

Women's Involvement as Agents of Change in Addressing Environmental Issues in the Citarum River Basin, Bandung Regency

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Abstract. Bandung Regency is dealing with numerous environmental concerns, including Citarum River pollution caused by domestic waste, industrial discharge, and household rubbish. High urbanization and population expansion increase waste management concerns, necessitating a more participative and sustainable strategy. Descriptive qualitative approach is used to identify women's contributions at various levels of environmental management, as well as their strategic positions within homes and communities. This study emphasizes women's engagement in tackling the environmental crisis by studying their responsibilities in all phases of environmental projects, from design and execution to assessment. The local government has implemented a number of programs, including the Citarum Harum Program, garbage banks, and community-based sanitation projects. However, the effectiveness of these initiatives is strongly reliant on active community participation, particularly from women. This demonstrates that women's roles not only improve the efficiency of environmental programs, but also help to promote gender justice and socio-ecological resilience. As a result, women's participation in environmental management in the Citarum River area extends beyond household obligations. They also act as decision-makers capable of integrating ecological and social perspectives into program planning and assessment processes—an important step toward obtaining more just and comprehensive solutions to the environmental challenges faced by Bandung Regency.

Keywords: Women's Involvement, Environmental Management, Waste Management, Citarum River, Ecofeminism.

Introduction

Patriarchal culture has long been embedded in the social structure of Indonesian society. As stated by Walby in (Reza et al., 2024) the patriarchal system has created various forms of gender inequality that affect multiple aspects of life. This condition poses unique challenges for women seeking to develop their full potential while fulfilling traditional expectations as household caretakers. In principle, patriarchal culture upholds a social system that consistently positions men as key actors in elevating women's status, yet places men in a higher position than women in all aspects of social, cultural, and economic life. Fathers hold authority over mothers, children, and property. Although unwritten, it is implicitly understood that this system institutionalizes male governance and privileges while demanding the subordination of women—regarded as a root cause of women's oppression (D Hyronimus, 2023).

In developing countries, women and children are often the most affected by ecosystem degradation and climate change due to their greater dependence on domestic livelihoods. Women constitute the largest proportion of the world's poor, and 80% of those displaced by climate change impacts and environmental degradation are women. Owing to their traditional roles related to household and community responsibilities

in many societies, women are more vulnerable to poverty (Harnessing the Green and Digital Transitions for Gender Equality, 2024).

In recent years, women's positions have been increasingly championed by ecofeminism, a branch of feminism that links women's issues with ecological concerns. Ecofeminism asserts that women should not be regarded merely as property without public participation opportunities, as in patriarchal systems (Kwauk, 2011). Ecological feminism, or ecofeminism, seeks to integrate the demands of the women's movement with those of the environmental movement to create a worldview free from domination by socioeconomic and conceptual structures. The term is used to refer to a sensitivity—an intimacy—that feminist concerns run parallel with, are tied to, or perhaps are one with, concern for the natural world, which has suffered the same forms of abuse and ambivalent treatment as women (EraPurike et al., 2023).

The relevance of ecofeminism becomes more apparent when connected to climate change issues, particularly water pollution, which directly impacts daily life, especially for women. In Bandung Regency, as the longest and largest river in the Tatar Pasundan region of West Java, Indonesia, this river has held the grim title of being one of the most polluted in the world since 2007. Despite its deteriorating condition, its role remains irreplaceable. Rich in historical, economic, and social value, it serves as a lifeline for agriculture, water supply, fisheries, industry, waste management, and electricity generation for around 25 million people. For millions, its waters are directly tied to their daily survival and livelihoods (Sari et al., 2024).

Given this background, this study addresses women's involvement in decision-making to address environmental problems. Such conditions not only threaten the river's ecosystem but also affect the availability of clean water for domestic needs a responsibility traditionally borne by women. From an ecofeminist perspective, environmental degradation of this kind is part of a broader pattern of domination and exploitation analogous to women's oppression, positioning women not only as victims but also as potential agents of environmental restoration. The increasing population and urbanization in the area exacerbate the problem, requiring effective and sustainable solutions. Women's roles in environmental management are thus becoming increasingly vital. In Bandung Regency, women are not only household managers but also active participants in various sectors, including education, health, and governance. Their involvement in decision-making on environmental issues can offer distinct perspectives and more comprehensive solutions.

Methods

Method is one of the key elements in discussing a problem, where research methodology serves as a means to systematically and consistently reveal the truth, as well as to solve a problem in order to obtain a final result (Iqbal, 2021). This study employed a qualitative research method with a descriptive approach. Qualitative research is an approach to gaining understanding by drawing on specific methodological traditions to explore social or human issues. In this process, the researcher develops a comprehensive and holistic picture, analyzes verbal data, captures the detailed perspectives of informants, and conducts the investigation within a natural, real-world setting (Creswell & Poth, 2023). The adoption of a qualitative method in this study is based on the understanding that environmental issues are critical and must be handled in a comprehensive, dynamic, and meaningful manner. Environmental deterioration, particularly water pollution, can dramatically diminish the availability of clean water, making access to it more difficult—a problem with serious consequences for human existence. The researcher uses this descriptive-analytical qualitative method to delve deeply into the topics at hand, with the goal of contributing to the development of solutions to the challenges found.

Result and Discussion

Environmental Issues, Pollution, and Regulations in the Citarum River, Bandung Regency

The Citarum River, one of the longest and most important rivers in West Java, faces severe challenges related to water pollution, inadequate waste management, and suboptimal domestic wastewater treatment. These problems are exacerbated by rapid urbanization and population growth, which place additional pressure on the region's natural resources and environment (World Bank, 2018). The textile industry is a major contributor to water contamination, discharging hazardous waste—including heavy metals and dyes—directly into the river, damaging ecosystems and threatening the health of communities that depend on it

(Greenpeace, 2018). The pollution of the Citarum River reflects weak oversight and enforcement of industrial waste regulations, as well as the absence of integrated environmental management. With urbanization and population growth worsening the situation, cross-sector solutions are urgently needed to control pollution and ensure ecosystem sustainability.

In Bandung Regency, waste management has become a critical issue alongside population growth, generating an estimated 1,500–3,000 tons of waste per day (Joval Ifghaniyafi Farras et al., 2022). Management capacity remains limited, compounded by low public awareness of waste reduction, segregation, and processing. Many residents resort to open dumping or flaming, contributing to air and soil pollution. Inefficient waste collection and transportation systems lead to accumulation at temporary disposal sites and processing facilities. The issue is not only technical but also linked to social, economic, and governance factors. Limited infrastructure, low community awareness, and inefficiencies in waste transport are key factors aggravating the problem. Improving processing facilities, public education, and inter-agency coordination is essential for more effective waste management and minimizing environmental impacts.

Citarum River water pollution poses significant public health risks through exposure to pathogens and toxic chemicals, while also threatening food security due to irrigation contamination. Poor waste management further contributes to methane emissions from landfills, accelerating global warming (Mustofa & Roosmini, 2024). As the primary source of raw water for PDAM, agriculture, and industry, the Citarum has suffered severe pollution from untreated domestic and industrial discharges, as well as the accumulation of plastic and organic waste. The government has responded through Regional Regulation No. 12/2015, the Citarum Harum Program, and the Community-Based Sanitation (Sanimas) initiative to address these conditions. Additional measures include waste bank programs, operations at the overcapacity Sarimukti landfill, and composting and recycling efforts to reduce waste volume entering landfills. However, limited capacity and low public awareness mean that waste and pollution issues in Bandung Regency remain far from resolved.

Profile, Roles, and Participation of Women as Agents of Change in Bandung Regency

In Bandung Regency, women are essential to many facets of life, both in the home and in society. Bandung Regency, which is in the West Java Province, has unique social and cultural traits, with Sundanese customs having a significant influence on its traditions and values. In this setting, women play a dual role as mothers and spouses in the home and as agents of social, educational, and economic advancement in their local communities. However, they still have to deal with a number of issues, such as unequal access to healthcare and education, gender inequality, and underrepresentation in decision-making.

The Sundanese culture has a unique perspective on the duties of women. Women are seen as the stewards of custom and family values in many ways. They are crucial to running the home, bringing up the kids, and preserving family unity. In addition, women are portrayed in Sundanese mythology as holding a noble and esteemed place in society (Istianah, 2020). Out of the 3.7 million people living in Bandung Regency, there are about 1.8 million women, the bulk of whom are of working age. With 85% of women finishing basic school, 60% completing secondary school, and 20% completing higher education, women's educational attainment has increased, while access is still restricted in rural areas. Women work in both formal and informal sectors, such as government, industry, health care, and education, as well as in trade, agriculture, and handicrafts. Nonetheless, traditional gender norms continue to shape job trends (Sutrisno, 2025).

In Bandung Regency, a number of notable women have made important contributions in a variety of professions. The wife of former West Java Governor Ridwan Kamil, Atalia Praratya Kamil, has been actively involved in a number of women's empowerment projects and social activities throughout West Java, especially in Bandung Regency. Bandung native Dewi Sartika is a national hero who dedicated her life to the cause of women's education, leaving a lasting legacy. Environmental activist Siti Khadijah has been instrumental in the effort to protect the Citarum River. These three individuals collectively demonstrate the diverse range of responsibilities that women have played in Bandung Regency, ranging from historical battles for educational equality (Dewi Sartika) to sustainable environmental activism (Siti Khadijah) to public leadership (Atalia). This mix of responsibilities creates the perception that women in Bandung Regency actively influence change in a number of important areas rather than just receiving policies.

The contributions made by women become more apparent as the implementation phase progresses. The philosophy of community participation states that they can make contributions by means of direct involvement in the area, ideas, and material support. The success of environmental programs is greatly enhanced by their local knowledge, which includes proficiency in traditional household trash recycling

techniques, water management, and planting patterns. Along with actively participating in tangible activities like planting trees or cleaning up the environment, women also commonly supply necessary materials and resources, such as those required for greening projects or the creation of community gardens.

The success of women's participation is measured by the point at which they start to enjoy the benefits. From safer drinking water and cleaner air to a better environment, successful environmental programs usually directly improve people's quality of life. When these advantages are really experienced, it shows that women's participation has been ideal and well-targeted from the planning phase to the implementation phase.

Despite being frequently disregarded, the evaluation phase necessitates women's active participation in order to offer suggestions for enhancing subsequent programs. Those who have been involved from the start have a thorough awareness of the program's implementation's achievements as well as its difficulties. Given their intimate ties to the reality of everyday life in their communities, the feedback they provide is typically more varied and pertinent, guaranteeing that the evaluation results are more accurate and helpful for the creation of future initiatives.

Women's involvement reflects the principle of community participation in development, where contributions are not limited to physical labor but also include strategic local knowledge, such as natural resource management techniques rooted in traditional wisdom. The stage of enjoying the results serves as a measurable indicator of success, where improvements in quality of life—particularly in health and environmental comfort—stand as tangible evidence of the effectiveness of women's involvement since the initial planning phase. Meanwhile, the evaluation stage positions women as key actors in providing contextual and relevant feedback, thanks to their closeness to the dynamics of everyday life. This cycle, when well-managed, aligns with the approaches of gender-responsive development and ecofeminism, in which women's experiences, knowledge, and aspirations are integrated into planning, implementation, and evaluation of environmental issues, thereby producing programs that are more adaptive, inclusive, and sustainable.

Conclusion

Bandung Regency's environmental issues, particularly Citarum River pollution and waste management, are driven by rapid urbanization, population growth, and textile industry activities that emit hazardous waste, which are exacerbated by inadequate infrastructure, low public awareness, and weak monitoring and law enforcement. Although the government implemented measures such as Regional Regulation No. 12/2015, the Citarum Harum Program, and landfill management initiatives, the results have yet to be completely realized. In the face of these obstacles, women in Bandung Regency, who are influenced by their Sundanese cultural heritage, which gives them a place of respect play an essential role as change agents by taking part in all phases of development, including planning, execution, benefit-sharing, and evaluation. Their ideas, local knowledge, resources, and direct action have a real influence on the success of environmental programs. Female leaders in social empowerment, educational advocacy, and Citarum conservation serve as examples of this, showing that strong policy, public awareness and participation, and the empowerment of women as leaders and forces behind sustainable development must work together to manage the environment effectively.

References

- Creswell, J. W., & Poth, C. N. (2023). *Qualitative inquiry and research design: Choosing among five approaches* (Fifth edition). Sage.
- D Hyronimus. (2023). Pendidikan Anak Perempuan Dalam Perspektif Budaya Patriarki (Studi Pada Budaya Lamaholot). *Khatulistiwa: Jurnal Pendidikan Dan Sosial Humaniora*, 3(1), 175–186. <https://doi.org/10.55606/khatulistiwa.v3i1.1099>
- EraPurike, Fitriani Tobing, Nur Azizah, & Priatna Kesumah. (2023). Ekofeminisme dan Peran Perempuan Indonesia Dalam Perlindungan Lingkungan. *Jurnal Relasi Publik*, 1(3), 42–53. <https://doi.org/10.59581/jrp-widyakarya.v1i3.961>
- Greenpeace. (2018). *Toxic Threads: The Big Fashion Stitch-Up* (pp. 1–55). Greenpeace International.
- Harnessing the green and digital transitions for gender equality: Policy insights from the 2024 OECD Forum on Gender Equality* (OECD Public Governance Policy Papers No. 61; OECD Public Governance Policy Papers, Vol. 61). (2024). <https://doi.org/10.1787/86d0901-en>
- Iqbal, F. M. (2021). KUDETA MILITER MYANMAR DALAM PERSPEKTIF HUKUM INTERNASIONAL. *Jurnal Dialektika Hukum*, 3(1), 113–129. <https://doi.org/10.36859/jdh.v3i1.541>

- Istianah, I. (2020). Perempuan dalam Sistem Budaya Sunda (Peran dan Kedudukan Perempuan di Kampung Geger Hanjuang Desa Linggamulya Kecamatan Leuwisari Kabupaten Tasikmalaya). *Al-Tsaqafa : Jurnal Ilmiah Peradaban Islam*, 17(2), 195–204. <https://doi.org/10.15575/al-tsaqafa.v17i2.9328>
- Joval Ifghaniyafi Farras, Sarasi, V., Chaerudin, I., Primiana, I., & Yunani, A. (2022). Implementation of lean process to solid waste management in Bandung, Indonesia. *Jurnal Pengelolaan Sumberdaya Alam Dan Lingkungan (Journal of Natural Resources and Environmental Management)*, 12(2), 210–227. <https://doi.org/10.29244/jpsl.12.2.210-227>
- Kwauk, C. (2011). Review of Muslim Women and Sport, by T. Benn, G. Pfister, & H. Jawad. *Feminist Formations*, 23(3).
- Mustofa, U. H., & Roosmini, D. (2024). Heavy Metal Accumulation in Rice (*Oryza Sativa* L.) from Irrigation Water Sources of Citarum River and Tarum Barat Canal to Public Health Risk. *Journal of Community Based Environmental Engineering and Management*, 8(2), 221–230. <https://doi.org/10.23969/jcbeem.v8i2.18052>
- Reza, V., Ardiansyah, M. F., Nur Khovivah, S., & Afza Camila, L. (2024). IMPLIKASI BUDAYA PATRIARKI TERHADAP PERUBAHAN PERAN PEREMPUAN DALAM KELUARGA DI LINGKUNGAN SIVITAS AKADEMIK. *JSPH : Jurnal Sosial Politik Humaniora*, 1(3), 30–41. <https://doi.org/10.59966/jsph.v1i3.1427>
- Sari, S., Oktaviani, J., & Aprillia, B. (2024). Gender-Responsive Policy in Water Management: An Outlook in ‘Citarum Harum’s Program. *Jurnal Ilmiah Hubungan Internasional*, 1(1), 87–104. <https://doi.org/10.26593/jihi.v1i1.7811.87-104>
- Sutrisno, D. (2025, January 3). Angkatan Kerja di Bandung Naik tapi Lebih Banyak di Sektor Informal. *IDN Times Jabar*. https://jabar.idntimes.com/news/jawa-barat/angkatan-kerja-di-bandung-naik-tapi-lebih-banyak-di-sektor-informal-00-9y7y1-s1t4lt?utm_source=chatgpt.com
- World Bank. (2018). *Pollution Management and Environmental Health Program: Citarum River*.