results of the discussion, it was found that one of the constraints they have is limited land, especially for those who live in urban areas and do not have much space. Besides, the information related to food waste management is still lacking and does not motivate them to do this. This also creates a further impact, namely when a person has awareness but is not supported by an environment that does not have the same awareness, then the intention can be lost and ultimately not carried out at all. One of the inputs given by the social media researcher who happens to have a Community Service Program with environmental issues as the flagship at the university where he works is that first there must be a change in people's habits, only then branding can work. If there is no change in habits, then no matter how much information there is, the effect will not be big.

Regarding the communication channel to raise awareness of the public about this issue, participants found that the most effective way at this time is through the community. However, that does not mean that other communication channels should be ignored. There needs to be an effort to include this issue on the media agenda, as well as the agenda on social media so that there is an awareness that this is important to pay attention to.

2. Webinar "Food Waste Not Wasted: Food Waste Potential for Renewable Energy"

Picture 2. (Poster of Webinar)

The webinar was hosted by Prita Laura, who is a journalist and observer of environmental issues. The first speaker was from Rumah Energi who gave an initial explanation of the potential for renewable energy that can be generated through food waste, one example of which is the Biomiru installation. In short, Biomiru is a reactor that can convert food waste into energy that can be used for cooking. The process starts from the process of fermentation of wet leftovers to distillation to produce biogas, as well as the presence of a special stove device that uses biogas for cooking.

The second speaker is DK Wardhani who is an activist in the issue of food waste management. According to DK Wardhani, in changing habits in the community, especially regarding the problem of food waste management, the first thing to change is the problem of mention because most people call it garbage, even though it should be called leftover consumption. The aim is to change the mindset that if there is a residue leftover then consumption should be made to be without residue or extended its life span. The mention of garbage according to DK Wardhani raises the perception that it must be disposed of. Another thing that this environmental issue activist has done is that he no longer provides trash bins that will be transported by garbage men so that the remaining household consumption must be properly processed so that it does not need to be thrown away. Indonesia is included in the 5 largest food waste producing countries, this is due to the consumption pattern of the people. People also still feel that sorting or managing waste is useless. Furthermore, DK Wardhani based on his experience provided an understanding of composting that can be done on a household scale.

Furthermore, from an academic perspective, Angga Ariestya gave a presentation related to how to build urban awareness in carrying out waste management using an environmental communication approach. Angga Ariestya said that based on the existing research, the awareness of the urban community towards waste management is still very low. The problem of waste processing from a communication perspective, when viewed from the external structure, covers the problem of information/knowledge, innovation/technology, policies, costs, and whether it has been institutionalized or not. From the internal side, three things are influential, namely perception, lifestyle, and habits. Environmentally conscious behavior, according to Angga Ariestya, is the result of a combination of values and beliefs, personal attitudes, which are supported by information and knowledge related to this matter. Regarding the problem of waste management communication targets, two generation groups have the most potential, namely Generation Z who want to do this but do not currently have the ability, and Millennial Generation who have the potential willingness and ability to manage waste.

The last speaker was Maria R. Nindita Radyati who gave a perspective on how the role of CSR or companies to contribute to reducing food waste and saw this not as a burden but as a new resource. She explained how food waste can be reduced in various ways, from reducing sources, distributing food, being used for industrial purposes, composting, to forcing oneself to become a zero-waste person. Companies with their CSR programs can become pioneers in this food waste management, starting from the distribution of food scraps to establishing initiatives such as waste banks or food banks for example. In addition, Maria R. Nindita Radyati also shared about how a food bank can be a solution for managing food waste in Indonesia, which has one of the largest numbers in the world. In managing these leftovers, what companies can do is to campaign to raise awareness, communicate what they have done, promote inspirational stories, initiate initiations from external stakeholders, donate leftovers, and develop communities in managing leftovers.

Furthermore, the discussion with the participants was carried out in a question and answer format, the participants were quite enthusiastic in the discussion session. The discussion aimed to deepen the material presented by the speaker and answer the participants' further curiosity regarding the issue of food waste management.

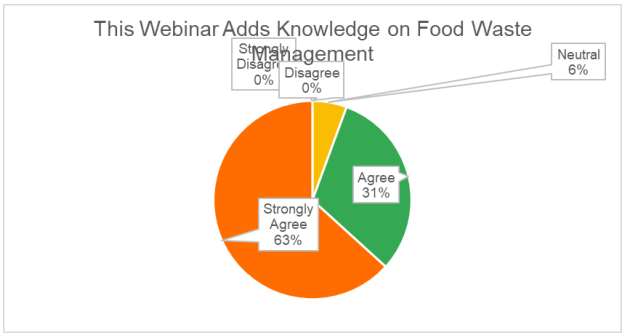
There are more than 200 people who take part in this webinar, both through the platform Zoom and Youtube. At the end of the webinar, the

team provides a survey link that needs to be filled in if participants want to get speaker materials and certificates. Also, through this link, the participant can provide their feedback and responses related to the webinar. After the data was cleaned, 196 unique names were obtained that filled out the survey, which came from various institutions such as private and public universities, government institutions such as the Ministry of Energy and Mineral Resources, to the general public who are interested in this issue. Apart from the identity, several questions were asked to measure the level of understanding of the participants, along with a summary.

The first question is related to whether, before participating in this webinar, participants had ever managed food waste. The result: 54 people (28%) said never, 30 people (15%) said rarely, 47 people (24%) said sometimes, 40 people (20%) said often, and 25 people (13%) said always.

Picture 3. (Pie Chart of Question 1)

The next question, they were asked whether this webinar adds their knowledge regarding food waste management. The answer was, 11 people (6%) said it was neutral, 61 people (31%) agreed that this webinar increased their knowledge, and 124 people (63%) strongly agreed that this webinar increased knowledge related to food waste management.

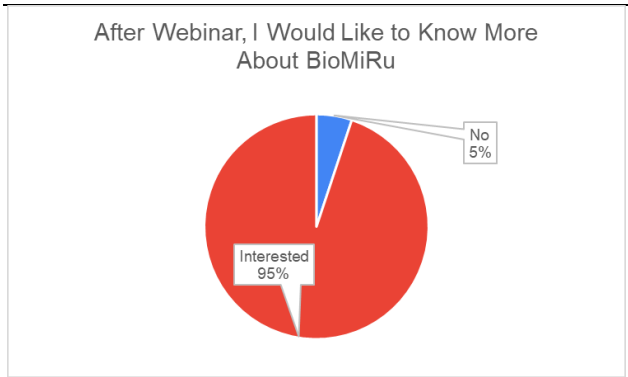


Picture 4. (Pie Chart of Question 2)

The third question asks whether after participating in this webinar, the participants are motivated to manage food waste. As a result, there was 1 person (less than 1%) who said they were not moved, then 13 people (7%) said they were neutral, 82 people (42%) said they were moved, and there were 100 people (51%) who said that they were very moved to do food waste management after participating in this webinar.

Picture 5. (Pie Chart of Question 3)

In addition, as a form of support for the partners in organizing this PKM activity, namely the Rumah Energi, which has a product called BioMiRu, a question was also inserted about the participants' willingness to be contacted further about BioMiRu. Even though it is not for profit, the number of built units is one measure of success for Rumah Energi in carrying out its task in protecting the environment. Of all the participants, only 10 people (5%) stated that they were not interested in being given more information about BioMiRu. Meanwhile, 186 other people (95%) expressed their interest in information related to BioMiRu.



Picture 6. (Pie Chart of Question 4)

There is also an open question that can be a place for participants if they have suggestions or input, especially regarding issues discussed at the webinar at that time. Many criticisms have been received relating to technical problems, namely the internet network. This is indeed an obstacle because the speakers are presenting from their respective places, and the speed of the internet network of each speaker cannot be ascertained. Apart from technical problems, several suggestions said that there was not enough time for discussion, and had not yet touched on the solution section, only problems. Even so, there were also many positive comments given by the participants, especially related to the webinar material that opened the participants' insights about the issue of food waste management.

DISCUSSION

From the FGD and Webinar activities that have been held, there are several interesting points. The first is related to the target of the distribution of messages related to food waste processing. There needs to be further research related to Segmenting, Targeting, and Positioning, so that the message conveyed can be right on target. From the initial mapping, we found that those who live in urban areas and who do not belong to the community related to this issue tend to be rarely exposed to information related to food waste processing. Pearson, Mirosa, Andrews, and Kerr (2016) said that the first thing to overcome is the low level of individual awareness about the importance of food waste management and its negative consequences on the environment and society. The problem that was discovered through the FGDs and Webinars was that the urban community was rarely exposed to this information. This is probably the reason that the level of public awareness of the issue of food waste management is still low. Besides, the lack of land in urban areas is also the reason food waste management has not been effective, so the solutions offered need to pay attention to this. According to Pearson et.al, the next challenge is to encourage positive behavior change among these individuals. Further research is needed to be able to identify individual groups, segments, or targets of the population so that they can be prioritized in the future.

Second, there needs to be an effort to make this food waste management issue look contemporary. A convincing message needs to be disseminated to the community so that they are willing and able to manage their food waste. According to Zhu, Fan, Luo, Lin, and Zhang (2020), it is possible that exposure to information representing informal and NGO regulations can improve food waste management in urban communities. This means the message conveyed must be seen closer to the community and seen to represent the interests of the community.

Third, new media such as social media have great potential in popularizing environmental issues, including food waste management. The main challenge then is that this issue must be able to compete with other commercial issues. According to Pearson et. for example, the implementation of Integrated Marketing Communication can involve more individuals in meaningful dialogue related to reducing food waste in their homes. This approach will be successful if it uses traditional media, interactive communication channels, and social media applications. Communication content, according to Pearson et. al., must be built by identifying the sources of information used and applying appropriate and attractive framing for the target audience.

Fourth, there is a need for further collaboration with the community to build a pilot for the use of renewable energy obtained from food waste management. This is deemed necessary based on the results of the FGD which said that they had not been informed about the success stories about how this renewable energy produced from food waste benefits the community.

Finally, there is a need to form an expert forum consisting of representatives from NGOs, governments, networks of digital media activists, who collaborate with the right social media influencers. Findings from Kirkman and Voulvoulis (2017) study state that public communication is important in delivering food waste management infrastructure. Public perception must be considered as early as possible in the decision-making process, by also involving and informing the public from the start. When experts are formulating policies and communications that will be conveyed to the public, influencers will be tasked with informing the ongoing process from the start.

CONCLUSION

From both the FGD and the webinars that have been conducted, it is found that the issue of food waste management is not yet popular in the community. Environmental issues, especially the management of food waste, which is so large in number in Indonesia, have a high level of urgency. As a country that has a consumption pattern that has the potential to produce large amounts of food waste, the Indonesian people have not realized that this food waste can be used as potential renewable energy. Even though it hasn't reached too many people, the digital approach, namely FGD and Webinars, which are both conducted online, is still considered a way to raise awareness among the public regarding the problem of leftover food, especially in the era of the pandemic. For further action, there are some recommendations, which are (1) determining proper Segmenting, Targeting, and Positioning, (2) there is a necessity to create a message that is up to date and close to the society, (3) using traditional media, interactive communication channel, and social media, (4) collaboration with the community to build a pilot for the use of renewable energy from food waste management is needed, and (5) there is a need for an expert forum consisting of NGOs, Government, Digital Media Activist Networks, which also collaborate with the right social media influencers.

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