

The role of women as agents of change in the management of waste and environment in the study of ecofeminism

Tri Marhaeni Pudji Astuti¹, Mohammad Tahir Mapa², Fajar³, Gustaman Fulia Aji⁴,
Ferani Mulianingsih⁵, Saratri Wilonoyudho⁶, Dewi Liesnoor Setyawati⁷

^{1,3,4}Prodi Sosiologi dan Antropologi, Fakultas Ilmu Sosial dan Ilmu Politik,
Universitas Negeri Semarang

²Program Geografi, Fakulti Sains Sosial dan Kemanusiaan, Universiti Malaysia Sabah

⁵Prodi Pendidikan Ilmu Pengetahuan Sosial, Fakultas Ilmu Sosial dan Ilmu Politik,
Universitas Negeri Semarang

⁶Prodi Teknik Sipil, Fakultas Teknik, Universitas Negeri Semarang

⁷Prodi Geografi, Fakultas Ilmu Sosial dan Ilmu Politik, Universitas Negeri Semarang

Correspondence: Mohammad Tahir Mapa (email: herma@ums.edu.my)

Received: 8 April 2025; Accepted: 16 February 2026; Published: 21 May 2026

Abstract

Ecofeminism actively rejects the notion of returning women to the realms of myth, stereotype and domestication; it boldly addresses these issues through a strong feminist consciousness. This perspective highlights the need to balance relationships within society and within environmental discourse. This article intends to explore two main objectives: 1) the connection between ecofeminism and the role of women in environmental issues and 2) the position of women as agents of change in the environment. The research employs a descriptive qualitative approach to analyzing women's participation in environmental management from an ecofeminist perspective. The study is conducted in Patemon Village, Pakintelan Village and Sekaran Village in Semarang City. The primary subjects of this research are women actively involved in waste management. From each village, two representatives were selected, along with one supporting informant. Data was collected through interviews, observations and documentation. To ensure validity, data were cross-verified through triangulation. Data analysis was conducted in an interpretative and interactive manner. The results of this study indicate that: 1) the role of women in waste management has undergone a significant transformation, including changes in their knowledge and behavior concerning waste and 2) waste management is still predominantly assigned to women due to social constructs that frame waste as a domestic issue, thus it becomes women's responsibility. Culturally, many communities continue to uphold patriarchal norms that prioritize men, leading to a perception that managing household waste is not suitable for them.

Keywords: Agent of change, feminism, role, waste management, women

Introduction

Since the end of the twentieth century, the environmental awareness movement has emerged. This movement raises awareness among the public and government on how crucial it is to preserve the environment "as home" in order to maintain its safety and comfort. Since the 2000s, people have realized how important it is to preserve the environment in order to keep it cleaner, healthier and greener. One way to do this is through circular economy policies, which are an approach implemented in alternative waste management in line with environmental development. (Assefa et al., 2026). Media campaigns, slogans, taglines and government appeals have begun to emphasize the importance of the environment for future generations (Sakawi et al., 2017). Various taglines were introduced and shared with the public, such as the Tourism Awareness Movement, Ecotourism, Cultural Tourism and other phrases emphasizing the importance of environmental conservation for future generations (Rose et al., 2018). Apart from that, at the end of the 20th century, "environmentally friendly" consumer products with recycled packaging began to emerge.

The next development occurs when academics and university circles begin to recognize the importance of the environment for future generations. Many educational institutions are actively engaged in environmental activities, such as cooperating with communities to preserve or plant mangrove forests, protecting turtle habitats, cleaning beaches and participating in other related environmental initiatives. These days, many universities implement "green environment" principles for their campuses. Similarly, several businesses used CSR (Corporate Social Responsibility) funds for environmental initiatives. Examples include preserving fishing communities and coastal areas and providing environmentally friendly goods to MSMEs. The concern of companies in environmental care activities is due to the deterioration of the quality of the environment and also the social environment.

Ecological issues, or those related to the environment are seriously debated. International conferences are held repeatedly to discuss strategies for reducing climate change and ecological damage. One of the major events on ecology and sustainability is the 26th *Conference of the Parties* (COP26), which was held in Glasgow, Scotland, from October to November 2021. Unfortunately, in the issues of climate change, ecological damage and sustainability, the gender perspective is unfortunately overlooked. The COVID-19 pandemic has made us all aware that women are greatly affected by ecological events, especially in the economic, social and health sectors.

This article aims to complement previous research on ecofeminism, women's roles in various fields and women's roles in conservation. Building on previous research, this study has two main objectives: first, to explore ecofeminism and the role of women in relation to the environment. Secondly, it is essential to investigate the pivotal role that women play as agents of change in addressing environmental challenges.

Literature review

Ecofeminism and the role of women in the environment

Since the environmental movement has grown among NGOs (non-governmental organizations), governments and university academics, many of them are unaware that environmental issues are inextricably linked to gender issues. According to stereotypes prevailing in society, women are

associated with nature, despite the fact that women are also involved in technology (Rashid et al., 2023). In everyday life, the connection between nature and women is evident. Nature is often personified as a woman, such as noble girls and Mother Nature, depicted as wise figures or queens who regulate and nurture everything (Buntaran, 1996). The common perspective is of nature as a nurturing mother, the earth that sustains life (Astuti, 2012a).

The personification of women as representations of nature is prevalent in society. The myth suggests that a beautiful woman has a face that shines like the moon, calves resembling yellowing rice grains and teeth like cucumber seeds. These ideals can sometimes have negative implications, as they pressure society and women to strive to conform to these unrealistic standards. As a result, women try in all kinds of ways to fulfill the expectations of a society that has been hegemonized by myths. Women can be compared to nature, which is often controlled by humans. In this analogy, nature represents something that is objectified, such as goods and land, that humans manipulate and exploit. Similarly, the comparison suggests that women are also subjected to control by society, particularly by men (Astuti, 2011).

Feminism emerged to respond to the problem of gender inequality, discrimination, oppression and violence against women (Human, 2002). The feminist and ecological movements have mutually reinforcing goals, both of which seek to build a view of the world of practice that is not based on patriarchal models and domination. There is a very important link between the domination of women and the domination of nature. The current ecological destruction is due to androcentric views and practices. The link between feminism and the environment is a historical cause. Ecofeminist philosophers argue that the basic concept of the twin domination of nature and women is the dualism of values and the hierarchy of values. So, the role of feminist and environmental ethics is to expose and dismantle this dualism and to reconstruct the philosophical ideas that underlie it (Darmawati, 2002; Astuti, 2012b).

The relationship between women and the environment is now widely voiced through ecofeminism. Ecofeminism is a branch of feminism that emphasizes the environment and the relationship between women and the earth as the basis for analysis and practice, which appears to be a growing field of study (Shabrang & Afsharzadeh, 2023). The term “ecofeminism” was introduced by French writer Françoise d'Eaubonne in her book entitled “*Le Féminisme ou la Mort*” (d'Eaubonne, 2022). This concept emphasizes not viewing women or the environment as property, a perspective often reinforced by patriarchal systems (d'Eaubonne, 2022). As a result of the patriarchal system that is deeply rooted in human life, women tend to be placed in positions only for household (domestic) affairs. The exploitation rooted in a patriarchal system increasingly damages the environment due to agrarian conflicts. These conflicts reduce agricultural production, harm water sources, erode cultural identity and deteriorate family health quality.

Feminist theories regarding environment and behavior highlight the challenges faced by women in neighborhoods, particularly in urban areas that lack the infrastructure to support women's participation in the workforce and adapt to changing family dynamics. A guiding principle in feminist and environmental justice research is ensuring equal access for women to housing, transportation and public services. Injustice against women in the environment arises primarily from the human-perpetuated injustices toward non-humans and nature (Arivia, 2002). This is what is one of the reasons that drives the feminist movement to proclaim ecofeminism (Astuti, 2022).

Ecofeminism seeks to move beyond myths, stereotypes, and the idea of women being confined to domestic roles. Instead, it emphasizes a feminist perspective that recognizes the need for balance in social relationships as well as in environmental discussions (Firestone, 1970).

Ecofeminism emphasizes ending power struggles and fostering solidarity among Oikos residents, enabling everyone to live safely and peacefully together. The spirit of sharing is truly the basis for survival and building everything that requires a relationship of love and justice, all of which are called to build a culture with an eco-friendly and women-friendly lifestyle.

The role of women as agents of change in the natural environment

All humans oppose the destruction of nature, but the women's movement, particularly among rural or marginalized women, is more visibly engaged in defending the environment. The key to repairing the Earth lies in respecting the laws of nature, as understood by traditional indigenous communities. Environmental damage often starts with encroachment on forests, river pollution, and improper waste disposal. This occurs in peripheral regions, remote locations, or the interior. Women and children are among the groups most affected by natural and social environmental problems.

The natural environment comprises all the resources of the earth, including both biotic and abiotic elements that can be harnessed to fulfill human needs and enhance human welfare. Examples include plants, animals, air, water, soil, minerals, wind, sunlight and microorganisms. Nature possesses a variety of diverse properties, yet it remains harmonious and balanced. Conserving and protecting nature is essential for maintaining harmony and balance. Plants, animals, humans and microbes are biological natural resources, while other abiotic factors are non-biological natural resources. Natural resource utilization must include maintenance and preservation, as they are limited (Meylan, 2014).

Conservation of nature and women's contributions are closely linked; although women's voices and opinions on development issues, including ecological matters, are often overlooked, their role is undeniably significant. There are many cases and examples of women's contributions in various countries. One event that remains fresh in our memory is the famous Chipko movement in India. In Hindi, "Chipko" means "to hug." In 1974, 74 women in the village of Reni, located in northern India, united to stop deforestation. They hugged the trees that were about to be cut down by logging machines operated by large companies. This women's movement succeeded in saving approximately 12,000 square kilometers of forest area. The Chipko movement represents cultural values rooted in the belief to protect ancestral forests. For Indians, forests hold sacred significance, known as Aranya in Sanskrit (Warren, 2000).

Alongside its strong ecological foundation, the Chipko movement has a significant women's perspective. It involves women from grassroots organizations who are keenly aware of the connection between women's issues and environmental concerns. There are two interesting things to note in the arguments of the *Chipko* movement. First, women in India, much like in other developing countries, are often the first victims of deforestation. Trees fulfill four essential needs for households: food, fuel, household products (including cleaning tools and cooking utensils) and income generation. In many villages, most men have migrated to urban areas for work, leaving women to shoulder the responsibility of tasks such as fetching water and collecting firewood. Likewise, to earn a household income. The ongoing logging activities conducted by large corporations have led to a significant decline in tree populations. This loss has not only environmental implications but also poses challenges for communities that rely on these natural resources for their daily needs. Second, women are rarely included in the decision-making processes that affect their village. Consequently, their perspectives on the village's needs are often

overlooked, despite the fact that many village activities, such as providing clean water for social events, are primarily carried out by women (Astuti, 2012b).

In Burkina Faso, rural regions are facing significant challenges due to ongoing drought conditions. In this context, women are taking the initiative to seek out water resources, demonstrating remarkable resilience and dedication. The housewives gradually come together until eventually the entire village joins them. As they sing, they begin to dig the ground wider and deeper. This work continues for several months, filled with singing and joking, as they hope to finish soon and create a lake (or puddle) to collect water for the upcoming rainy season. When the rainy season begins, the puddle fills with water. Although not plentiful, it is quite beneficial for the lives of women in Burkina Faso. Only then did the men realize and repair the puddle that was already quite large enough to collect rainwater (Dankelman & Joan Davidson, 1988). Eventually, it transformed into a lake that serves as a water source accessible to all residents of the village. This story from Burkina Faso highlights the significant role that women play and their dedication to environmental conservation.

Not only playing a role, but women are also agents of change to conserve the environment. Cases in Burkina Faso and in India with the *Chipko* Movement show that women are agents of environmental utilization as well as agents of environmental rescue. As agents of environmental change, women must work hard in various ways to motivate men to care about what they do. Women as agents of change to save the environment are also carried out in various parts of the world, with various patterns and actions that steal attention.

Women's movement in Korea called *Salimist*, a term for Korean ecofeminists, which has 10 principles of life based on the basic elements of historical and spiritual wisdom of Korean women. The ten principles are forest, water, fire, air, justice, love, beauty, joy and celebration, the power of ants and spiders, seven generations and generosity Ahimsa (Kyung, 2001). *Salimist* makes everything come alive, especially the dead, like the earth. *Salimists touch* everything like a magician; they recycle everything. For them, a peace activist who thinks like a mountain and *Salimists* who love women, nature, earth and God (Kyung, 2001).

There are many more roles of women as agents of change in various countries such as Germany, Venezuela, Guyana and also Indonesia (Gracia, 2014; Luviana, 2002). In Indonesia, the role of women is similar. As agents of change and environmental conservation, they live in and utilize their environment. In Irian Jaya, the way people interact with their natural environment is deeply intertwined with their religious beliefs. For instance, women in Irian play a significant role in preserving their forests; they often prevent their husbands from cutting down trees by reciting poetry and encircling or even hugging the trees. This approach has been notably successful (Darmawati, 2002). Women in Indonesia have won many Kalpataru awards for their efforts to protect the environment, such as planting mangroves, keeping the living environment clean and carrying out many activities around the house that help improve the environment.

Ecofeminism has developed as a significant response to development and modernity paradigms that are male-centered and exploitative toward both nature and women. This concept was first introduced by Françoise d'Eaubonne, who argued that the global ecological crisis is directly linked to patriarchal systems that treat both nature and women as objects of domination and exploitation. (d'Eaubonne, 2022). From this perspective, environmental degradation is not understood merely as a technical or managerial problem, but rather as a consequence of unequal power relations, both between humans and nature and between men and women.

Warren (2000) emphasizes that the core issue in ecofeminism lies in what she terms the *logic of domination*, namely a hierarchical mode of thinking that legitimizes the domination of one

entity over another. This logic operates through the construction of binary oppositions such as human versus nature, rational versus emotional, culture versus nature and men versus women in which the former is consistently positioned as superior and entitled to control the latter. As a result, both women and nature are treated as resources that can be controlled and exploited in the pursuit of economic interests and power.

Furthermore, Vandana Shiva highlights that within modern development practices, particularly in developing countries, women often constitute the group most adversely affected by environmental degradation caused by industrialization, agribusiness and natural resource extraction (Shiva & Maria, 2005). Women, especially those living in local and rural communities, maintain a direct dependence on natural resources for meeting basic needs such as water, food, and household energy. Consequently, environmental degradation directly exacerbates women's social, economic and health vulnerabilities.

Nevertheless, ecofeminism does not conceptualize women's relationship with nature as inherent or biologically determined. On the contrary, this perspective explicitly critiques essentialist views that risk reproducing gender stereotypes and reinforcing women's double burden. Warren (2000) stresses that women's involvement in environmental management should be understood as a product of social constructions and historical experiences, rather than as a justification for disproportionately assigning ecological responsibilities to women.

In the Indonesian context, the relationship between women and the environment cannot be disentangled from cultural dynamics, state policies and the legacy of development programs that have traditionally positioned women within domestic and community spheres. Programs such as PKK and *Dasa Wisma*, while contributing to the strengthening of women's participation at the local level, also have the potential to reproduce unequal gender-based divisions of labor. Women are encouraged to play active roles in environmental management, whereas men's involvement and structural support often remain limited.

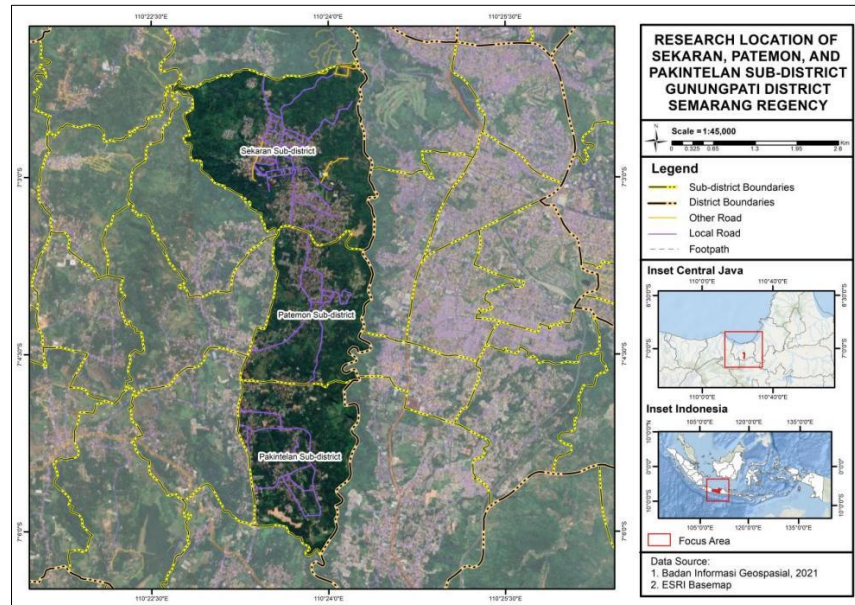
Accordingly, an ecofeminist approach provides a relevant analytical framework for examining local environmental management practices, including community-based waste management initiatives. Ecofeminism enables a critical analysis of women's roles as agents of environmental change while simultaneously revealing the structural constraints imposed by patriarchal domination (Issiki, 2000). This approach also underscores that environmental sustainability cannot be achieved without a transformation toward more just and equitable gender relations.

Based on this framework, the present study conceptualizes women's roles in environmental management not merely as extensions of domestic responsibilities, but as social-ecological practices shaped by negotiations of power, knowledge and responsibility. By linking empirical findings from Gunungpati with ecofeminist theory, this study seeks to contribute to the broader discourse on the intersections of gender, environment and sustainability within the context of local communities in Indonesia.

Method and study area

A qualitative approach was employed for data collection, utilizing methods such as interviews, observations and document analysis. The primary informants were chosen based on their roles in environmental management. They included key figures from the villages surrounding Semarang State University: Patemon Village, Pakintelan Village and Sekaran Village. The main informants

were selected from each village, with 2 representatives from each, resulting in a total of 6 informants. In each village, there were three supporting informants, each of whom was selected based on their knowledge and experience regarding the impact of environmental management. Data analysis is conducted interpretively and interactively, taking into account the context of the data and its location (Astuti, 2012b).



Source: Badan Informasi Geospasial, 2021

Figure 1. Map of research location

Results and discussion

The role of women in waste management

Waste becomes a distinct problem when an environment undergoes significant changes. The Sekaran, Patemon, and Pakintelan Villages in the Gunungpati District have faced considerable physical and geographical transformations since the establishment of Semarang State University. Land use has transitioned from residential gardens with various perennial plants, such as Rambutan, Durian, Avocado, Petai and Jengkol, to student rental houses and boarding houses. Significant issues arose as more incoming students became residents in houses rented by current residents. The primary concern was the increase in waste generated, leading to an uptick in household waste (Mapa et al., 2019). In line with the study by Rotthong et al. (2026), there has been an increase in municipal solid waste (MSW) production, which is estimated to increase by 70% by 2050 due to various influencing factors, such as the economic and social status of households, demographics and environmental awareness (Talalaj & Walery, 2015). Prior to the establishment of Semarang State University, the issue of waste management was not a significant concern, as articulated by Mrs. UM (35 years old) in an interview with the researcher:

“tentang sampah ya, Bu...saya mulai merasakan perbedaan ketika dulu, sebelum ada Unnes, saya kan asli sini (Patemon) dulu masing-masing rumah jaraknya masih jauh-jauh, Bu...” halaman depan, belakang, dan samping masih luas seperti rumah saya dulu jika membuang sampah yang di halaman belakang rumah dibuat lubang dan tidak menjadi masalah karena belum rame dan belum banyak penghuni. Sampah cukup dibuang dibelakang rumah dibuat lubang kalau sudah banyak dibakar. Nah....sekarang sejak ada Kampus semua rumah pada membangun rumah kos yang sangat menghasilkan dan menguntungkan....tapi ya itPrior to the establishment of Semarang State University, the issue of waste management was not a significant concern, as articulated by Mrs. UM.u...persoalan membuang sampah menjadi sulit ketika banyak anak kos sampah makin banyak tetapi lahan untuk buang sampah sudah tidak ada karena dipakai untuk mendirikan bangunan”.

“About garbage, ma’am...I started to feel the difference when before there was Unnes, I was originally from here (Patemon), each house was still far away, ma'am...the front yard, back yard and side yard were still spacious like my house used to be if I threw garbage in the backyard of the house, a hole was made and it was not a problem because it was not crowded and there were not many residents. Garbage is simply thrown behind the house to make a hole, if it is a lot, it is burned. Well...now that there is a campus, all houses are building boarding houses, which are very profitable.... but that's...the problem of disposing of garbage becomes difficult when there are many boarders, there is more garbage but there is no more land to dispose of garbage because it is used to build buildings.”

The findings indicate that waste management has become an increasingly important issue in the villages near Semarang State University, such as Patemon and Sekaran. This phenomenon can be attributed to the rising consumption of plastics, which has been influenced by demographic changes (Abd Rahim et al., 2024; Kang & Park, 2026). The waste management concern has evolved during the investigation. Since 2005, waste management has been the responsibility of each home; nevertheless, it has been observed that many have transitioned to using waste disposal services. Even though not every Patemon and Sekaran homeowner uses waste disposal services, the number of clients has been steadily increasing. Currently, almost all residents of Patemon and Sekaran have subscribed to waste disposal services. According to LS (38 years old):

“awalnya orang-orang sini pada ga peduli Bund tentang sampah ini....hampir semua sudah langganan...terus saya sama bu RT rembugan bagaimana jika ibu-ibu diajari mengelola sampah. Akhirnya Dawis Aglonema mendirikan bank sampah ELING RESIK. Bank sampah ini saya kelola, Bund...terus saya rajin memberi tahu di grup WA Dawis tentang pengumpulan sampah plastik, kardus, Kertas, dan Jalantah lengkap dengan harganya. Saya selalu mengingatkan untuk dikumpulkan di rumah saya lengkap dengan harga per kilonya berapa. Jadi saya berinisiatif Kerjasama dengan pengepul untuk membeli sampah-sampah tersebut. Awalnya juga hanya sedikit ibu-ibu yang mau menyetorkan sampah tetapi pengurus RT sepakat bagi ibu-ibu yang tidak setor sampah sebulan di denda sepuluh ribu rupiah. Baru setelah aturan itu diterapkan sekarang ibu-ibu rajin setor sampah. Setelah terkumpul di rumah saya, saya mencatat setiap nama dan jumlah sampahnya jadi rumah saya banyak sampah numpuk. Saya pisahkan pernama yang Setor. Setiap bulan saya panggil pengepul terus saya umumkan di grup WA bahwa akan ada penimbangan sampah trs yang pada setor sampah ibu-ibunya pada dating menyaksikan hasil sampahnya masing-masing”

“At first the people here didn't care, ma'am, about this garbage.... almost all of them have subscribed...then I and the neighborhood association discussed what if the women were taught to manage waste. Finally, Dawis Aglonema established the ELING RESIK waste bank. I manage this waste bank ma'am...then I diligently notify Dawis' WA group about the collection of Plastic, Cardboard, Paper and *Jalantah* waste complete with prices. I always remind them to bring it to my house, complete with the price per kilo. So, I took the initiative to cooperate with collectors to buy the garbage. Initially, there were only a few women who wanted to deposit garbage, but the RT management agreed that mothers who did not deposit garbage for a month would be fined ten thousand rupiah. Only after that rule was implemented are women now diligently depositing their garbage. After it was collected at my house, I recorded each name and the amount of garbage, so my house had a lot of garbage piled up. I separate the names of those who deposit. Every month I call the collectors and then I announce in the WA group that there will be a weighing of the garbage and then the women who deposit the garbage come to see the results of their respective garbage.”

When asked if the presence of the garbage disturbed her family at home,, Ms. LS replied:

“Iha gimana bund...ini juga demi kampung maka saya bela-belain bikin bank sampah ELING RESIK. Suami ya tidak komentar wong biasanya bapak-bapak cuek saja dengan kegiatan ibu-ibu. Bapak-bapak juga cuek kok bun urusan sampah. Jadi ya saya berinisiatif”

“What else ma'am...it's also for the sake of the village so I bothered to make the ELING RESIK waste bank. My husband doesn't comment because usually the men are ignorant of the women's activities. Men are also ignorant about garbage. So, I took the initiative. ”

When researchers asked further about knowledge of toxic and hazardous waste, Ms. LS admitted that she did not understand and had never received training on how to manage it. The following is a brief excerpt of her answer:

“Kalau limbah bahaya dan beracun sya ga paham Bund...misalnya apa itu Bund?oooo kosmetik, bahan-bahan kimiawi sabun dan lain...sya ya ga paham bund saya hanya ngurus sampah plastik, kardus, kertas, dan jlantah. Itu saja saya sudah kwalahan. Apalgai limbah elektronik gak paham bund kalao ada barang-barang elektronik yang laku ya saya kumpulkan di bank sampah ELING RESIK. Kalau sampah elektronik yang ga laku ya dibuang di sampah yang langganan diambil tukang sampah”

“For hazardous and toxic waste, I don't understand ma'am...for example, what is it ma'am?oooo cosmetics, soap chemicals and others...I don't understand ma'am, I only take care of plastic waste, cardboard, paper and waste. That alone I am already overwhelmed. What about electronic waste? I don't understand ma'am, when there are electronic items that sell, I collect them at the ELING RESIK waste bank. If electronic waste doesn't sell, I throw it in the garbage that the garbage man regularly picks up.”

DAWIS or Dasa Wisma is a group of women consisting of 20 mothers or 20 housewives. In Patemon, PKK women who are members of the Dasa Wisma association (consisting of 20 families/mothers) are required to collect the waste at the house of the Dasa Wisma chairman based

on the schedule (daily, every three days or every week). Plastic, cardboard, cans, bottles and even used cooking oil (jantah) of any size will be collected and sold to the waste bank located in Patemon Village, Gunungpati, Semarang. (refer figure 1 to 4). To enhance compliance among participants, each DAWIS will impose a fine of ten thousand rupiah (Rp. 10,000) on participants who fail to send waste to the waste bank within one month.



Source: Fieldwork

Figure 2. Waste Collection at ELING RESIK



Source: Fieldwork

Figure 3. Waste weighing process



Source: Fieldwork

Figure 4. Waste weighing process



Source: Fieldwork

Figure 5. Collection process

The results of this study show that housewives who are members of Dasa Wisma are at the forefront of saving the environment through waste management. In line with the study by Wilansky and Cao (2026), this practice has provided benefits and positive environmental impacts from frequent waste collection. On the other hand, women are always associated with products that have an impact on waste and environmental pollution. For example, household waste and the impact of the use of cosmetics and fashion products, including supplements, diet drugs and others. Despite the fact that women suffer serious effects as a result of environmental degradation, their voices are not often heard and they find it difficult to participate in agrarian conflicts' decision-making processes. From an ecofeminist perspective, this practice illustrates that women's experiences of taking an active role in agrarian conflicts are not only to fight against environmental destroyers, but also to become agents of change who promote harmonious relationships between humans and nature. The results of the study by Escario et al. (2020) also show that women are more actively involved in sustainable environmental development, such as 3R behavior.

Spatial and social developments in the areas of Patemon, Sekaran and Pakintelan, Gunungpati District, Semarang City, reveal an interconnected relationship between the expansion of higher education and the intensification of environmental problems, particularly in waste management. The presence of Universitas Negeri Semarang has driven land-use changes from gardens and household yards into boarding houses and rental accommodations. This has simultaneously contributed to increased waste generation, including household waste, plastic waste, cosmetic waste and electronic waste. These transformations underscore that environmental issues are inseparable from processes of micro-scale urbanization and the transformation of social structures within communities surrounding the campus area.

Field observations indicate that prior to land-use conversion, waste management was conducted independently by individual households, primarily through burial or open burning within residential yards. As open spaces diminished and population density increased, such practices became untenable. Under these conditions, women, particularly housewives, emerged as central actors responding to everyday environmental challenges through the development of community-based waste management initiatives.

Women's involvement in waste management goes beyond just the technical aspects; they serve as important agents of social change. This is illustrated by the establishment of the ELING RESIK Waste Bank, which was initiated and managed by female members of the Dasa Wisma group. The waste bank has established a new social space for women to negotiate, organize, and implement collective discipline in local waste management practices. These activities represent a shift in women's understanding and attitudes toward waste, moving from viewing it simply as domestic refuse to recognizing it as a valuable economic resource and a tool for environmental education.

The findings suggest that enhancing women's roles in waste management does not necessarily lead to a fairer distribution of gender-related responsibilities. Waste management is still often viewed as a task primarily associated with women, reinforcing the idea that it belongs within the domestic sphere. Men often distance themselves from waste management issues, viewing it as primarily a responsibility associated with women. This perspective reinforces ecofeminist critiques, which argue that the idea of women as “guardians of nature” can contribute to a double burden for women and symbolize their exploitation.

From an ecofeminist perspective, the waste management practices of women at the research sites highlight the conflicting nature of their roles as agents of change. On one hand, women show strong leadership, social solidarity and environmental innovation. On the other hand,

they still operate within patriarchal structures that do not equitably distribute ecological responsibilities between men and women. As a result, women act as agents of change while facing structural constraints that have yet to fully support gender justice.

Moreover, women's limited understanding of how to manage hazardous and toxic waste (B3) as well as electronic waste highlights ongoing inequalities in access to environmental information and training. While women are often expected to take on responsibility for environmental management, they do not receive adequate institutional support to fulfill this role. This situation reinforces ecofeminist arguments, which assert that environmental exploitation frequently goes hand-in-hand with the exploitation of women, stemming from unequal power dynamics and disparities in knowledge.

The role of women in environmental management

In addition to addressing waste management issues, women are also tasked with managing the environment through the ten main programs of the Community Empowerment Group (PKK). This focus on environmental management places a disproportionate burden on women. The PKK government program requires women to engage in various activities, which leads to increased responsibilities. Each village in Indonesia has both PKK and Dasa Wisma associations that implement the same programs. Women in every Neighborhood Association (RT) are expected to maintain medicinal gardens and other useful plants. Although activities such as planting medicinal plants, preparing the land around homes and maintaining plants could be shared by both men and women, the association with PKK and Dasa Wisma often leads men (husbands) to feel absolved of responsibility.

This is in line with the expression of Mrs. SA (55 years old):

“mengenai TOGA (Taman Obat Keluarga) itu untuk yang menanam menyiapkan lahan bersih-bersih juga ibu-ibu semua di RT 5 RW 03 yang longgar waktunya.”

“Regarding TOGA (Family Medicine Garden), for those who plant, prepare the land to clean up, all mothers in RT 5 RW 03 who have free time.”

This statement was continued by Mrs. RT 05:

“nggih bu untunge pak RT itu mau membantu menyiapkan lahan, membuat pagar, dan mengecatnya kalo tidak ya ibu-ibu ga sanggup.”

“That’s right ma'am, fortunately the RT is willing to help prepare the land, build a fence and paint it, if not, the mothers are not able to.”

The following is the appearance of the TOGA Garden from the Patemon Community RT 05 RW 03 (Figure 5):



Source: Fieldwork observation

Figure 6. Toga Garden behind the head of RT 05 RW 03

The construction of the TOGA Garden was supported by the local RT through painting and fencing. After that, the women took on the responsibility of planting and maintaining the plants. Each RT has its own TOGA Garden and a competition is being held to encourage each RT to create the best TOGA garden. Photos from the assessment during the TOGA Competition at the sub-district level can be found in Figure 6.



Source: Fieldwork observation

Figure 7. Assessment of TOGA Garden in RT 05 RW 03 Patemon

Mrs. KR (56 years old) states that the TOGA garden typically includes a variety of medicinal plants and useful vegetables. Anyone is welcome to use it but must take responsibility for ensuring the plants' survival. Furthermore, Mrs. KR said:

“...biasanya obat-obatan yang sering di pakai itu ya bubu pawon seperti jahe, sereh, kunci untuk sayuran terong, cabe, ada kangkung juga, ada juga ketela rambat...paling-paling itu bu tanamannya karena kan juga harus diurus disiram nah karena dilahan bu RT jadinya hanya bu RT yang ngurus...”

“...usually, the medicines that are often used are pawon spices such as ginger, lemongrass, keys for vegetables eggplant, chili, there are kale too, there are also cassava vines...most of them are the plants, because they also have to be taken care of watering and because it is on the RT's land so only the RT takes care of it...”

This study highlights the significant and multifaceted role of women in environmental management. Their responsibilities range from organizing their surroundings and creating medicinal plants for family gardens (TOGA Gardens) to managing waste. These activities align with the government's PKK Program, which aims to promote women's participation in development. The PKK Program is closely associated with the Dharma Wanita movement, launched during the New Order era with the goal of engaging women in various developmental initiatives. The emergence of the PKK and Dharma Wanita movements occurred in 1974, coinciding with the International Decade of Women and the launch of the Women In Development (WID) initiative. During this time, all developing countries, including Indonesia, introduced programs that required the active involvement of women. As a result, women in third-world countries, including Indonesia, often face a heavier burden due to these expectations and responsibilities. As a result, women in third-world countries, including Indonesia, often face a heavier burden due to these expectations and responsibilities.

The Dharma Wanita and PKK programs have yet to become focal points for promoting equality between men and women. Instead, these organizations often operate as extensions of their husbands' organizations or institutions. Over time, various experts and philosophical thinkers have shifted the perspective from Women In Development (WID) to Gender and Development (GAD), as GAD encompasses the involvement of both men and women. However, the legacy of the New Order, particularly through the PKK and Dharma Wanita, continues to dominate in Indonesia, with activities primarily designed to support women's roles in advancing their husbands' careers. This pattern is consistent at the local levels across Indonesia, where organizations like PKK and Dasa Wisma are prevalent, focusing mainly on issues related to housewives. Women's involvement in environmental protection and management aligns with Bangun's (2020) findings, which indicate that women's mindsets, cultural backgrounds and their emotional and physical connection to the environment represent a form of ecofeminism. In line with Hajad and Ikhsan (2024), the findings of this study show that the ecofeminist movement in waste management practices not only contains ideas about women's concern for the environment, but also needs to be linked to gender justice. This challenges existing ecofeminist assumptions, ensuring that positive environmental practices by women do not exacerbate gender inequality in environmental management.

Conclusion

The role of women in environmental management continues to be significant, underscoring the persistence of stereotypes that equate women with nature. This association has led to the assumption that women are inherently responsible for the management and protection of the environment. Ecofeminism actively challenges the exploitation of women that stems from this analogy with nature. However, in this study, these efforts have not entirely succeeded, as women remain at the forefront of natural and environmental management in communities involved in the PKK Program.

This study concludes that women play a significant role in community-based environmental management, particularly in waste management practices in the Gunungpati area of Semarang City. Women are not only involved as technical implementers of environmental activities but also serve as social catalysts who promote behavior change, foster community solidarity and enhance collective awareness of environmental issues. However, the dominant role of women in environmental management does not fully reflect egalitarian gender relations. Environmental management is often closely linked to traditional social norms that position women as "naturally" responsible for environmental matters. This situation creates a paradox where women are celebrated as guardians of environmental sustainability, yet they bear ecological responsibilities that are not met with equal participation or support from men or formal institutions.

From an ecofeminist perspective, these findings reinforce critiques of the romanticization of the relationship between women and nature, which can perpetuate gender inequality. Local environmental management practices often operate within patriarchal structures that have yet to be fully transformed, leading to a lack of substantive gender justice in sustainability efforts.

This study emphasizes that environmental sustainability cannot be separated from the pursuit of gender justice. Community-based environmental policies and programs must be designed to be more inclusive by encouraging active male participation and strengthening institutional support, ensuring that ecological responsibilities are not disproportionately placed on women. Ecofeminism, therefore, serves as a relevant analytical framework for developing environmental management strategies that are both ecologically sustainable and socially just.

Waste management practices undertaken by women, as part of the ecofeminism movement, should not create ambiguity where women's emancipation is tied to the reproduction of gender burdens. Therefore, women, as agents of environmental change, require structural support in the form of gender-fair policies.

References

- Abd Rahim, M. S., Alias, A., Said, N. B., Harun, S. N., & Noor, N. M. (2024). Toward sustainable waste management: Assessing factors affecting single-use plastic reduction in the Southern Region of Malaysia. *Geografia-Malaysian Journal of Society and Space*, 20(4), 1-12.
- Arivia, G. (2002). Ekofeminisme: Lingkungan hidup berurusan dengan perempuan. *Jurnal Perempuan*, 21.
- Assefa, S., Polhill, J. G., Chen, J., Koide, R., Colley, K., Hague, A., & Craig, T. (2026). Applications of agent-based modelling in circular economy research: A systematic literature review. *Cleaner Environmental Systems*, 20, 100402.
- Astuti, T. M. P. (2011). *Konstruksi Gender Dalam Realitas Sosial*. UNNES Press.

- Astuti, T. M. P. (2012a). *Penghargaan Sosial Semu dan Liminalitas Perempuan Migran*. Widya Karya.
- Astuti, T. M. P. (2012b). *Konstruksi Gender dalam Realitas Sosial*. UNNES Press.
- Astuti, T. M. P. (2022, May 8). *Peran Perempuan dalam Pengelolaan Lingkungan*. EURASIA Foundation EURASIA Lecture Series.
- Bangun, B. H. (2020). Ecofeminism and environmental protection: A legal perspective. *Jambe Law Journal*, 3(1), 1-18.
- Buntaran, F. (1996). *Saudari Bumi Saudara Manusia*. Kanisius.
- Dankelman, I., & Joan, D. (1988). *Women and Environment in the Third World*. Alliance for the Future Earthscan Publications Ltd.
- Darmawati, I. (2002). Dengarlah tangisan ibu bumi! Sebuah kritik ekofeminisme atas revolusi hijau. *Jurnal Perempuan*, 21, 7-24.
- d'Eaubonne, F. (2022). *Feminism or Death: How the Women's Movement Can Save the Planet*. Verso Books.
- Escario, J. J., Rodriguez-Sanchez, C., & Casaló, L. V. (2020). The influence of environmental attitudes and perceived effectiveness on recycling, reducing, and reusing packaging materials in Spain. *Waste Management*, 113, 251-260.
- Firestone, S. (1970). *The Dialectic of Sex: The Case for Feminist Revolution*. William Morrow.
- Gracia, G. M. P. (2014). *Ecologia: Women, Environment and Politic in Venezuela*. In S. A. Radcliffe & S. W. Eood (Eds.), *Viva: Women and Popular Protest in Latin America*. Routledge.
- Hajad, V., & Ikhsan, I. (2024). Ecofeminism as a movement: Choosing between economics and nature protection. *Theoretical and Practical Research in Economic Fields*, 15(1), 91-100.
- Human, M. (2002). *Ensiklopedi Feminisme*. Fajar Pustaka Baru.
- Isshiki, Y. (2000). Eco-feminism in the 21 century. *God's Image*, 19(3), 27.
- Kang, S. Y., & Park, S. (2025). Environmental and economic feasibility of reusable container system for food delivery service in Seoul, South Korea. *Cleaner Environmental Systems*, 20, 100385.
- Kyung, C. H. (2001). Popular religion and fullness of life: An Asian ecofeminist reflection. CAT (Congress of Asian Theologians) III in Yogyakarta, 5-11 Agustus.
- Luviana. (2002). Perempuan Indonesia pejuang lingkungan. *Jurnal Perempuan*, 21, 85-96.
- Mapa, M. T., Haris, L. M., Geogre, F., Molia, S. D., Japar, A., & Gulasan, A. (2019). Kajian komposisi dan pengasingan sisa pepejal di kawasan perumahan. *Geografia-Malaysian Journal of Society and Space*, 15(2), 117-128.
- Meylan, M. (2014). Partisipasi perempuan dalam pengelolaan lingkungan hidup. *Jurnal Musawa IAIN Palu*, 6(2), 236-259.
- Rashid, N. B., Singaravelu, Y. A., Asri, N. B. M., Chamhuri, N., Al-Hadi, A. A., & Shahiri, H. I. (2023). Wanita dan persekitaran kerja dalam bidang STEM. *Geografia-Malaysian Journal of Society and Space*, 19(2), 153-165.
- Rose, R. A. C., Abidin, Z. N. Z., Rosmiza, M. Z., & Pembangunan, P. (2018). Kesedaran komuniti terhadap pengurusan kebersihan dalam kawasan perkampungan homestay di Daerah Temerloh. *Geografia-Malaysian Journal of Society and Space*, 14(1), 158-174.
- Rotthong, M., Gheewala, S. H., Strezov, V., Attavanich, W., Rachdawong, P., & Prapasongsa, T. (2025). Life cycle assessment of integrated waste management systems towards carbon neutrality and environmental sustainability. *Cleaner Environmental Systems*, 20, 100355.

- Sakawi, Z., Ayup, S., & Sukimi, M. F. (2017). Pengetahuan Komuniti dan amalan pengurusan sisa pepejal di Negeri Sembilan (Community knowledge and practices on solid waste management in Negeri Sembilan). *Geografia-Malaysian Journal of Society and Space*, 13(4), 126-137.
- Shabrang, H., & Afsharzadeh, M. H. (2023). Investigating the mutual interactions of 19th century western women and their environment in George Gissing's *New Grub Street* and the nether world. *Geografia-Malaysian Journal of Society and Space*, 19(3), 75-89.
- Shiva, V., & Maria, M. (2005). *Ecofeminism Perspektif Gerakan Perempuan dan Lingkungan*. Translation by Kelik Ismunanto. IRE Press.
- Talalaj, I. A., & Walery, M. (2015). The effect of gender and age structure on municipal waste generation in Poland. *Waste Management*, 40, 3-8.
- Warren, K.J. (2000). *Ecofeminist Philosophy*. Rowman & Littlefield.
- Wilansky, J., & Cao, K. (2026). A comparison of municipal waste collection policies to optimize recycling rates: Evidence from England and Wales. *Waste Management*, 210, 115258.