

Women's Role in Food Waste Management in Indonesia (Study Case in Bandung)

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ABSTRACT

Food waste is considered as a significant challenge in improving global health. Therefore, proper food waste management is essential. In Indonesia, women are in charge of managing the household, including food waste. They are responsible for taking care of food-related activities such as groceries shopping then store it, cook it and eventually manage its waste. Moreover, Indonesia has an active women organisation that is supported by the government. It could be claimed that in Indonesia, food waste management will improve if women are empowered. However, there are only limited studies investigating women role in reducing food waste in the community. To investigate the research objective, I use a qualitative method with a case study approach and in-depth interviews. Based on the study, women activities in the neighbourhood influences food waste management in the household and community. The analysis indicates that women who keenly engage with the women community organisation activities can reduce the amount of food waste generated from home. They also manage their food and their waste appropriately. All in all, women and community women organisation engagement with food waste is enhancing food waste reduction and management in the household and community.

Keywords: *Community food waste management, Food waste, Waste management, Women, Women organisation.*

1. INTRODUCTION

The United Nations members set 17 targets in 2015 that by 2030, the earth and all individual on it will live in peace and harmony. One of the goals is to ensure healthy lives and promote well-being for all. One of the actions taken to achieve this goal is by reducing the number of casualties caused by hazardous air, water, soil, and chemicals pollution. Waste is known as one of the sources that decrease the air, water and soil qualities, particularly food waste.

In Indonesian culture, women handle household food waste. Women role as household managers plays an essential role in reducing food waste. However, this does not mean that women will automatically deal with food waste properly. The way women manage food waste is influenced by several factors, such as socio-cultural processes, education, environmental awareness and women involvement in the community. It can be claimed that in Indonesia, women's undertaking household food waste is influenced by their activities in the neighborhood [1-2].

2. THEORETICAL FRAMEWORK

2.1. Women Perspective

Gender is understood as socially constructed rather than a biological concept. Thus, when analyzing gender relations, it is necessary to consider that power encompasses other forms of relationships and inequality such as socio-economic class, race and ethnicity. That is, women's lived experience is shaped and differentiated by these other factors in addition to their gender identity [3]. Thus, women's experience and knowledge are different from men, particularly in terms of equity.

Women and men perceive different perception of gender equity [4] (Reeves and Baden 2000). Principe and Kabeer [5] in the development context women have experienced social disadvantage for centuries, which may make gender inequity seem insignificant. For this reason, when analyzing gender equity, as will be the case in this paper, more of a focus is generally placed on women. In examining gender equity, this study focuses mainly on issues of women's participation in, access to and use and control over activities that affect their lives, their ability to voice their opinions and

questions of empowerment, all of which are interrelated. In this case, it is correlated with food waste.

2.2 Food Waste

Food waste has been identified as a significant economic, environment and social problem [6]. Economically, throwing food away is tantamount to throwing money away. Food waste globally is equivalent to 750 billion US Dollars annually [7]. The EU Committee [8] suggests that the budget needed to handle UK food waste is at least £950 per tonne. This financial requirement means that a significant amount of money is needed to throw money (i.e. food) away. Greenhouse gasses are examples of environmental problems caused by food waste [9- 10]. Methane is one of the greenhouse gases that is emitted from food waste in landfill. There are also social concerns about food ending up in bins when people lack appropriate nutrition [7-11-12].

Although Indonesia has not had a specific food waste management regulation, it started to regulate waste in 2008 when a waste management policy paper was ratified. The latest Indonesian waste management policy obligates every local government to manage their waste. Cities also have to stop open dumping, so most of the city governments now undertake sanitary landfill. Due to the Indonesian government's constraints in managing waste, third party involvement is needed [13] and the community holds a vital role in sustainable waste management [14-15]. Supriyadi [16] notes that community waste self-managing starts in the household when separating the waste. Each house is asked to separate the waste it produces. In Indonesia, most homes only separate the organic material and non-organics without sorting the recyclable into categories. This research will only discuss food waste, which is categorized as organic waste, without understating the importance of managing non-organic waste.

2.3 Women and Food Waste

A study by El-Hoz [17] argues that housewives contribute an essential role in reducing and recycling the waste within households, which can significantly change the behavioral pattern regarding household food waste. Muhammad and Manu [18] also highlight that women and waste in a household have a strong relationship because of their daily contact. The power relationships between men and women within households tend to mean that women deal with household tasks, including food waste management.

Regions tend to have different gender power relation characteristics, although these have begun to shift due to globalization [19]. Women in the Southeast Asian region may now more often consider doing paid work rather than staying at home [20]. However, it is still women who tend to deal with household tasks [21], especially cooking, including dealing with food waste

and leftovers. The World Food program undertook a study in 2013, which is cited by Lipinski et al. [22]. This study indicated that women might correlate with reducing food waste since women do 85-90% of food preparation and cooking. However, only limited studies have been done investigating women's role in reducing food waste.

3. METHOD

3.1 Research Design

In this research, a qualitative method was selected to understand the individual perspective of the problem in-depth [23]. It is also more explorative compared to quantitative research [24]. By using the qualitative method, more detailed data with more in-depth understanding was obtained from respondents relating to the study topic [25]. In-depth interviews are considered as an appropriate technique to gain comprehensive information related to gender research [26]. The in-depth interview is also more appropriate when discussing sensitive issues as compared to a focus group discussion [27] and in Indonesia, the household condition is a sensitive topic. The way respondents contribute to community food waste management could also potentially lead to disharmony if discussed in a group environment. To minimize any sensitivity experienced by respondents when undertaking the interviews, the researcher ensured that respondents were comfortable with the discussion [28] when asking about their knowledge and experience of food waste management in the household.

3.2 Case Study and Participants

The research was undertaken in the city of Bandung due to the familiarity of the researcher with the city and thus eased of access to respondents [29]. Purposive sampling was used to select the case study location [30]. Secondary data analysis of city documents was undertaken to obtain knowledge about food waste management in the city. Officers responsible for dealing with city waste were considered as key informants and were interviewed and consulted regarding area selection. The key informants were the Head of the City Environmental and Sanitation Agency, the Head of the Environmental Governance Division at the City Environmental and Sanitation Agency and the Head of Legal and Public Relations at city-owned Waste Enterprise. City-owned waste enterprise is a government-owned company that handling the city's waste. It was determined that the research should take place in RW 06, Kelurahan2 Palasari sub-district, Bandung City, Indonesia. The community was selected because of the way it manages its waste, particularly food waste. It has two bio-digesters that process food waste into gas. It also has a waste bank that purchases recyclable material from its citizens. So, the community is considered as adopting best practice in managing its waste.

After selecting the study area, the next step was recruiting women within the field of study to take part in the research. A leaflet informing people about the study and a questionnaire asking for general information associated with food waste practices within households were distributed amongst women within the community. The last question in the survey asked about willingness to become a research respondent. Fifty-two questionnaires were returned, and 22 of the women agreed to be interviewed. However, six respondents withdrew their participation prior to the interview. During the interview period, the researcher also approached some households, which did not return the questionnaire about their willingness to be interviewed. By using this second recruitment method, an additional 14 respondents were identified and interviewed. When undertaking the interviews, two respondents were accompanied by their married daughters who lived with them. These daughters were also treated as respondents, and they answered some questions. In total, 30 respondents took part in the research.

3.3 Interviews

The interviews were held at respondents' homes, as this is where waste management issues occur [29-31]. It also created a comfortable environment for the women because the interviews were held in a place familiar to them [28]. Originally the conversation had intended to use 'go-to' methods - with the meeting held where the action usually takes place [29-32]. Unfortunately, due to ethical issues and for the greater comfort of respondents, the interviews were undertaken in a more semi-static way than initially planned. Firstly, the respondents answered questions in the living room of their houses. After all the questions were answered, the respondents took the researcher to places in the home where they usually process and store food while answering some follow-up questions.

4. RESULTS

4.1 Empirical Condition

Based on the secondary data, sixty-three per cent of waste in Bandung is organic waste which comes from food waste (84%) and garden waste (16%) [33]. Most of the citizens choose to dispose of their food waste in the bin so that it ends up in the landfill. Some do manage their food waste by composting in their yard, although this is not particularly popular in Bandung [34]. Some citizens put food waste in their composter, stir it once in a few days and take the compost to be used in their gardens.

According to the Head of Legal and Public Relations at city-owned Waste Enterprise, the responsibility of handling waste is shared between the communities and the city government. In Bandung, the social groups are responsible for transporting household waste from houses to the local landfill site, while the government operating from the local landfill site to the city's

landfill. There are 1,559 RWs that serve communities that take care of waste from relevant households. The Head of the RW appoints a person who is responsible for community waste management. Some of these individuals not only transfer the debris from the houses to the temporary landfill but also undertake separating and recycling. Usually, there are two divisions under the Head of the RW chosen by him/her to take care of the waste problem; the environment division and the PKK division. PKK is a women's organisation in Indonesia. It is established within communities in cities and provinces. Based on its constitution, PKK is automatically chaired by the wives of the mayor at the municipal level and the wives of the governor at the provincial level. If the mayor or the governor is a woman, then the wives of the vice mayor or vice governor act as the chair.

4.2 Community Women Organization Role

Based on the interview with the head of the environmental government division, RW 06 Palasari sub-district is considered as one of the best practice communities in Bandung in handling waste run by women. The head of the community explains that the women organization or the PKK is empowered and have full control in managing the community's waste, particularly food waste. In the community level, PKK is setting up the collection schedule. They also have the power to employ the bin men, persons who collect garbage from the household then bring it to the waste landfill.

In another separate occasion, the head of the community waste section asserted that they also hold a monthly women meeting. They invited all women in the community to take part in their activities, although not much who attend it regularly. In the meeting, they give education and training, which one of them how to handling food waste. Mrs Tuti Susanah advised that in one of the meeting, the PKK invited environment activist to train them how to manage their household food waste. She was told that when food waste is separated from other domestic waste, the waste would not be foul-smelling. Thus, women in RW 06 Palasari sub-district are already empowered as regards reducing food waste. Moreover, the head of the community has appointed them to take charge of managing waste – as such they are key actors in managing waste, particularly food waste, within the community.

4.3 Community Shopping Habits

Based on observations in the RW 06 Palasari sub-district neighborhood, there are several travelling salespeople visiting the area daily at different times. They sell uncooked foods like vegetables, meat, fish and tofu, or ready meals like chicken porridge, green bean porridge and "lontong sayur" for the people in the community.



Figures 1. Travelling sales people in RW 06 Palasari sub-district

Mrs C gave further insight into why she shops once every two days and sometimes uses the travelling salespeople every day. She had experience of living with her grandmother when she was a child, and her grandmother used to go to the market in the morning. Then, she would cook once a day to feed her family. Mrs C also uses travelling salespeople for her shopping and regularly cooks each morning. She also added that her grandmother shopped every day because, at that time, a refrigerator was not available in the household. Her grandmother did not have modern technology to store food and keep it fresh for an extended period.

5. DISCUSSION

This paper does attempt to enhance our understanding of household food waste from a female perspective. It is interesting to note that communities also play an essential role, and Bandung's waste management system involves them in handling the waste. It could be assumed that PKK has an intense bargaining and political position since it has access to an influential decision-maker, although it does not align to political parties. As argued by [35] Blackburn (1999), Indonesian women have more engagement with groups based on ethnicity, kinship networks and religion rather than political parties.

The community involved in the research also allows women to express themselves through activities related to food waste. They can gather in groups and educate themselves by participating in informative discussions with key speakers who transfer their knowledge to women within the community. Moreover, the head of the community has formulated a policy that gives women a mandate to handle the community waste management system and this mandate is proving successful. The trust imparted by the community authorities in women and their capabilities have been vital for female empowerment. The evidence shows that women can help to improve the quality of a community when they are given the authority to do so, and there is faith in their actions.

6. CONCLUSION

This study found that women had an important role in food waste management in their neighbourhood. Women who keenly engage with the women community organisation activities can reduce the amount of food waste generated from home. The trust imparted by the community authorities in women and their capabilities have been vital for female empowerment.

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