



**IMPLEMENTATION OF GENDER MAINSTREAMING IN WASTE BANK
MANAGEMENT: A STUDY OF WOMEN CADRES IN SURABAYA**

*Implementasi Pengarusutamaan Gender Dalam Pengelolaan Bank Sampah: Studi Pada
Kader Perempuan Di Surabaya*

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Kata Kunci :

*Kesetaraan
Gender,
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Abstrak :

Permasalahan kesenjangan gender dalam pengelolaan bank sampah masih menjadi tantangan di Surabaya. Kegiatan pengabdian kepada masyarakat ini bertujuan untuk meningkatkan pemahaman dan sikap kader bank sampah perempuan terkait konsep gender dan pemberdayaan perempuan di kegiatan ekonomi komunitas. Metode kegiatan berupa pelatihan satu hari yang dilaksanakan dengan pendekatan ceramah interaktif, diskusi kelompok, serta penggunaan media digital untuk memfasilitasi partisipasi peserta. Sebanyak 58 kader perempuan bank sampah dari berbagai wilayah Surabaya mengikuti kegiatan ini. Hasil pelatihan menunjukkan adanya peningkatan pengetahuan dan sikap peserta terhadap peran gender yang diukur melalui pre-test dan post-test. Uji Wilcoxon signed-rank menunjukkan perbedaan signifikan pada pengetahuan ($W = 14.5$, $p < 0.001$) dan sikap ($W = 315$, $p = 0.008$). Peserta juga menyampaikan refleksi dan pengalaman mengenai tantangan peran gender dan kontribusi ekonomi keluarga. Hasil menunjukkan bahwa kegiatan ini efektif dalam meningkatkan pengetahuan dan sikap kader bank sampah terhadap peran gender dan memberikan insight baru terkait peran pemberdayaan perempuan dalam perekonomian keluarga.

Key word :

*Gender Equality,
Women
Empowerment,*

Abstract :

The gender inequality in waste bank management remains a challenge in Surabaya. This community service activity aims to improve the understanding and attitudes of female waste bank cadres regarding the concept of gender and



Waste Bank,
Environmental
Women Cadre

women's empowerment in community economic activities. The activity method is a one-day training conducted using an interactive lecture approach, group discussions, and the use of digital media to facilitate participant participation. A total of 58 female waste bank cadres from various areas of Surabaya participated in this activity. The training results showed an increase in participants' knowledge and attitudes towards gender roles as measured by pre-test and post-test. The Wilcoxon signed-rank test showed a significant difference in knowledge ($W = 14.5, p < 0.001$) and attitudes ($W = 315, p = 0.008$). Participants also shared reflections and experiences regarding the challenges of gender roles and family economic contributions. The results indicate that this activity is effective in improving the knowledge and attitudes of waste bank cadres towards gender roles and providing new insights regarding the role of women's empowerment in the family economy.

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INTRODUCTION

Waste management is a problem that still remains unsolved in Indonesia for many years. According to the Environment Ministry data, Indonesia produced around 69.9 million tons of waste in 2023. It is estimated that 57% of this waste remained unmanaged, and instead being buried or burned, which can lead to environmental damage and pollution. Based on the Presidential Regulation, the government aims to improve the country's waste management by ensuring that 70% of waste is managed through sorting, collection, and processing into raw materials or energy sources, while the remaining 30% is set to be reduced through recycling. However, the National Waste Management Information System (SIPSN), reported that only 60% of waste was managed in 2023, with the remainder being left unmanaged. Juwita (2025) notes that Indonesia is unlikely to achieve its ambitious goal of managing 100 percent of its waste by the end of 2025, with experts citing a lack of political will and insufficient fiscal capacity as key obstacles. Therefore, an efficient waste management system that is applicable to all levels of society is urgently needed.

To illustrate, smaller places of Indonesia like villages such as Rawa Panjang Waste Bank, Bojonggede, Bogor and Sei Sembilang, Banyuasin Regency, South Sumatra Province are struggling with managing waste effectively due to littering problems. While there are community efforts to overcome this matter, a large number of the individuals involved are of a particular demographic description; women with household responsibilities. Recalling the case of the Rawa Panjang Waste Bank, Purnamasari (2024) found that women made up 99% of the waste bank managers. From the village of Sei Sembilang, women were also sole agents of managing the waste in the community, however a problem persists—as found in many other studies across Indonesia (Asmara *et al.*, 2020; Purnamasari, 2024; Rahmania *et al.*, 2025). One, although there was a rich participation from women, they bore a double burden of carrying out household responsibilities and managing waste banks, yet with little to no empowerment; women are not appropriately compensated for their time and energy. They are overworked, undercompensated, and unsupported, reflecting gender inequality rather than empowerment. Meanwhile, men rarely participate because they see waste management as unprofitable or outside of their role as breadwinners. As a result of these unacceptable conditions,



waste banks also bear limited sustainability in the care they receive which will only continue to risk the well-being of those living in the community.

In Surabaya, studies have shown that previous initiatives to manage waste through multiple waste bank programs have been unfruitful (Jamaludin *et al.*, 2023; Noviyanti *et al.*, 2023; Warmadewanthi & Haqq, 2019; Widyati *et al.*, 2022). Overall, the programs have shown very low effectiveness in absorbing waste, only reducing 0.15 - 0.34% of total landfill waste. Suggestions to overcome this issue point towards improving the performance of waste bank units and expanding active participation of community members, both of men and women. However, despite having equally significant roles in managing waste, women, unlike their male counterparts, continue to be met with inequality in receiving incentives and working in leadership roles in the labour (Nur'aini & Wahyudi, 2020). While women currently dominate as waste managers such as sorting, weighing and depositing waste at a household level, men have more access to managerial roles such as training in waste bank programs at community level. Economic benefits and capacity-building opportunities towards women in the waste bank programs remain uneven for their labour are only seen as 'carework'. Although women have participated in community-level waste management, studies show that they are subjected to unpaid labour unlike men (Purnamasari, 2024). This case illustrates gender-bias and unless these issues are addressed, waste bank programs in Surabaya will persist to function with limited impact on the environment.

One way of addressing this issue is through the lens of gender mainstreaming – a theory and strategy that incorporates gender representation and gender responsive education in the policy-making process. In the context of waste management, this concept has the role of addressing gender-bias in managing waste. Specifically, it has been instrumental at addressing the importance of women's role in managing waste at a community-level, beyond their own household. For example, at an individual level, the concept has helped empower women to take part in waste management in their own communities. At a community level, a case study in Bijeljina, Bosnia and Herzegovina by NALAS (2022) has shown that gender-sensitive approaches to managing waste had increase the participation of women in waste bank programs – a crucial outcome for waste bank programs in Surabaya to improve their impact.

Currently, there is an abundance of discussions related to this issue, yet a rarity persists around the implementation of gender mainstreaming as a strategy to address the problem of gender inequality. Previous studies have been able to successfully highlight the existence of gender inequality issues in the waste management environment (Amoah *et al.*, 2023; Asmara *et al.*, 2020; Muchangos & Vaughtner, 2019). However, many have yet implemented the theory of gender mainstreaming to solve these issues as part of their studies, especially in the vicinity of waste bank programs in Surabaya. Without facilitating the community with a gender mainstreaming approach, women, as well as many other members of societies in Indonesia will continue to dwell in living conditions with unfair social harmony and unacceptable environmental and health risks. This problem will continue to persist so far to the next generation, unless measures are taken to implement programs to educate communities about the issue. Therefore, this study aimed to implement a gender mainstreaming training program for female waste bank cadres in Surabaya and to evaluate its effectiveness in improving their knowledge and attitudes toward gender equality in the context of community-based waste management.

ACTIVITY METHOD

Time and Place of Activity

The training activity was carried out on February 5, 2025, and took place at one of public mall in Surabaya. The venue was selected due to its accessibility for participants coming from different districts across the city and its capacity to accommodate the entire group in a conducive learning environment.



Target Group

The target participants of this program were female waste bank cadres from various neighborhoods in Surabaya. Waste bank cadres play a vital role in community-based environmental management. Their primary responsibility is to organize and oversee the operation of waste banks in their respective neighborhoods, where recyclable materials are collected, categorized, and exchanged for savings or other economic benefits. Through these activities, cadres contribute not only to environmental sustainability but also to family income and local economic resilience. Despite their important role, many cadres still lack an adequate understanding of gender mainstreaming and its application in both economic and environmental initiatives.

Number of Participants

A total of 58 participants, aged between 32 and 62 years, attended the training. All participants were women and represented different sub-districts in Surabaya. They were recruited through official invitations distributed to waste bank coordinators, who then nominated representatives from their respective areas.

Implementation Method

The implementation of the program followed several steps.

1. Problem Identification

Gender mainstreaming is widely recognized as an essential approach to achieving gender equality across multiple domains, including the economy, society, and environment. Women's empowerment in the economic sector not only improves individual welfare but also has a direct impact on family and community well-being. In the context of waste banks, women cadres serve as community leaders who can simultaneously strengthen household economic resilience and foster environmental awareness. However, initial observations indicated that cadres' knowledge and attitudes regarding gender mainstreaming were still limited, which reduced the effectiveness of their contributions to these programs.

2. Proposed Solution

To address this gap, a one-day training program on gender mainstreaming was developed. The training was designed to enhance participants' knowledge and attitudes about gender roles in community-based waste management and its contribution to economic empowerment.

3. Training Implementation

The training was delivered using a lecture-based approach, supported by interactive discussions to ensure participants' engagement. The training consisted of two main sessions delivered by different facilitators. The first session introduced the concept of gender mainstreaming through an interactive activity using an open-source website (Wooclap), where participants listed gendered roles and then reflected on whether these roles could be reversed. The second session focused on the economic roles of women in the family, during which participants wrote down their own experiences, challenges, and expectations, and shared them in group discussions.

Three main instruments were used in this study: (1) a demographic questionnaire, (2) a gender role knowledge scale, and (3) a gender role attitude scale. The demographic questionnaire information such as age, educational background, and occupation. The gender role knowledge scale was specifically developed to assess participants' understanding of gender concepts within environmental and economic contexts. This scale consisted of five items rated on a 4-point Likert scale ranging from 1 (Not knowledgeable) to 4 (Knowledgeable), and demonstrated acceptable reliability (McDonald's $\omega = 0.786$). The gender role attitude scale was adapted from the Gender Norms Scale (G-NORM), which assesses perceptions of gender norms at the community level. This scale included 15 items rated on a

4-point scale from 1 (Strongly disagree) to 4 (Strongly agree). Reliability analysis for this scale showed an internal consistency coefficient of McDonald's $\omega = 0.576$.

Data from pre-test and post-test assessments were analyzed using the Wilcoxon signed-rank test, given that the normality assumption was not met. All statistical analyses were conducted using Jamovi version 2.3.28.

RESULTS AND DISCUSSION

Prior to the training, participants' baseline knowledge and attitudes regarding gender mainstreaming were assessed. The pre-test results demonstrated that although cadres had some prior understanding, there was still considerable room for improvement. On average, participants' knowledge score was 15.3 (out of 20), while the average attitude score was 30.7 (out of 60). These findings suggest that while the cadres already recognized the importance of gender roles in society, their comprehension of how gender mainstreaming could be integrated into community-based waste management and economic empowerment initiatives remained limited.



Figure 1. Assessment process in gender equality training on waste management cadre

The initial session of training introduced participants to the concept of gender mainstreaming through an interactive exercise using the open-source platform Wooclap. In this activity, they identified various gendered roles and sex, then reflected on the possibility of reversing them, so participants can understand the difference between gender and sex. Besides that, participants also discussed gender construction and the type of gender inequality.

The following session emphasised women's economic contributions within the family, where participants documented their personal experiences, challenges, and expectations, and subsequently discussed them in groups.



Figure 2. The program implementation of gender equality training on waste management cadre



Figure 3. Interactive session using open-source website

The evaluation of the program was carried out through post-test assessments and participant feedback. The results of the pre-test and post-test differences between participants are presented in Table 1. Table 1 shows that the mean score for participants' understanding increased from 15.3 to 18.7. The post-test scores also indicate a very high level of understanding among participants regarding gender roles, as evidenced by the average score approaching the highest level of 20. This indicates that the training significantly improved understanding of gender roles both before and after the training.

Table1. Descriptive analysis of pre-test and post-test scores

	Knowledge		Attitude	
	Pre-test	Post-test	Pre-test	Post-test
N	58	58	58	58
Mean	15.3	18.7	30.7	31.8
Median	16.0	20.0	31.0	31.0
Standard Deviation	3.38	2.42	3.54	3.88
Minimum	5	5	22.0	23.0
Maximum	20	20	40.0	42.0

The average score for participants' attitudes toward gender roles in society also increased. The average score for participants' attitudes toward gender roles increased from 30.7 to 31.8. The post-test scores also indicate a relatively high level of understanding among participants regarding gender roles, as evidenced by the average score approaching the highest level of 60. This indicates that participants' perceptions of gender norms in their environment have improved.

Table 2. Result of Wilcoxon signed-rank test

	Statistic	df	p	Mean Difference	SE Difference	Rank Biserial Correlation
Knowledge	14.5	57.0	<.001	-4.00	0.408	-0.975
Attitude	315	57.0	0.008	-1.00	0.411	-0.442

The results of the Wilcoxon signed-rank test are presented in Table 2. Both participants' knowledge and attitudes showed significant improvement after the training. The mean difference between pretest and posttest knowledge scores was 4 ($W = 14.5$, $p < 0.001$, rank biserial correlation =

0.97). Similarly, the mean difference between pretest and posttest attitude scores was 1 ($W = 315$, $p < 0.05$, rank biserial correlation = 0.44). These findings indicate that the training session was effective in enhancing participants' knowledge about gender role and attitudes toward gender norms.

Based on the results, participants demonstrated an improved understanding of gender roles in their domain at a community level and their contributions towards the environment and economic segment of society. The training necessitated enhanced perception of how roles on the basis of gender can be distributed fairly, especially with the priority of reinforcing benefits towards women in waste management labour. An effort that remain stagnant through formal governmental effort. In support of this statement are previous studies that have conducted similar training; Asteria & Haryanto (2021) found that targeted training in managing waste significantly boosted confidence levels while the Network of Associations of Local Authorities of South-East Europe (NALAS, 2022) cited strengthened participation of women in waste management as a result of the gender-sensitive approach implemented in their case study.

The increase of knowledge and attitude towards gender roles shown in the post-test reflects the great advantage to utilising concepts of gender equity and gender mainstreaming specific to the context of waste management responsibility. Education of these concepts is supplementary to build perseverance in managing waste for women as waste bank actors and additionally counters the dormant initiatives of the government to educate communities on waste reduction (Pakasi & Purnamasari, 2024). In fact, a study found that fostering women about knowledge on waste management and its benefits maintained their willingness to participate (Rahmawati *et al.*, 2022).

Positive results acquired from the one-day program have successfully demonstrated how equipping women with the concept of gender mainstreaming leads to an improved knowledge on gender roles and norms in managing waste, ultimately increasing awareness of the importance of women's roles in waste bank management and even the family economy. Programs that bear similar results of empowering women through waste management training are mentioned in Lidya *et al.*, (2017) and Utami & Godjali (2020). Lidya *et al.*, (2017) equipped waste bank cadres through a program developed based on the "women empowerment framework" in Air Lintang village, South Sumatra. Women successfully engaged in actively turning waste products to economic profit. This included taking part in crafting programs where they turned inorganic waste collected from the village waste bank into vases, lamps, and folders. These products were then sold to the community, which helped provide additional financial income. Similarly, Utami & Godjali (2020) showed that the waste bank program 'Limbah Pustaka' in Purbalingga Regency, Central Java, applied fundamental aspects of female empowerment. The concept was instrumental to helping women in many ways; moving from their traditional role of managing household waste to being leaders of the waste management program, supplying valuable knowledge of how waste can be turned to economic value, motivating women to take up active roles in managing waste to gain social recognition in the community, and becoming agents of education of waste management for children in the community. Altogether, these programs have shown how women's involvement in the area of waste management ensures to empower individuals economically and socially, but also the community towards environmental sustainability.

Further studies have underlined the importance of women's role and involvement in waste management towards social and economic welfare, as well as contributing to a cleaner environment (Latifah & Machdum, 2025; Rahmania *et al.*, 2025; Rahmawati *et al.*, 2022). Previous cases suggest that women play an active role in taking steps to handle and process waste. In their study, Rahmawati *et al.*, (2022) pointed out that women act as cadets, educating people about how to sort waste. Even though they are the largest producers of household waste, they play a significant role in managing the waste. In another study, Asmara *et al.*, (2020) have found that women in Sei Sembilang have higher knowledge in waste sorting and water pollution issues, and they are more responsive to their environment.

CONCLUSION AND SUGGESTION

Overall, the results and discussion suggest the effectiveness of promoting gender mainstreaming into community-based environmental programs. The improvement in knowledge and attitudes among waste bank cadres towards gender roles and gender norms in the short and focused training is necessary to make cadres more empowered. In the long term, cadres who participated in this training can potentially transfer their knowledge to other community members, thereby amplifying the impact of the program. Ultimately, the program contributes directly to the achievement of Sustainable Development Goal (SDG) 5 on Gender Equality, and indirectly supports other goals such as SDG 12 on Responsible Consumption and Production through the promotion of sustainable waste management practices. This activity and the material can be adapted and tested for a broader target audience in future activities. Besides that, impact evaluation within participants should also be carried out in the future.

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