

# HOUSEWIFE BEHAVIOR IN FOOD WASTE (CASE STUDY IN SURABAYA CITY)

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## Abstract

The 11th goal of the Sustainable Development Goals (SDGs) is to make cities and settlements inclusive, safe, resilient and sustainable, so it is hoped that urban settlements will maintain cleanliness. One way to achieve this goal is waste management. However, there are still many people who throw food waste away without further management. This study aims to analyze the behavior of housewives towards food waste. So far, food waste will be thrown directly into the trash without being managed first. This study was conducted by distributing questionnaires with purposive sampling to 65 housewives in Surabaya City. The analysis uses descriptive statistics. The results show that as many as 80% of these housewives dispose of food waste without being managed first. The reason is waste does not need to be managed. The percentage is 47%. They perceive trash as something that has no value, so they immediately throw it away.

Keywords: food waste, behavior, housewife, Surabaya

## INTRODUCTION

According to Law no. 18/2008 concerning Waste Management, waste is the remains of human daily activities. Setiati (2017) states that for most people, waste is considered a valueless item. So far, waste is considered as waste, so there is no further handling. Word Bank (2018) states that the waste generated worldwide approximately 2.01 billion tons of municipal solid waste annually, and about 33 percent of the garbage is not managed in a way that is safe for the environment. More than half of waste is currently disposed of openly. The growth of waste will have far-reaching impacts on the environment, health and prosperity, requiring immediate action.

The World Bank (2018) also stated that global waste is expected to grow to 3.40 billion tonnes by 2050, more than double the population growth during the same period. The rapid population growth will exceed the carrying capacity of the land and result in pressure on the environment in the form of environmental damage (Tietenberg and Lewis, 2016). The form of environmental damage can be in the form of an increase in the amount of waste caused by an increase in population (Kumar et al., 2011). The activity of the residents is the source of waste generation (Sjöström and Östblom, 2010).

The composition of the world's largest waste generation is food waste, which includes organic waste, which is 44% (World Bank, 2018). The composition of waste in Indonesia is also mostly organic waste, which is 60%. The composition of organic waste in Indonesia is food waste (KLHK, 2017). The largest source of waste in Indonesia comes from households and is in the form of food waste. Food waste which is organic waste has perishable characteristics, so it needs further handling. At this time, especially in big cities the increase

in urban waste generation (2–4% / year) which is not followed by the availability of adequate waste infrastructure and facilities, has an impact on environmental pollution which always increases from year to year. By relying on the collect-transport-throw pattern, the pollution load will always accumulate at the landfill site and the waste management does not meet the required standards (Subekti, 2010). Food waste is easily broken down so that it can cause odors, if not managed, it will become a vector for animals that carry disease (Alyssa, 2020).

Indonesia is the second largest contributor to food waste according to data from The Economist Intelligence Unit (EIU). Data from The Food Sustainability Index shows that every Indonesian citizen wastes more food than the United States and United Arab Emirates (EIU, 2016). According to Smulder (2016), food waste that is wasted and becomes food waste in Indonesia is quite high, amounting to 13 million tons.

This food waste can be sourced from households. Therefore, the initial steps in waste management can be started from the household level. Currently, the majority of Indonesians still do not sort waste in their respective homes. Based on a survey conducted by the Katadata Insight Center in 5 big cities, it was recorded that less than half of the people have implemented waste sorting in their homes with a proportion of only 49.2% (katadata.co.id, 2019). Superman (2017) states that housewives often litter. This behavior causes piles of trash in any place, damaging the environment. This study aims to analyze the behavior of housewives in food waste, case Study in Surabaya City. Surabaya was chosen considering that Surabaya is the second largest city in Indonesia, which is densely populated. Housewives are chosen because the role of housewives still dominates household cleaning activities in Indonesian society. According to BPS (2019), the estimated solid waste production per day in Surabaya in 2018 is 2206 m<sup>3</sup>.

## **LITERATURE REVIEW**

According to Tanaka (2014) that an increase in economic activities carried out by humans will increase waste generation. This condition follows an increase in population growth of more than 8% (Braathen, 2004). Garbage will become a problem when high waste production is not properly managed. In practice, waste management activities are often not in accordance with proper waste management procedures, so that it has a negative impact on the environment. Waste management that is not in accordance with environmental health standards usually occurs in developing countries, where waste is dumped in random places, dumped into drains or waterways or into the sea, dumped, burned simply or disposed of in the landfill with an open dumping system (Hazra and Goel, 2009; Jambeck et al., 2015). Waste management must start from the source. One source of waste is household. The most waste produced is organic waste and in the form of food waste which has perishable characteristics, so waste management must be carried out properly (Alyssa, 2020).

## **RESEARCH METHOD**

This study used descriptive analysis and involved 65 respondents who were selected by purposive sampling. Respondents are residents of the Surabaya City with various educational backgrounds. This study used a cross sectional conservational study design to determine the relationship between the level of knowledge of housewives and the behavior of managing food waste. The observed variables were collected once at the same time. This research was conducted in October 2020. Primary data were obtained by means of questionnaires and direct interviews with housewives. Because they play a greater role in managing household activities, including in terms of waste management.

## RESULT AND DISCUSSION

Indonesia is the number two contributor to food waste in the world. According to The Food Sustainability Index, every Indonesian resident throws away 300 kg of food.



Source: EIU (2016)

Figure 1. Country Largest Food Waster in the World

Food waste appears along with current consumption habits which are caused by wasteful attitudes, practices and consumer behavior (Evans, 2014). Food waste is leftover food that is eventually wasted because it cannot be consumed and / or is a food material that is wasted due to negligence during the production, processing and distribution process (FAO, 2017). Surabaya as a metropolitan city that produces food waste. In 1 month, the average Surabaya resident spends Rp. 777,000 for food and 54% or the equivalent of 16 kg of food consumed is waste. The data are as follows.

Table 1. Percentage of Waste Composition in Surabaya City, 2017–2018

Type of Waste	Percentage
Food waste	54,31
Leaf, twig	1,61
Paper	14,63
Plastic	19,44
Metal	0,48
Textile	1,47
Rubber	2,33
Glass	1,12
Other	4,61

Source: Kementerian Lingkungan Hidup dan Kehutanan (2019)

Food waste needs to be managed considering the 11th SDGs goal, that by 2030, it is hoped that a city will reduce its negative impact on the environment, so waste management must be considered. In addition to the 11th SDGs goal, the appeal to reduce food waste is contained in the 12th SDGs goal, that by 2030 it is expected that the amount of food waste globally per capita at the retail and consumer levels is halved so as to reduce food losses along the production and supply chain, including post-harvest losses.

Based on these conditions, the behavior of housewives plays a very important role in reducing food waste from the source. Based on the distributed questionnaire, here are the characteristics of the respondents.

Based on the data presented in Table 2, it shows that unmanaged food waste is more than managed waste. This shows that the behavior does not reflect environmental sustainability. This study is in accordance with research conducted by Andina (2019). Food waste is immediately disposed of without being managed first. Meanwhile, respondents who

manage food waste are turning them into compost (0.06% of all respondents) and sorting them out and then depositing them in a waste bank (0.12% of all respondents).

Table 2. Respondent Characteristics

Variable	Category	Number of Responden	%
Age	20-30	2	0.03
	30-40	11	0.17
	40-50	43	0.66
	50-60	8	0.12
	60-70	0	0
	>70	1	0.02
Education	Senior High School	18	0.28
	Diploma	16	0.25
	Bachelor	23	0.35
	Master	7	0.11
	Ph. D	1	0.01
Occupation	Worker	28	0.43
	Unworker	37	0.57
Treatment of Food Waste	Managed	14	0.22
	Unmanaged	51	0.78

The reasons given by respondents why they unmanage food waste are presented in Figure 2 below.



Figure 2. Respondents' Reasons for Unmanaging Food Waste

In accordance with Figure 2, the reason for occupid is the main reason for notmanaging food waste. Housewives think that waste is worthless. This condition is not in accordance with the respondent's education level. Considering that more respondents received higher education (diploma, bachelor, maser and Ph. D) (72%) than those who attended secondary school (28%). The number of respondents who did not disaggregate by education is presented in Figure 3 below.

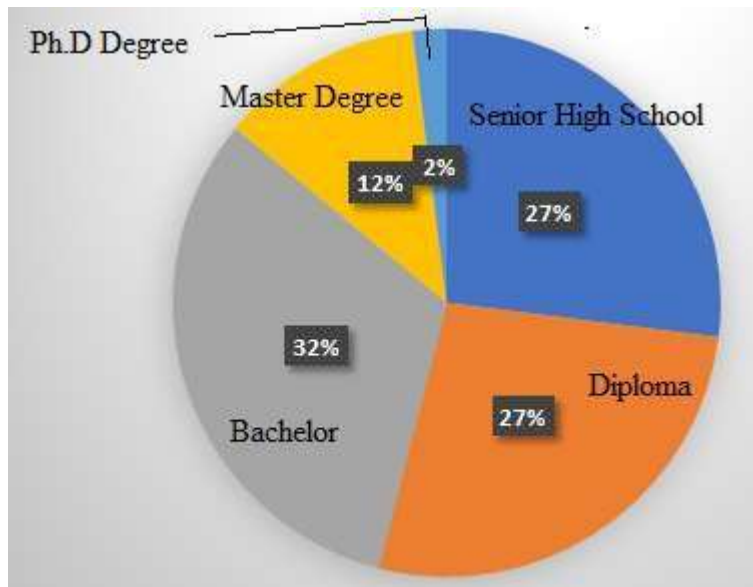


Figure 3. Education Level of Respondents who Unmanage Waste

Based on Figure 3, it is found that more respondents who attended college did not manage food waste. Research by Shekdar (2009) states that sometimes the education achieved by the population is sufficient, but the concern and participation of the population in the environment is very low.

The reason for the occupied, dominates why housewives do not manage waste. The inconvenience experienced by housewives can occur due to their status as workers or taking care of other household activities. Based on the results of the questionnaire, the status of housewives who unworker is more likely to unmanage their food waste. This condition is presented in the following figure.

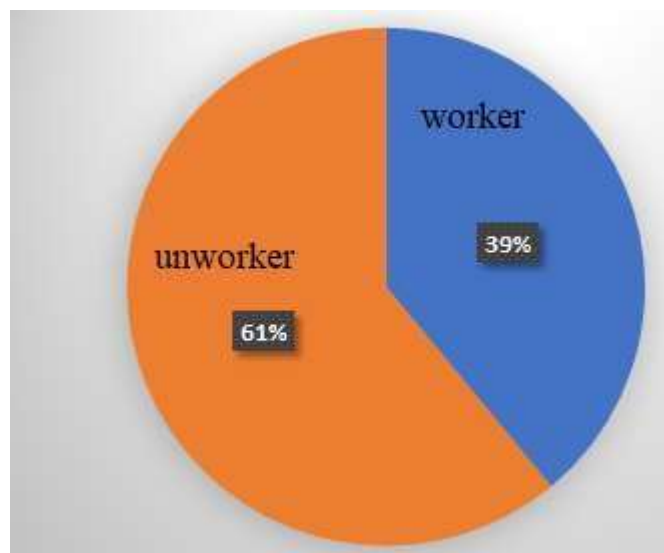


Figure 4. Number of housewives who unmanage food waste based on status as workers or not

Based on Table 4, unmanaged food waste is more common in non-working housewives. Busyness in carrying out its duties managing the household ignores food waste management. This is in line with Riswan et al (2011) research. Widiyanto et al (2019) stated

that housewives with non-working status should be able to play a further role in maintaining the health of their family members, including managing food waste. Given that food waste has perishable characteristics, flies that are vectors of disease can catch them.

## CONCLUSION

The role of housewives as household managers is expected to play an active role in keeping the environment in which they live clean. This is in accordance with the goals of SDGs 11 and 12. In order to create a clean environment, it is hoped that housewives will manage the food waste they produce. Based on the results of the study, the behavior of these housewives did not reflect sustainable behavior. Because food waste originates from households, as much as 78% of it is not managed properly. Food waste is immediately disposed of before it is managed first. The level of education of housewives is not necessarily in line with good behavior in managing food waste. Status as a housewife who does not work is also not in line with food waste management. Fuss with household activities as the main reason for not managing food waste.

If housewives are able to control waste from the source, it is not impossible that the goals 11 and 12 of the SDGs will be achieved.

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