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Feminism and Climate Justice

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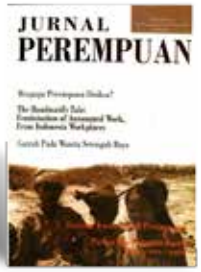

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Gadis Arivia

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Contents

Feminism and Climate Justice

The Intergovernmental Panel on Climate Change (IPCC)'s report has warned us about climate change emergency, including global temperature rise. The climate crisis has been acutely felt by different regions and communities around the world (IPCC 2021). Global warming and extreme weather have resulted in the erosion of basic human rights. This situation has contributed to increased global hunger, malnutrition, exposure to disease, loss of adequate shelter, displacement, permanent loss of livelihoods, and other issues. The climate crisis thus needs to be viewed as a multidimensional crisis. It cannot simply be understood as an ecological issue that can be analysed through the lenses of science, technology, and economics, but must also be examined as a moral and justice issue (Gardiner 2011; Shue 2014).

The climate crisis is often perceived as a natural and gender-neutral problem, whereas historically, it is an implication of unequal relations in society. Some feminists believe that patterns of oppression against nature go hand in hand with patterns of oppression against women. Therefore, a feminist approach is needed to achieve climate justice. Climate justice means recognising that the climate crisis has different, unequal, and disproportionate impacts on marginalised groups. Climate justice is an ideal that can only be achieved by first recognising the different types of injustice that are intertwined with various 'isms', such as sexism, racism, classism, heterosexism, capitalism, and ethnocentrism. All of which result in oppression, exclusion, and multiple disadvantages for vulnerable groups - including women (Warren 1990; 2000; Crenshaw 1981). Using the lens of intersectionality, feminism finds that these interlocking systems produce climate injustice for women.

Feminism believes that climate justice is not possible without gender justice. It argues that women's knowledge must be included and integrated in efforts to respond to climate issues. Without a feminist lens, the climate crisis will be viewed as a value-free and gender-neutral ecological issue without considering the fact that culturally and structurally, women have been excluded from equitable access to public space as well as resources such as water, land, and others (Agarwal 2001; Colfer 2008). The absence of a feminist lens on climate issues has resulted in a number of mapping of issues and action plans that are neither effective nor targeted. For example, the trend in climate change responses over the past few decades has focused on urging the responsibility for ecological restoration and care on vulnerable and marginalised groups and those who contribute the least to the destruction of nature (Sultana 2021). A feminist lens needs to be integrated to map the obstacles as well as the strengths that women have in their capacity to respond to the climate crisis.

From a feminist perspective, a number of studies and findings have shown that while facing multiple vulnerabilities and disproportionate impacts of the climate crisis, women are often at the forefront to build collective actions and resilience of their communities (Terry 2009). In line with these findings, in Indonesia, at the intersection of women's identities and within heterogeneous vulnerabilities, women are proven to have taken on important roles to build community resilience and environmental restoration. This is based on concrete experience, care, interdependence, and feminist solidarity praxis.

In many cases, feminist solidarity praxis that characterises feminists has proven to have a meaningful impact on social and ecological transformation. Therefore, feminist praxis needs to be integrated into problem mapping, action plans, networking, advocacy, and public discourse on climate issues. As feminist scholars say, "Climate justice is not possible without gender justice". Climate justice can only be guaranteed by inclusive and transformative participation.

The **113th edition of *Jurnal Perempuan* on Feminism and Climate Justice** will specifically address the contribution of feminist praxis to climate justice. This edition will feature various feminist academic papers that provide theoretical analyses of climate crisis issues involving ecological, political, social, economic, legal, and cultural aspects. This edition will present a collection of writings from a transdisciplinary approach based on feminism (**Abby Gina**).

Jurnal Perempuan, Vol. 27 No. 3, December 2022

Abstracts

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Establishing Resilience From the Bottom: Women with Disability and Climate Justicein Indonesia

Jurnal Perempuan, Vol. 27 No. 3, December 2022, page 175-184, 33 references

Socially, the impacts of climate change are unevenly distributed within the society. Those who have been marginalized, albeit their less contribution to climate change, have been the most vulnerable group suffered from those impacts due to their lack of access to resources and capacities to act. One segment within the group is women with disabilities. Although many policies dealing with adaptation and mitigation to climate change have been adopted by the government, specific interests of women with disabilities are not considered as a result from their lack of involvement and participation in the decision-making process. Nevertheless, women with disabilities have been undertaking voluntary initiatives to build resilience among themselves in dealing with the climate crisis. This article aims to examine the essence and significance of accommodating women with disabilities in formulating policies on climate change and to discuss how they exercise their agency to develop initiatives in responding to the problem. A combinedconceptual framework from feminist environmentalism and climate justice is used here in addressing both issues.

Keywords: climate crisis, climate justice, feminism, women with disability

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The Agency of Women in the Climate Crisis: A Decolonizing Feminist Method

Jurnal Perempuan, Vol. 27 No. 3, December 2022, page 185-194, 29 references

This article aims to discuss the relationship between the promotion of women's agency and vulnerable groups with the changing trends in the orientation of social research methods towards decolonization in the strands of the feminist approach. All the world communities, especially the marginal groups who have intersectional vulnerabilities, are starting to redefine their experiences in this climate crisis. It is proven that their concrete resilience is genuine, innovative, creative, and able to preserve their lives in a sustainable manner. Our attention should be deeper towards their simple efforts to free themselves from the "oppression of global powers". This research was conducted in two villages of the Exclusive Economic Zone (KEE) Banyuwangi, East Java, called *Wringinputih* and *Kedunggebang*. The framework used is postcolonial feminist and applies a feminist political ecology (FPE)method. Fieldwork adopts focus group discussion, field talk, and participatory observation. The doubts of marginal communities about their agency in the climate crisis is a challenge for postcolonial feminist researchers. In fact, by using a feminist postcolonial approach, the practices of forest landscape governance (FLG) clearly record the involvement of women and marginalized groups. Here it is the novelty of the article, a decolonization method in FLG.

Keywords: decolonizing feminist methods, women and climate crisis, the agency of subaltern, feminist political ecology

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Sulapa Eppa: Bissu, Bugis Cosmology, and Queer Political Ecology

Jurnal Perempuan, Vol. 27 No. 3, December 2022, page 195-204, 2 pictures, 37 references

Various discourses about locality and indigenous peoples emerged as an effort to overcome the climate crisis. This term is also a part of seeing the sustainability of nature. This paper departs from arguments such as queer ecological studies and the indigenous paradigm. Furthermore, some of these academic studies are used to foster focus through indigenous knowledge in recalibrating the God-Human-Nature relationship through Bugis cosmology and the role of the Bissu. The main argument in this paper is to present Bugis knowledge and understand the embodied resistance in the existence of bissu in South Sulawesi. This study used a qualitative method with participant observation and in-depth interviews. Data collection was carried out in two steps, namely, literature study, which was followed by participant observation and in-depth interviews. Data is then collected, classified, and interpreted through the indigenous paradigm as an effort to decolonize knowledge. The results of this study show some holistic, cyclic knowledge, and based on experience in the Bugis community, namely: (1) Environmental conservation can be guided by Sulapa Eppa as an environmental ethic based on Bugis cosmology; (2) Sangiang Serri as an eco-prophetic ritual that denounced heteropatriarchy; (3) Embodied resistance of Bissu's gender identity ambivalence as apolitical representation of queer ecology.

Keywords: Bissu, Sulapa Eppa, Bugis Cosmology, Queer Ecology

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Critical Ecofeminism: Revisiting Gender, Ecological Justice, and Climate Crisis

Jurnal Perempuan, Vol. 27 No. 3, December 2022, page 205-215, 1 table, 48 references

Ecofeminism as an intellectual theory is often criticized for its incoherency in the body of thinking. Thus, ecofeminism is reputed as promising nothing transformative and adequate in answering the challenges of multiple ecological destructions, including climate crisis. However, the trajectories and influences of ecofeminism can't be denied—from ethical debates to policies. Therefore, this research invites us to think about ecofeminism from a critical perspective without perpetuating patriarchal stereotypes and essentialism. The critical ecofeminism approach is an offer from writers to help to understand and portray gender-affected climate change impacts.

Key words: Critical Ecofeminism, Non-dualistic, Climate Crisis, Environmental Justice

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Various Models of Rural Women in Facing Climate Change in the Midst of Subordination

Jurnal Perempuan, Vol. 27 No. 3, December 2022, page 217-227, 1 table, 39 references

Climate change causes the emergence of various phenomena in social life. This phenomenon has a tendency to increase uncertainty over the fulfillment of food, clean water needs, health, to the household economy in various communities in rural Indonesia. Women and children are the vulnerable groups who bear more of the burden of climate change. In reality, women are indirectly required to be able to strategize to meet family needs in the midst of the vulnerability of life due to climate change. The strong patriarchal pressure on Indonesian society makes the role of women often invisible and not taken into account in seeking household resilience, especially in rural and coastal areas. This paper aims to identify the characteristics and raise the story of rural and coastal women in Indonesia in the face of climate change. Another thing identified in this study is the variety of strategies used by women, as well as the challenges of subordination they experience. This study was conducted using a literature study method as well as collecting qualitative field findings on the experiences of women facing climate change in various regions in Indonesia. This study draws on the literature from 2010 to 2020 and compares it with field findings on the experiences of women in rural and coastal areas in Java and East Nusa Tenggara in the period 2019 – 2022. The results show that rural and coastal women are proven to continue to carry out various adaptation strategies that tends to be dominated by social capital in facing the challenges of climate change even though its role is not taken into account as a struggle within the community.

Keywords: rural, women, climate change, coastal, capital

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Women's Initiative Forms Environmental Culture as an Effort to Overcome Climate Change

Jurnal Perempuan, Vol. 27 No. 3, December 2022, page 229-240, 1 table, 39 references

This research discusses the efforts of women in the community as a form of environmental culture in responding to the climate change crisis. The problem of the arrogance of patriarchal reason has distorted human ability to recognize the main problem of environmental damage. Humans are trapped in the illusion of the domination of reason which seeks to control nature as non-humans. As a result of this arrogance of reason, culture is formed hierarchically dominating nature (non-humans). We offer a change in cultural perspective through the environmental culture raised by Val Plumwood. This culture with an ecological and caring perspective is a form of the feminist ecological thought movement. We use the method of analyzing feminist issues through feminist knowledge standpoints that interact with ecological research methods. We collect data through various media with a focus on telling the experiences of women in dealing with environmental problems. Our analysis comes to the conclusion that concrete initiatives and actions are needed that involve all ecological elements as a form of solidarity. In this way, we no longer glorify humans as the rulers of reason, but rather create critical and creative communities in realizing an environmental culture.

Keywords: Environmental Culture; Climate Change: Feminist Ecology; Val Plumwood; The story of the Women's Initiative for the Environment

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Establishing Resilience From the Bottom: Women with Disability and Climate Justice in Indonesia

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Abstract

Socially, the impacts of climate change are unevenly distributed within the society. Those who have been marginalized, albeit their less contribution to climate change, have been the most vulnerable group suffered from those impacts due to their lack of access to resources and capacities to act. One segment within the group is women with disabilities. Although many policies dealing with adaptation and mitigation to climate change have been adopted by the government, specific interests of women with disabilities are not considered as a result from their lack of involvement and participation in the decision-making process. Nevertheless, women with disabilities have been undertaking voluntary initiatives to build resilience among themselves in dealing with the climate crisis. This article aims to examine the essence and significance of accommodating women with disabilities in formulating policies on climate change and to discuss how they exercise their agency to develop initiatives in responding to the problem. A combined conceptual framework from feminist environmentalism and climate justice is used here in addressing both issues.

Keywords: climate crisis, climate justice, feminism, women with disability

Introduction

Scientifically, climate change is a condition of changes in the composition of the global atmosphere caused by direct or indirect human activities over a comparable period of time.[1] Such changes in atmospheric composition are further described by the Australian Academy of Science (2022) as changes in weather patterns and other associated changes in the oceans, land surfaces, and ice sheets that occur over a time scale of more than thirty years. Climate change has broad and multidimensional impacts, including on a number of crucial sectors, such as socio-economics, defence, security, and other related sectors, such as water resources, agriculture and food security, human health, terrestrial ecosystems, and biodiversity and coastal zones (Craig 2010). Melting glaciers can cause flooding and soil erosion, and rising temperatures will cause changes in growing seasons that affect food security and changes in disease distribution (Craig 2010).

Socially, the impacts of climate change are unevenly distributed across global, regional, and national societies. Those who have been marginalised, despite their small contribution to the problem, are the most vulnerable due to their lack of access to resources and capacity to act. UN Women notes that Asia is the region most directly vulnerable to the impacts of climate change due to its vulnerable geography and systemic social inequalities. Agriculture, forestry, energy, manufacturing, construction, and tourism sectors that underpin Asia's economies and livelihoods are sectors that are strongly linked to climate change (Pross et al. 2020). In fact, most countries in Asia have yet to have adequate climate change adaptation and mitigation policies (Anbumozhi et al. 2012).

In the context of Indonesia, the impacts of climate change can be both direct and indirect (Aldrian et al. 2011). Directly, the impacts of climate change are felt through: (1) an increase in rainfall intensity that causes changes in the resilience of various tropical agricultural commodities; (2) climate and seasonal anomalies cause various impacts, namely a decrease in agricultural/plantation/fishery production, disruption of transportation, and disruption of some animal and plant species; (3) increased drought has triggered forest fires in several regions in Indonesia; (4) an increase in surface temperature leads to differences in air pressure

between places, triggering an increase in the frequency of tornado events; (5) extreme climate events: during El-Nino, drought threatens agricultural areas; on the other hand, during La Nina, flooding often occurs; and (6) the occurrence of rob, which is sea level overflowing onto land due to tidal waves (Aldrian et al. 2011).

Meanwhile, climate change indirectly has non-physical impacts. This occurs, among others, in the fields of: (1) health, increased cases of dengue fever and malaria caused by rising temperatures during the transition between seasons; (2) infrastructure, infrastructure damage as a result of increased extreme rainfall; (3) energy, decreased rainfall intensity in the dry season leads to reduced water supply for hydropower plants; (4) agriculture, shifts in the rainy/dry season affect cropping patterns and temperature changes lead to an increase in pests and diseases; (5) marine and fisheries, changes in sea surface temperature can lead to changes in the fish catching locations; (6) tourism, the occurrence of tidal floods in coastal areas can damage tourism infrastructure; and (7) transportation, increased extreme rainfall and changes in wind patterns can lead to disruption of land, sea, and air transportation (Aldrian et al. 2011).

Based on data obtained from the National Disaster Management Agency (*Badan Nasional Penanggulangan Bencana/BNPB*) in 2018, climate change also affects the increase in hydrometeorological disasters, including floods, droughts, landslides, tornadoes, and tidal waves (BNPB 2018). Given the characteristics of women in Asia, who are often positioned as the centre of domestic affairs (Pross et al. 2020), all of these direct and indirect impacts will have a greater impact on the livelihoods of the majority of women in Asia (*Ministry* of Women Empowerment and Child Protection/KemenPPPA 2011). In terms of disasters, some disasters such as droughts or floods make women more vulnerable due to disrupted family and community protection patterns. Data from the United Nations Environment Programme (UNEP) shows that in times of disaster, women are vulnerable to being exploited by a range of criminal offences. Unfortunately, women's control and access to resources and decision-making remain relatively weak compared to men (Nellemann et al. 2011).

Therefore, the discussion of vulnerability to climate change cannot be separated from the problems of social inequality that occur in a society. In a patriarchal society where women become a subordinated group, the impacts of climate change will be unevenly distributed according to existing gender inequalities, with women bearing the greater burden. Within this category of women, however, there are still layers that show intersectionality in relation to their level of vulnerability. In addition to class and race, one of the dimensions is disability. Women with disabilities tend to be more vulnerable than women without disabilities from the same social class when dealing with the impacts of climate change. However, their existence and specific interests are often overlooked in the discourse and actions to address climate change. In fact, the Paris Agreement as the cornerstone of global climate change policy has emphasised the importance of inclusivity in access to information, participation, and justice for minorities in climate change policy-making, including women with disabilities.

With this in mind, this paper has two objectives: firstly, to examine the importance of accommodating the interests of women with disabilities in climate change policy; and secondly, to see how women with disabilities exercise their agency in developing initiatives to respond to climate change. This paper uses Agarwal's conceptual framework of environmental feminism, which is combined with the concept of climate justice to unpack the justice dimensions of climate change issues for women with disabilities and at the same time see their agency through self-initiatives as an effort to build resilience in climate change adaptation and mitigation.

Research Methodology

This paper uses a qualitative model through literature study and interviews. Literature study was conducted to analyse policies related to climate change adaptation and mitigation in Indonesia. Furthermore, interviews were conducted in June 2021 and August-October 2022 with the initiator of Perempuan Bumi community and employees of the Magelang District Environmental Office. The interviews aimed to look at the need to accommodate women with disabilities based on the actual and potential impacts of climate change. In addition, they were also conducted to dissect the initiatives of women with disabilities at the grassroots.

Environmental Feminism, Women with Disabilities, and Climate Justice

Before discussing Agarwal's concept of environmental feminism, it is important to look at the history of the emergence of ecofeminism that has developed to date. Ecofeminism as a discourse and a movement began to develop around the 1970-80s. Françoise d'Eaubonne in her book *Le Féminisme ou la Mort* introduced the term ecofeminism in 1974 (Dankelman & Jansen 2010).

Furthermore, Carolyn Merchant (1980) argues that there is a parallel relationship between the destruction of nature and the oppression of women. Merchant's view emerged as a critique of Francis Bacon's thinking and other male philosophers of the Enlightenment era who saw nature, like women, to be subjugated through science. Consequently, like women's bodies, nature was explored and exploited to fulfil the needs of humans as dominant. The view of ecofeminism that sees the relationship between male domination over nature and women, is reinforced by Vandana Shiva's argument. Shiva sees how women's knowledge of nature has been marginalised by paternalistic values and strong colonial and neo-colonial thinking. This, according to her, leads to 'mal-development', which then exacerbates social and environmental problems (Shiva 1988).

The view of ecofeminism that tends to place women closer to nature and men closer to culture was criticised by Braidotti (1993), Rocheleau et al. (1996), and Agarwal (1998). According to them, this essentialist view fails to explain the aspects of power and political-economic relations that are intertwined in the domination of women. They also see the intersectionality of class, ethnicity, and caste and different conceptions of nature that ecofeminists often miss. Rocheleau et al. later came up with the concept of feminist political ecology and Agarwal came up with the concept of feminist environmentalism.

Through the concept of feminist environmentalism, Agarwal argues that the relationship between women and the environment is a construction of structures of gender, class, caste, and also race in relation to the organisation of production, reproduction, and distribution (Agarwal 1998). Despite the different views that occur in the ecofeminism, environmental feminism, and political ecology feminist literature, they all have one thing in common: they do not pay attention to one social category that also forms a dimension of intersectionality besides class, race, and caste for women. This dimension is "disability", which must be understood as a social construction that also shapes the social, economic and cultural marginalisation of women. This is where the concept of environmental feminism needs to be expanded to include the intersection of disability to understand women with disabilities in relation to climate change.

In the disability literature, there are two dominant perspectives on disability. The first is the medical model, which sees disability as a medical problem resulting from 'abnormalities' in a person's sensory, physical, and mental functioning. Based on this view, a person with disability needs to have their functions 'improved' through, for example, rehabilitation or treatment (Wardana & Dewi 2017). This model is further challenged by the second view, the social model, which departs from the distinction between 'impairment' and 'disability' (Oliver 1990). In this perspective, a person becomes 'disabled' not because of their physical, sensory or mental limitations, but because their social environment prevents such limitations from being optimised. To illustrate, a person is unable to enjoy his or her right to mobility not because of his or her physical limitations, but because the building and city layout are not wheelchair-friendly.

Disability issues also have a gender dimension. Although both are marginalised in society, marginalisation for men with disabilities and women with disabilities works with different processes and impacts. According to Meekosha (2006, p. 165), women with disabilities are often seen as genderless or asexual creatures. This condition then makes it difficult for them to have the opportunity to enjoy education, work, get married, and to live independently. Indeed, like gender, disability is not a natural condition but rather a social construct that is open to change through social transformation (Harris & Wideman 1988). Their agency is therefore an important prerequisite in the transformation process.

Women with disabilities from weak socio-economic backgrounds tend to be more vulnerable when compared to non-disabled women from the same socio-economic group. In addition, they are often invisible in the public sphere, let alone in public policy-making processes. In light of this, vulnerability is understood as the result of social, economic, and political inequalities that occur contextually and continuously over time (KemenPPPA 2011). In this context, environmental feminism needs to be more inclusive by considering women with disabilities as subjects who have different experiences from non-disabled women in relation to environmental governance and its problems, including climate change.

Indeed, climate change is not an apolitical issue. It is a product of the dominant economic system (capitalism). Women become an exploited social group as expressed by Federici (2012). In addition, the inequalities created by capitalism also cause the distribution of the impacts of climate change to be unequal as it follows the lines of inequality. Those who have a large contribution to the release of greenhouse gas emissions with financial power, political networks, and technology tend to cope with the impacts of climate change more easily. Conversely, those who have little to contribute to the problem carry

a huge burden to adapt to the impacts of climate change despite their limitations. This makes climate change a justice issue.

Justice as a collective life experience in realising emancipation and freedom involves three issues, namely distribution, recognition, and participation (Joy et al. 2014). Furthermore, Wardana (2022) explains that the distribution issue does not only concern the distribution of negative impacts, but also the distribution of benefits from an environmental management activity and the utilisation of natural resources in a spatial unit. Additionally, the issue of recognition lies in how the law positions the social actors involved in state policies. Meanwhile, the issue of participation often refers to the three pillars of participation: access to information, participation in decision-making, and access to justice.

In the context of climate change, this aspect of justice is then translated into the concept of climate justice. The Mary Robinson Foundation of Climate Justice (2022) summarises seven basic principles for the realisation of climate justice, namely: 1) Respect and protect human rights; 2) Support the right to development; 3) Share benefits and burdens of climate change equitably; 4) Ensure that decisions on climate change are developed in a participatory, transparent, and accountable manner; 5) Emphasise gender equality and equity; 6) Harness the transformative power of education towards climate change stewardship, and 7) Use effective partnerships to secure climate justice. Departing from these conceptions and principles, accommodating women with disabilities is imperative in any discussions of climate change policies. Women with disabilities are highly burdened and vulnerable as a result of climate change and play a vital role as agents of change in their communities (MRF 2022).

Government's Policies on Climate Change in the Climate Village Programme

In terms of climate change policies, Indonesia has laid the foundation of its climate change commitment by ratifying a number of international treaties related to climate change over time.[2] In its development, provisions and guarantees for the fulfilment of the right to information, participation, and justice are increasingly progressing and moving, in a holistic manner, as a key to climate change policies, especially the Paris Agreement.[3] The Paris Agreement also places obligations on States to take gender-responsive, participatory, and transparent measures and accommodate the interests of minority groups in climate change adaptation actions, including the empowerment of women and people with disabilities.[4] As a State Party to the Paris Agreement, Indonesia has the responsibility to ensure the implementation of all these obligations in its climate change policies and regulations.

Domestically, Article 65 of Law No. 31/2009 on Meteorology, Climatology, and Geophysics has comprehensively regulated the government's obligations in terms of climate change impact control and coordination. In terms of conducting greenhouse gas emission inventories, monitoring climate change symptoms and greenhouse gases, and collecting and analysing data on climate change, there are provisions on community participation. Equal opportunities are guaranteed for all groups of society to participate in the climate change agendas and actions, which are key to the realisation of inclusive climate change policies.[5] This mandate is further confirmed in Chapter XI of Law No. 32/2009 on Environmental Protection and Management, which extensively guarantees the right to information, participation, and access to justice for all communities without exception.

These public participation efforts are also translated into a number of climate change regulations and programmes at the ministry/institution/government agency level. For example, the Minister of Environment and Forestry Regulation No. 32/2016 on Forest and Land Fire Control has the main objective of utilising and realising public participation in various forms for fire control.[6] Meanwhile, the Minister of Environment and Forestry Regulation No. 83/2016 on Social Forestry (*Permen LHK 83/2016*) and the Minister of Environment and Forestry Regulation No. 84/2016 on Climate Village Programme (*Permen LHK 84/2016*) aim to encourage capacity building for climate change adaptation and mitigation at the local level. This means that comprehensive participation in climate change action is guaranteed at the level of legislation.

In the policy context, efforts are made to ensure open and gender-equitable involvement and to accommodate the interests of minorities in climate change mitigation and adaptation. In social forestry and climate village programmes, inclusive participation is a milestone for the success of programme objectives. Unfortunately, to date, consideration of the inclusivity of the involvement of minorities, especially women with disabilities, has not been a concern in determining the indicators of success of the programmes. Indicators of success of the two programmes at the site scale are still highly dependent on the consideration of economic and ecological outcomes

(Wongkar 2021). This means that they are not yet fully process-led, namely how inclusive the community's participation and involvement is in decision-making and implementation of programmes developed by the community.

The Minister of Environment and Forestry Regulation No. P.33/Menlhk/Setjen/Kum.1/3/2016 on Guidelines for the Preparation of Climate Change Action and Adaptation also mandates a participatory process involving government stakeholders, universities, and local community representatives. The local community referred to here is "an independent non-profit institution established by the community or the general public that has an interest in issues relevant to mitigating the impacts of climate change (environmental, humanitarian, development, etc.) as a representative of the local community or society". This Ministerial Regulation uses a perspective that tends to depart from the conditions referred to by John Rawls (1999) as "the veil of ignorance", namely that public participation is widely opened without considering that there are groups of people who have different conditions/privileges in relation to aspects of gender, class, race, ethnicity, and disability. In fact, socially, access to decision-making among social actors is not evenly distributed, so affirmative action is needed to encourage marginalised groups to have the opportunity to engage in the decision-making processes.

The Climate Village Programme (Proklim) is a national programme managed by the Ministry of Environment and Forestry. Its aim is to encourage communities to increase their capacity to adapt to the impacts of climate change and reduce greenhouse gas emissions and to reward climate change adaptation and mitigation efforts that have been implemented at the local level in accordance with the regional conditions (*Permen LHK 19/2012*). The climate village itself is a location where the community has made sustainable efforts to adapt and mitigate climate change (Emilda et al. 2017). Proklim applies the concept of community empowerment implemented by the community and its institution in mobilising and managing human and natural resources to strengthen the mitigation and adaptation efforts of village communities to the impacts of climate change (Albar et al. 2017).

In line with the concept built in Social Forestry, Proklim also has a categorisation based on the results of assessment or validation conducted by the Proklim Secretariat. Proklim sites are divided into four classes, namely Pratama, Madya, Utama, and Lestari, with Proklim Lestari as the highest class (Albar et al. 2017). The Proklim model starts with a site proposal by any party who has information on activities that can support climate change adaptation and mitigation efforts that have been implemented. The location will be assessed and evaluated to reach the Proklim *Lestari* stage based on four aspects of assessment, namely the diversity of adaptation actions, mitigation, and institutional and sustainability support (Directorate of Climate Change Adaptation 2017).

In Magelang, Central Java, for example, a disability-inclusive Climate Village Programme has been implemented. This programme was an initiative of the Bintari Foundation in collaboration with Magelang District Government. The inclusive climate village programme was implemented with the aim that climate change efforts could be anticipated and mitigated by all community groups, including those with disabilities. In principle, this programme was developed in order to implement an adaptive climate change adaptation plan for people with disabilities.

Since 2019, Magelang District Government has been working with Bintari Foundation to provide guidance in a number of villages that are members of the Climate Village Programme (Proklim) to establish Inclusive Proklim. One of them is in Sriwedari Village, Salaman Sub-district and Giripurno Village, Borobudur Sub-district.

> "We understand that realising Inclusive Proklim must involve many parties. For this reason, we formed an Inclusive Working Group consisting of the Agriculture Office, BPDB, Social Office, DPU, and disability groups to carry out climate change mitigation actions together, for example, waste management. Here, the communities and working groups are encouraged to actively develop adaptation action plans (Regional Action Plan of Magelang District). In Sriwedari Village, there is also a farmers group consisting of people with disabilities to produce plant seeds" (Sambodo 2022, interview on 20 September).

The challenge is that there are no well-established institutions and organisational systems to accommodate inclusive participation in climate change policy-making processes. When recognition has been given, the next problem lies in providing access to information, participation, and access to justice that is still not accommodative and representative for women with disabilities. In terms of policy, there is no measuring tool that can act as a checklist in the early stages of guaranteeing the realisation of the three access rights. In the principles of climate justice as described in the previous section, the involvement and accommodation of the interests and needs of women with disabilities as

one of the minority groups of women is a milestone for the formation of a just climate change policy.

The involvement of women with disabilities also needs to be included in the Regional Adaptation and Mitigation Plan to ensure continuity of the programme. This is because the Inclusive Climate Village Programme is still under the legal umbrella of a three-year agreement that will end in October 2022. For this reason, efforts to accommodate the comprehensive involvement of women with disabilities need to be elaborated in the Regional Adaptation and Mitigation Plan, which is confirmed by regional legal instruments in the form of Regional Regulations and Governor Regulations. In addition to ensuring the continuity of the programme, incorporating a disability-inclusive pro-climate agenda in regional regulations can also act as a strategic first step or a foundation to start the promotion of inclusive climate change policies. The hope is that such normative standards can evolve into a series of political commitments and policies, as well as programmes that continue to implement and develop these good practices. This becomes important as one of the highest evaluation and assessment components of Proklim is related to the institutional portion, meaning that the involvement and inclusiveness of multi-group participation, especially minorities, one of which is women with disabilities, is important and significant to measure Proklim's success.

From the data review, Proklim is known as a climate change-related programme at the local level that uses a selective approach. This means that the programme is built through a process, whereby villages apply to be assessed for eligibiity as climate villages by the government. The problem with this approach is that villages that are not interested in applying will be trapped in a business-as-usual scenario. In fact, the impacts of climate change will be felt by all villages in Indonesia, so a programme for all villages is needed. They must have their own climate action plans according to the characteristics and capabilities of the villages. In addition, the programme is based on administrative areas, namely villages, making it difficult for social actors who have the similar interests in the context of climate change but are in different administrative areas. These include women with disabilities who have similar needs but are often not accommodated in the programmes in their villages. As a result, they form groups across villages and even regions to fulfil specific needs such as those of Komunitas Perempuan Bumi.

Perempuan Bumi as a Grassroots Initiative

Apart from the government, women with disabilities are also self-organising in response to climate change issues related to their specific needs. One of them is Komunitas Perempuan Bumi, which is a collaborative movement that emerged during the COVID-19 pandemic. The aim of this initiative is to procure cloth sanitary pads for women with disabilities in social institutions across Indonesia by empowering other women with disabilities as tailors. According to data from Perempuan Bumi, there are around 420 women with disabilities who reported losing their jobs during the pandemic. These women with disabilities have been working as tailors and craftswomen, ranging from a dozen years to 25 years. Declining orders due to the pandemic have also resulted in income reduction in their family. Dwi Ariyani, a disabled woman activist from Sukoharjo Regency, Central Java, took an initiative together with several organisations working on disability issues, such as the Association of Indonesian Women with Disabilities (Himpunan Wanita Disabilitas Indonesia/HWDI), Perhimpunan Jiwa Sehat (PJS), and Sehati Sukoharjo as well as other communities that focus on women's economic empowerment, such as Biyung Indonesia and EMPU Sustainable Fashion.

From this initiative, 30,000 pieces of cloth sanitary pads were successfully produced. This activity also involved 130 women tailors with disabilities spread across nine provinces in Indonesia (South Sulawesi, Maluku, Papua, Jakarta, West Java, Central Java, East Java, Yogyakarta, and West Nusa Tenggara). Between October 2020 and March 2021, Perempuan Bumi distributed 5,000 cloth sanitary pads to women with mental disabilities living in social institutions.

> "But on the other hand, the sanitary pads that we produce are distributed for free to friends who live in social institutions... and before distributing them, we also provide education about healthy menstruation for friends in the institutions. We hope the production of cloth sanitary pads will become an alternative economic empowerment for friends who live in institutions" (Aryani 2021, interview on 5 June).

Cloth sanitary napkins were chosen as a movement initiative because of an important reason. So far, women with mental disabilities who live in institutions have very little access to menstrual health tools (sanitary napkins).

> "They even said that they swap their underpants, that is, in ... So, it is not... it is not our own, although it is privacy, right? It should be our own..." (Aryani 2021, interview on 5 June).

This condition is certainly not natural but is shaped by how society represents women with disabilities. In Indonesia, there are around 5,425 women with disabilities living in social institutions with inadequate reproductive health support systems (Perempuan Bumi 2020). Women with disabilities are often seen as asexual, unable to engage in sexual activity, and unable to take responsibility if they have children (Meekosha 2006; Komnas Perempuan 2019). This condition affects the family, limiting their access to the outside world because they are considered a disgrace. It is not uncommon for them to be placed at the back of the house so as not to be seen by visiting guests (Fatimah 2008). This limitation also makes it difficult for them to access information about the right to sexual and reproductive health, coupled with the lack of parental knowledge about it (Komnas Perempuan 2019).

Access to the right to sexual and reproductive health in the form of sanitary pads intersects with the environmental issue of waste as stated by Dwi Aryani:

> "So, how is this women's issue, women with disabilities, and its connection to environmental issues? So, in addition to alternative menstrual products – cloth pads – we also want to advocate that friends with disabilities, especially mental disabilities, also have access to healthy menstrual products, namely cloth pads" (Aryani 2021, interview on 5 June).

In addition to containing microplastics that are harmful to human health (Suhanti 2021), disposable sanitary pads are also costly and require a long process to recycle (Reimonn et al. 2019). Data from the social media pages of Perempuan Bumi and Biyung Indonesia show that there are around 1.4 billion disposable sanitary pad waste every month and if rounded up in a year, disposable sanitary pads have managed to contribute as much as 16.8 billion waste (Perempuan Bumi 2020; Biyung Indonesia 2022). Further, disposable sanitary pads also have a large carbon footprint as they are mass-produced in large factories and then go through long distribution and transportation chains that are energy-intensive. Meanwhile, cloth sanitary pads are more climate-friendly as their shorter production and distribution routes do not require energy-intensive processes.

In this context, the concept of environmental feminism can be placed in interpreting how women with disabilities together with several other women's organisations organise themselves to fulfil their rights to sexual and reproductive health in the midst the economic downturn during the COVID-19 pandemic. Through the initiative of producing cloth sanitary pads, they emerged as agents of change by considering several conditions related to women with disabilities and nature.

From the climate justice perspective, what Perempuan Bumi is doing can be seen as an effort to show the issues of recognition, distribution, and participation in climate change policy in Indonesia. The issue of recognition can be seen from the weak recognition that women with disabilities are one of the most vulnerable groups affected by climate change. Consequently, the existence of women with disabilities has not been specifically recognised in policies on climate change adaptation and mitigation let alone providing affirmative policies to recognise their interests. The lack of specific inclusion of women with disabilities in policies cannot be separated from the lack of accurate data on the number of people with disabilities in Indonesia (Halimatussaidah et al. 2017). Through the initiatives that they have taken, Perempuan Bumi wants to show the agency of women with disabilities as social actors, who are able to carry out production work with environmental (climate change) and gender (reproductive health) aspects being the main consideration of what is produced and how the product is distributed.

Conceptually, Perempuan Bumi movement is an extension of Agarwal's conceptual framework of environmental feminism. In this regard, disability is placed as one of the dimensions along with gender in understanding the relationship between women and the environment that is formed from the organisation of production, reproduction, and distribution that places disability as one of its dimensions. In the context of production, as seen by Oliver (1990), people with disabilities are generally marginalised in the capitalist system because they are considered unable to become productive labour to produce more value due to their physical, mental, and sensory limitations. In this system, women are also not considered as productive labourers even though their role is needed in social reproduction so that capitalism can continue (Federici 2012). Thus, women with disabilities experience double marginalisation in the capitalist system because of the conflation of "disability" and "woman" categories in relation to production process.

However, through Perempuan Bumi initiative, women with disabilities who have been marginalised in the capitalist system are able to mobilise agency in non-capitalistic production processes. Equipped with sewing skills, they produce cloth sanitary pads that are distributed to women with mental disabilities in social institutions. In addition, they also use their sewing skills to produce cloth pads that can be traded to increase their income so that they can be economically empowered. In this initiative, the reproductive aspect can be seen from the goods produced in the form of cloth pads that have

an important function in fulfilling the rights to health and reproduction of women with mental disabilities in social institutions. The distribution aspect is evident from the free provision of cloth pads to those in need, in this case women with mental disabilities living in social institutions. In short, Perempuan Bumi initiative has a non-capitalistic character because goods are produced based on their usefulness (use value) and not for the purpose of accumulating profits (exchange value).

The second issue in climate justice is related to participation, which is derived from the issue of recognition. Participation in decision-making processes related to climate change will allow parties involved to express their interests and be considered. However, because women with disabilities are not recognised in climate policies, there is no space for them to participate and their vulnerabilities and needs in terms of climate change adaptation are not accommodated in state agendas. In this regard, initiatives such as Perempuan Bumi are an important step to start showing that women with disabilities, who have been seen as invisible, are participating in addressing climate change. This collaborative movement also aligns with the Sustainable Development Goals (SDGs No. 5, 8, 10, and 12) that Indonesia is committed to implementing. The hope is that through their independent participation, they will be involved in the development of climate change programmes and policies so that the principle of "no one left behind" does not end up being just a jargon.

The third issue is distribution, which in this case relates to the impacts of climate change. Distribution correlates with the recognition and participation of parties whose existence is recognised to be involved in decision-making so that their interests are accommodated in the policies. As a result, they can receive a positive distribution from such policies. In contrast, those whose existence is not recognised are not involved in decision-making, so they tend to get a negative distribution from the policies. Collectively, women with disabilities are a social group that contributes little to the release of greenhouse gas emissions. This is because they tend to be outside the production relations of the capitalist system, which is the root cause of the climate crisis. However, women with disabilities are the most negatively impacted by climate change and government policies because they are not recognised and included in decision-making.

Amidst their invisibility in the eyes of the state, women with disabilities develop their own initiatives. To them, the impacts of climate change are inevitable, so they have to prepare themselves to adapt and build their group's resilience independently. This is one of the goals pursued by Perempuan Bumi community to create a space for information sharing and collective action in addressing climate change based on their needs as women with disabilities. However, the challenges to this grassroots work will be even greater given the persistence of structural and social conditions that create barriers for women with disabilities to develop themselves and their communities. Therefore, it is important to continue to voice and bring the experiences of women with disabilities into public conversations and policy-making, including on climate change.

Closing

Women with disabilities, especially those from weak socio-economic backgrounds, tend to be a more vulnerable group when faced with the phenomenon of climate change. In practice, they are often alienated in the public sphere and cannot participate optimally in the decision-making processes, one of which is related to climate change, which is a contemporary issue. At the normative level, the regulation of climate change in various legislation has not accommodated the conditions that allow women with disabilities to empower themselves in an effort to build resilience to climate change. The motion is also reflected in the implementation of site-scale climate change programmes that have not been able to holistically build climate resilience, including accommodating the rights to three accesses (information, participation, and justice) of women with disabilities as a whole. In this regard, collaborative cooperation between the government, communities, and civil society organisations is key to grounding participatory and equitable site-scale climate change policies towards minorities, especially women with disabilities. Perempuan Bumi Community initiative is an effort to realise climate justice by seizing recognition, participation, and equitable distribution of the impacts of climate change and government policies in responding to the climate crisis.

In short, climate change policies that are taken in a participatory manner mean that these policies must be taken by accommodating all elements of subject and object representation holistically. The principles of climate change policy-making are participatory, transparent, and accountable because the voices of people most vulnerable to climate change must be heard, accommodated, and followed through in action programmes. Lessons can be learned from emergency response operations in Aceh and Nias. Studies from

Enarson and Elaine and Komnas Perempuan noted the poor results of policies issued as the assessment stage was conducted without consulting women from various backgrounds. As a result, the data on damages, losses, and needs collected were not representative, resulting in policies that were also unrepresentative in tackling the actual problems and needs in responding to disasters. This is also the case in the context of climate change. Therefore, linking human rights and development policies with an approach that centres on the protection of the most vulnerable, including women with disabilities, is key to achieving climate justice.

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End Notes

1 Article 1 Number 2 of the United Nations Framework Convention on Climate Change (UNFCCC) reads: "Climate change" means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

2 UNFCCC through Law No. 6 of 1994, 1997 Kyoto Protocol through Law No. 17 of 2004, and Paris Agreement through Law No. 16 of 2016.

3 Article 12 of the Paris Agreement reads: "Parties shall cooperate in taking measures, as appropriate, to enhance climate change education, training, public awareness, public participation and public access to information, recognizing the importance of these steps with respect to enhancing actions under this Agreement".

4 Article 7 number 5 of the Paris Agreement reads: "Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate".

5 Article 89 of Law No. 31 Year 2009 on Meteorology, Climatology, and Geophysics.

6 Articles 75, 95, and 96 (3) of the Minister of Environment and Forestry Regulation No. 32/2016 on Forest and Land Fire Control outline the central role of community participation both at the level of work coordination and community empowerment and development in the context of controlling and preventing forest and land fires.

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The Agency of Women in the Climate Crisis: A Decolonizing Feminist Method

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Abstract

This article aims to discuss the relationship between the promotion of women's agency and vulnerable groups with the changing trends in the orientation of social research methods towards decolonization in the strands of the feminist approach. All the world communities, especially the marginal groups who have intersectional vulnerabilities, are starting to redefine their experiences in this climate crisis. It is proven that their concrete resilience is genuine, innovative, creative, and able to preserve their lives in a sustainable manner. Our attention should be deeper towards their simple efforts to free themselves from the "oppression of global powers". This research was conducted in two villages of the Exclusive Economic Zone (KEE) *Banyuwangi*, East Java, called *Wringinputih* and *Kedunggebang*. The framework used is postcolonial feminist and applies a feminist political ecology (FPE) method. Fieldwork adopts focus group discussion, field talk, and participatory observation. The doubts of marginal communities about their agency in the climate crisis is a challenge for postcolonial feminist researchers. In fact, by using a feminist postcolonial approach, the practices of forest landscape governance (FLG) clearly record the involvement of women and marginalized groups. Here it is the novelty of the article, a decolonization method in FLG.

Keywords: decolonizing feminist methods, women and climate crisis, the agency of subaltern, feminist political ecology

Introduction

Essentially, criticism of the positivism discourse in the development of science has long been touted by Harding (1998). The challenge to science that develops by negating the perspective of vulnerable groups outside academic institutions is increasingly popular; generally referred to as a decolonisation effort. Therefore, it is necessary and important to trace the connection between the recognition of women's agency towards decolonisation in the strands of feminist approaches.

Both gender justice and local women's perspectives are absent from ecological governance and climate crisis concepts (Hayhurst & Centeno 2019). Kurauchi et al. (2005) corroborate the position of local communities in natural resource governance in Southeast Asia: Cambodia, Indonesia, Thailand, Vietnam, and China. While some communities are able to enjoy prosperity, opportunity, and environmental sustainability, many are struggling as a result of severe ecological degradation.

Hayhurst and Centeno (2019) give the example of Nicaragua, where the impacts of climate change place a heavy burden on women. In the context of efforts to respond to climate change, gender practices operate as an oppressive process that reinforces women's identities with certain traits that are considered absolute. There are concerns that in responding to environmental degradation and adaptation, society is reinforcing the everyday enforcement of patriarchal practices, including the stereotyping of traditional gender roles of women and girls. Without a rigorous analysis, this situation could exacerbate the gendered division of labour, potentially reinforcing assumptions about women's "natural relationship with nature". Research findings in Nicaragua prove that there is a link between domestic violence and deforestation.

Narratives and hidden interests of women in climate crisis issues are not just allegations to justify feminist perspectives, but an ongoing praxis on the ground. Research findings on the women's environmental community (Komunitas Perempuan Peduli Lingkungan/ KPPL) from Pal 8 village in the Kerinci Seblat National Forest Park (Taman Hutan Nasional Kerinci Seblat/TNKS) show that despite the strong desire of local women to be involved in forest governance, they are constrained by unequal perspectives on forest landscape policies (Hendrastiti & Kusujiarti 2022).

Research in Essential Ecosystem Areas (Kawasan Ekosistem Esensial/KEEs) promoted by the Ministry of Environment and Forestry (Kementerian Lingkungan Hidup dan Kehutanan/KLHK) shows similar trends. The results of a study in Teluk Pangpang, Banyuwangi show a lack of recognition of the voices and interests of women communities.[1] In practice, the KEE scheme was less participatory, with local women's groups unable to participate in the programme cycle, especially in the planning process. In a preliminary study in March 2022, the authors found that operational regulations at the village level had not been drafted, and some communities expressed their inability to understand the programme's outcomes. Fieldwork also showed how much was hidden behind the KEE agenda.[2]

Nexus: Postcolonial Feminism, Ecological Crisis, Agency

Currently, the trend of decolonising social sciences is rapid, including on the issues of climate crisis and women's agency in the context of feminist approaches. The interconnectedness of feminism, climate crisis and women's agency has been an interesting intersection of contemporary feminist studies (Enarson et al. 2017; Kurauchi et al. 2005; DeLoughrey and Handley 2011).

Enarson et al. (2017) state that the gender analysis lens in ecological crisis and disaster studies is varied and dynamic.[3] For example, the social vulnerability approach that locates social vulnerability in disasters by pointing to social dynamics rooted in gender, class, race, culture, nationality, age, and other power relations (the context of intersectionality). In addition, there is a socio-political ecology approach that emphasises broad meanings and focuses on interactions. Interaction here is not limited to the interaction of human and non-human systems, but includes all social systems. The intersectional context of interaction, especially in the context of disasters, includes gender relations, and a portrait of gender discrimination. This factor relates to the neglect of the human rights of women and girls.

The study by Kurauchi et al. (2005) explains the unique political, economic, and social situation of local women's groups in natural resource governance, namely: 1) incomplete or unclear subsidiarity; 2) limited downward accountability; 3) lack of human resource capacity in democratically elected local governments; 4) donor-driven decentralisation; 5) limited ownership and benefits from natural resources by local communities; and 6) inadequate coordination between government and non-government actors. The study makes clear the interconnectedness of governance and women's absence.

DeLoughrey and Handley's investigation (2011) on ecological governance and women shows that there is a link between climate crisis and ecosystem restoration. They believe that a postcolonial approach is important for this kind of research. For a colonised nation, the most important and concrete value is land. Land is their source of livelihood and a symbol of their dignity. In the language of DeLoughrey and Handley (2011), the phenomenon of imperialism is geographical violence. Land tenure patterns occur in almost every part of the world. Imperialism explores land, maps it, and eventually controls it. For natives, the history of colonial slavery begins with the loss of their geographical locality and identity, namely land. DeLoughrey and Handley (2011) frame postcolonial writing ecologically, positioning it as a process of historical recovery, identification, and myth-making. Ecological postcolonialism is also intended as an effort to restore the position of women as environmental agents, who promote struggles that are unique to the historicity of the Global South community. The concept of territorial narratives is used to question colonially imposed narratives.

Following DeLoughrey and Handley's model, landscapes and seascapes are elements to be considered in the historical process and not just observations of human experience. The involvement of non-human agency creates additional challenges as nature's own processes of regeneration and change often contribute to the erasure of postcolonial histories. In discussing the climate crisis, we must enter into a "deep dialogue with the earth's landscape and ecology".

Resurreción and Elmhirst (2013) clarify the description of Enarson et al. (2017); Kurauchi et al. (2005); and DeLoughrey and Handley (2011). They believe that compromises between theory, policy, and practice on gender, the environment, and natural resource governance are not easy. There are intertwined elements of politics, negotiation, and contestation of social relations. They believe that it is important to utilise a ground-breaking critical feminist perspective to examine the relationship between gender and natural resource management in contemporary policy contexts. According to these thinkers, the challenges of applying postcolonial feminist ecology are decentralised governance, poverty eradication, and gender 'mainstreaming'.

The work of Resurreción (2017) and Elmhirst (2011) points to the importance of shifting the study of ecological crisis issues to postcolonial feminist epistemology. Postcolonial feminists represent an anti-monolithic approach and recognise non-Western knowledge as multifaced knowledge that recognises non-Western people and communities as subjects of knowledge. This perspective was popular in the 1990s (Saunders 2004; Brah & Phoenix 2004). With this postcolonial perspective, the agency, stories, and narratives of communities from the Global South become the basis for knowledge development (Brook 1997; Spivak 2008; Mohanty 2008).

Postcolonial feminism is a framework towards deconstruction for decolonisation. It deconstructs the universalism of Western feminist theory and challenges liberal feminism, socialist feminism, Marxist feminism, and structural feminism that have marginalised the agency of women from the Global South. Mohanty (2008) warns of the dangers of homogenising non-Western women as reflections of oppressed groups. Spivak (2008) emphatically states that postcolonialism is a major innovation in the humanities and social studies that focuses on communities that are considered subaltern, having no identity, and hidden.[4]

Postcolonial feminist thinkers critically examine the assumption that women's identities from the Global South are not monolithic (Narayan & Harding 2000; Mohanty 2008; Saunders 2004). These theories focus on the micro-level struggles of women activists from the Global South that influence the macro-level women's movement. Women's struggles at the local level are related to the formation of their identities, the different realities they face, the representation of issues raised, and the politics of their bodies.

According to Spivak (2008), a system of oppression and sharp subordination relations have resulted in the formation of a society that is 'apathetic', 'silent', and places them only 'in the shadows'. In the context of ecological issues, Tierney's (2019) study states that disasters and pandemics can create space for vulnerable women to express their voices. Disasters can reveal hidden structures and inequalities. Research in Aceh, for example, shows that in the aftermath of the tsunami disaster the community was faced with a dire situation that required outside intervention. Interestingly, this situation provided an opportunity for Acehnese women to express their agency and engage in wider public participation (Kusujiarti 2017).

Experiences from various subaltern communities show the importance of collective actions at the grassroots level as resistance to inequality. Pollock and Subramaniam's study (2016) notes that state power and global inequality trigger social movements to fight power structures that are intertwined with the influence of foreign science and technology. Power relations become the main issue in fighting for justice, including ecological justice. Theories and methodologies embedded in hegemonic structures fail to accommodate the perspective and knowledge of subaltern groups. As a result, their culture, language, and national identity are not taken into account as relevant aspects to ensure full engagement.

Decolonialisation theory and methodology are essential to postcolonial feminist approaches (Hendrastiti 2014). One of the methods in decolonising knowledge about women in the Global South is to centre local women's narratives, practices, histories, and knowledge, including narratives and knowledge of their environment; this approach is also often referred to as feminist political ecology.

Research Methodology

The environmental crisis has become a major concern of various disciplines and theories, including political ecology, ecofeminism, and ecocriticism approaches (Dar & Bhatt 2019). This issue needs to be researched through a trans-disciplinary approach as environmental crises are complex and intersect with culture, power, and literature. How local institutions reform and reproduce themselves and the gender relations embedded in the context of intersectionality are the scope of postcolonial feminist political ecology.

Feminist Political Ecology (FPE) is a methodological framework that facilitates the study of gender issues and environmental crises (Rocheleau et al. 1996; Sundberg 2015). FPE emphasises the study of women's involvement as central environmental agents. Unfortunately, recognition of their agency in ecological change and contribution to nature conservation has not been fully accepted. The deprivation of such recognition certainly hinders the development of efforts to recover the environment from damage and disasters.[5]

The struggles of subaltern groups for ecological justice, survival, and sustainable life are represented in everyday life. Their struggles are summarised in the narrative of daily activities, especially in the context of gender relations (Hendrastiti & Kusujiarti 2020). FPE explores the interconnections between environmental institutions, knowledge production, and women's

positions to outline how different groups respond to environmental issues and policies in different ways. Postcolonial approaches extend FPE with a focus on environmental practices (Hayhurst & Centeno 2019; Mollett 2017).

In feminist methods, both researchers and participants become research subjects and they have their own political perspectives on the research focus. Misbahul (2016) noted from a feminist pedagogy conference that the study of intersectionality or the encounter of various structures needs to be the basis of analysis in feminist research. Intersectionality focuses on the confluence of power relations from various dimensions that contribute to perpetuating structural domination, oppression, and discrimination against women.

The results of KEE research using indicators of authority, access, economy, and employment reveal that women's perspectives have not been taken into account as an important issue in FLG (Setiahadi et al. 2020). Women's involvement in natural resource management, in general, is encouraged to preserve the environment and life around them.[6] The data for this paper comes from two villages: Wringinputih Village, Muncar, Banyuwangi Regency and Kedunggebang Village, Tegaldlimo, Banyuwangi Regency. Both are in East Java Province. Since 2015, both villages have been included in the Essential Economic Zone (KEE). Teluk Pangpang KEE in Banyuwangi Regency covers karst ecosystems, mangrove wetlands[7] and peatlands outside of Nature Reserve Areas (Kawasan Suaka Alam/KSA) and Nature Conservation Areas (Kawasan Pelestarian Alam/KPA).[8] The research was conducted between February-June 2022 as part of a preparatory research grant from the Forest Landscape Governance (FLG) Recoftc-Explore Programme, Bangkok.

Both research villages are located in mangrove forest areas. Fishermen from the villages and from outside the villages, including fisherwomen actively search for clams, shrimps, and crabs using small motorised canoes. Lately, fishermen have been catching very little; this situation has been exacerbated by the KEE restriction that prohibits small canoes from entering the mangrove forests. According to the fishermen, their catches are usually sold to the local markets, bought by close neighbours, or for their own consumption. In particular, the experiential narratives in this paper come from the experiences and perspectives of fisherwomen in both villages.

The data collection method for this research was Focus Group Discussions (FGDs). Through FGDs, the research team prioritised rapport with participants. One of the most convenient ways was to draw and make applications with colourful paper to visualise their positionality in the mangrove forest KEE programme. This activity also illustrated the changes in their situation due to the climate crisis.

Another method is field talks. Field talks are an alternative to getting a narrative from the subject. Field talks are seen as more natural, closer, and in-depth to understanding the subject's thoughts and perspectives than interviews. The subject was not "directed" to answer what the researchers need and want. Instead, the researchers learn to understand how the ecological crisis phenomenon occurs, and how locals respond to the situation. With field talks, the ecological crisis becomes a broad and comprehensive conversation. The field talk method is in line with ecological and political approaches that emphasise broad and comprehensive meaning and focus on interaction.

Fieldnotes are a model of qualitative research. In postcolonial feminist studies, fieldnotes are adopted because of the documenting power of the situation or "moment". The situation of "imperialism", which is rooted in different dimensions of gender, social class, education, belief, ethnicity, language, political orientation, and cultural background (intersectional), should not be overlooked. For example, in the writing of this journal article, all information was in a layered file/storage: notes of the discussion process, verbatim narratives from the subjects, documentation of the situation during the discussion, and a fusion of narratives and sketches (photos, drawings, figures, matrices) made by the researchers during the discussion.

In fact, at each stage of the method applied above, there has been a moving analysis. The findings of moments of "oppression" and moments of decolonisation on the issue of ecological crisis, all changes in daily living situations, and all responses to ecosystem changes (both dramatic and slow) form the basis of the analysis in the research. The FPE framework strengthens the research's analysis from three spectrums (Sundberg 2015), namely 1) gendered environmental knowledge and practices; 2) natural gender rights and unequal vulnerability to environmental change; and 3) gender-based environmental activism and organisations. Complementing the rules of qualitative analysis, the findings of moments of "imperialism" and moments of decolonisation in postcolonial feminists in the field are then analysed and reflected upon with previous research findings, to identify similarities, differences, and novelty. By comparing the research findings, there will be awareness, uniqueness, struggle strategies, living space

achieved from the struggle/resistance, and future plan of the subjects are revealed.

Subaltern Voices, Deconstruction of Knowledge, and Decolonisation of Feminist Methods

The Phenomenon of Women's Agency

One interesting aspect of Teluk Pangpang KEE when viewed from the PFPE framework is the assessment of women's involvement. Since its introduction in 2015, local communities have not understood the KEE programme as a solution designed to address a citizen-based ecological crisis situation; or a replicated global agenda for Indonesia, especially for East Java, which is mandated by the programme. This is because the introduction and distribution of information related to the programme was not done in an inclusive and equitable manner. It was acknowledged by FGD participants that there were women present at the socialisation, but they did not fully understand, and were instructed to disseminate to other women's groups.[9]

The community sees a "struggle" for influence in the KEE programme.[10] Although there is coordination in the management decree, implementation in the field does not show collaboration between institutions. Local civil society states that the community only receives the programme; they are positioned as an object rather than an equal subject. As long as the KEE programme does not improve the lives of local communities, they no longer question the programme. The issue of response to the mangrove crisis is unclear. The management decree for the KEE programme does exist, but the community does not see the implementation of the division of labour. Let alone issues of equality and recognition of the existence of women's groups; it is unclear whether there is any justice in the programme for local communities.[11]

It appears that there is an information gap between KEE and the community, which is reflected in the dialogue that shows the community's desire to be involved, for example, in tourism development. They know that mangrove tourism is designed at the village or regional level and not for individual interests. The community once proposed an *agro silvo* fisheries programme, but to date the programme has stalled.

The design is top-down as women are positioned in the tourism awareness group (Pokdarwis), while in the dialogue, women participants still question the target beneficiaries of ecotourism. What about women's groups? Are they included as target beneficiaries of the programme? Women participants said that the Pokdarwis existed even before the KEE programme. This means that until now, women are still positioned as objects rather than equal stakeholders. "...we are still considered as objects or tools of development and not being involved in the planning" (P2 2022, March FGD). According to the FGD participants, only the Fisheries Service, which regulates and accommodates the catch of marine products, will serve as a space for women's involvement.

FGDs in Kedunggebang Village started with sharing stories about what they were proud of in life. There were three people who told stories and chose pictures of objects symbolising their identity; for example: the first participant's story and a picture of a house as a symbol of duty and responsibility for the welfare of the family. The second participant shared her pride of being the guardian of all family members and drew a picture of a fence for his role. The third participant talked about her pride of being a tailor. Ms. Dv narrated herself as someone who, since childhood, has been good at helping her mother sew clothes, put on buttons, or *ngesum*, or other jobs. The older she gets the more skills she has, and that makes her proud. Her symbol was a shirt.[12]

Then, the next participant, Ms. Pn, ... it took her awhile to start her story. While laughing, she admitted that she had nothing to be proud of in her life. Everyone in the room encouraged her to remember what actions were valuable. One of the participants said:

> "... you paid for your children's tuition fees by collecting shells, right?" Then, while blushing, she asked again: "... should I be proud of that? Everyone in the room half-screamed "... yes! ..." (Pn 2022, March FGD).

She began to tell us about her daily activities searching for clams and crabs in *Tanjang* forest. She also demonstrated how to do the search, with both hands pulled forward and moved to the side repeatedly as a sign of paddling a canoe while searching for shells. She also told us about the proceeds from selling the shells, which she saved and used to send her children to college. When asked what the symbol of her pride was, she once again grimaced and was confused, "... what is it?". Once again Mr. Kr gave her an idea "... trophies!...". Incidentally, in that room there were three trophies displayed on the sideboard of the owner of the house. With a big laugh Ms. Pn agreed to Mr. Kr's suggestion on the trophy symbol.

Furthermore, when the dialogue entered into the issue of KEEs in Kedunggebang Village, everyone was thinking, looking left and right, smiling and mumbling, hesitating when asked about the KEE programme "... what

can I say?... they said". It seemed as if they just realised that they had never even referred to mangrove forests as KEEs. Then the researchers guided the participants with a question, "How do you call the forests where you look for shellfish…crabs… where birds nest ...?" They responded, "oh that ... usually they are called *cacalan*, *tanjang*, mangrove area". The participants were also reminded about places that are cared for and preserved, what do you call them? "*sing perlu diuri-uri*", which was interpreted as something that needs to be preserved. Other participants agreed that the area needed to be protected. Furthermore, in the dialogue, we referred to the mangrove forests as "*sing perlu diuri-uri area*" (*KSPD*). Participants did not object to the term (Im 2022, March FGD).[13]

In the dialogue, Ms. Pn bravely and firmly stated that this language issue was very important. They do not understand many of the terms and language used by "those people above": "... What were they saying? We did not understand, what did they mean, what did they ask us to do?..." (Pn 2022, March FGD). In the paragraph above, the communities have called the *tanjang* area a *diuri-uri* area, a location where they make a living that is maintained and cared for. Language issues and information distribution that do not recognise the local context result in a complete exclusion of local communities as well as women in environmental management and conservation.[14]

The narratives of women's agency in mangrove forests were reflected through FGDs. Language issues are important for equitable engagement and access. There is also a gap between local knowledge and that of the KEE. According to Ms. Pn, some shellfish seekers cut down a few mangrove roots to make way for canoes. Unfortunately, *Perhutani* considers this action to be damaging the nature. For this action, *Perhutani* arrested and imprisoned the local community members on charges of cutting mangrove roots in the conservation area. According to the fisherfolks' version, the arrest was due to a misunderstanding; the language used by the officials was too high and could not be understood by them. On the other hand, the officials did not know why the fisherwomen cut mangrove roots "...to make way for clams and crabs" (Pn 2022, March FGD). Based on the FGDs, the researchers noted that the local communities are aware about environmental preservation, but the unequal communication flow and not recognising the context and needs of the local communities have led to misunderstanding and criminalisation of the people who carry out their daily work. Why would they destroy the mangrove forests on which they depend their livelihood on?[15]

As a comparison, the experience of growing women's agency in the solution of ecological crises occurred in the highland village of Kerinci Seblat National Park (Taman Nasional Kerinci Seblat/TNKS), Sumatera (Hendrastiti & Kusujiarti 2022). The research shows how a postcolonial feminist framework reveals the agency and movement of local women in expressing their rights to be involved in managing natural resources. The women's group who sought to gain rights and access to the forest were the lower strata of the village's social class. This group was also initially criminalised and had to access the forest secretly from the TNKS. However, with the initiative of the women and facilitation from local environmental organisations, The TNKS women fought for legal access to the TNKS. When women are fully involved and there is equal and open communication between the community and the TNKS, it turns out that women can show that their daily knowledge of the forest environment has a significant impact on the preservation of forest areas. This is evidenced by the absence of flooding and forest replanting. In addition, women also get economic empowerment from processing forest products (Boang Manalu, Subono & Putri 2022). The research shows that when women are equally involved, they can negotiate with the communities, formal institutions, and local governments to show how their knowledge and experience play an important role in conserving the resources around them.

Postcolonial Feminist Method as Decolonising Method

One of the highlights of this research method is rapport: the experience of recognising subaltern voices. The rapport required in postcolonial feminist methods is a process of equality between research subjects. Participants proved willing to engage in discussions when they were safe, felt they were on an equal footing, and were connected to the researchers (who came from outside the community). Feminist momentum in the practice of postcolonial methods is not time-dependent, although time can be a prerequisite of the relationship and connection between subjects. The experience of being treated as the 'other' is the biggest obstacle to equal rapport.

Based on the author's observations, most subaltern communities tend to stand still and wait; not progressive at first, they tend to watch and learn how they are treated (as written by DeLoughrey & Handley 2011; Enarson,

Fothergill & Peek 2017; Candra 2019). They also know that they are usually put in an unequal situation, being the listeners, not speaking or keeping quiet because they do not understand what the power holders and decision makers are talking about. Yet, when they are given a safe space and treated as equal subjects, we will be able to understand what barriers they experience, what they need, and what they know and have practised. In this research process with decolonial feminist methods, the researchers can practice rapport in an inclusive and equal way.

Based on our research, we realised that the rapport period in postcolonial feminist research requires gatekeeper(s). The researchers benefit from the support provided by gatekeepers. Gatekeepers also become mediators to accelerate language alignment and intersectional equality between local communities, especially women, and the researchers. Another interesting point is that gatekeepers can also learn about situations and methods of approaching subjects and dialogue practices that are more equal and open. They have the opportunity to discover social phenomena that were not previously revealed during the dialogues. Through stories and dialogues in a safe space, many previously unknown stories were articulated and expanded mutual understanding.

We learned that there are various local terms used to refer to mangrove forests, including *alas etan kono*, *sembulungan*, *segoro etan*, and *tanjang*. Interestingly, none of these commonly recognised terms refers to the *tanjang* area as a KEE. For example, KEE is a programme in the *tanjang* location.[16] This means that there is a gap in understanding between the government's programme and the local community's understanding. According to the authors, the success of a nature conservation programme involving local communities must at least depart from the local cultural context. Equal and understandable communication must be considered in the implementation of the programme.

The relationship between women and *tanjang* reflects the identity of ecological relationships. That they are subjects of the group to which they are part of, and the identity of their relationship with *tanjang*. The drawings they made reveal how they place themselves (positionality) towards *tanjang*; how close, how far, is there a connection with *tanjang* project, is there a connection, and so on.

The FGD dialogue method is effective for establishing rapport as there is a reason for everyone to share who they are, their agency in the family, in the community, and their presence in the wider social sphere. It also looks at their ecological relationship with the KEE programme, and the presence/acceptance of the programme in their daily lives. This is at least the beginning of findings about responses to the climate crisis in the form of mangrove exclusive economic zones that are not part of local community life.

This FGD dialogue is a measuring tool for how effective the social internalisation of the programme is for the communities. There is a tendency that communities only accept programme implementation because there is a project attached to it. The engagement orientation is not on the sustainability of *tanjang* and the safety of living space but simply a project motive.

While the discussions revealed that communities are trained to campaign for the benefits of KEE, and expressed their gratitude for the programme, there are still narratives that show a disconnect between global/national agendas and local communities' interests. For example, there is a narrative of UDD (*uang dewe-dewe*) in running the programme. To procure seedlings and plant mangroves, UDD is a narrative of self-help funds to save mangrove forests. They thought the provision of mangrove seedlings and planting was supported by government funds because it was a government programme. The narrative is accompanied by dissatisfaction as people have to work and spend their own funds to achieve the success of the programme's goals.

The above narrative has multifaceted meanings, firstly, that communities must undertake activities to make the mangrove conservation programme a success. Secondly, communities are benefitted by the mangrove conservation programme because there are opportunities to develop or start a business. Thirdly, over time, knowledge and awareness will emerge that mangrove forests will save people's living space. There is a narrative in the dialogue:

> "... it is said that *tanjang* forest can break the waves and prevent flooding, abrasion ..." (P2 2022, March FGD).

The phrase "it is said" reflects that the function of *tanjang* is actually taught by outsiders to the communities... not genuine local knowledge from coastal communities, which was passed down from their ancestors.[17]

The FGDs also uncovered how local women understand their position towards *tanjang* forest. In fact, women were outside the circle of the KEE programme scheme. One woman hesitantly asked while putting up

a post-it "... I am here, in the circle, because I join *PKK*; and *PKK* activity programme is included in the KEE. But only a few women are included. Women who look for clams and crabs are not involved in *PKK*" (Tr 2022, March FGD). Through the FGDs we found that women's programmes in the KEE only involved elite village women. If the meeting had been attended by more women who look for clams and crabs, it would have shown how women were positioned in relation to the KEE. [18] Women's voices in the FGDs showed an existing picture of the social strata of women's groups. Although not all FGD participants were part of subaltern groups, the presence of women clams and crabs seekers clarified the intersection of social classes in the two mangrove forest villages.

In relation to this issue, de Souza (2019) notes that there has been a shift in feminist solidarity away from the main intra-movement articulations of feminist groups. In Latin America, feminist movements - joined by a large number of grassroots organisations labelled anti-capitalist, and trade union movements - are demanding that violence against women be linked to other forms of exploitation, such as capitalist exploitation and the precarisation of work to issues relating to gender violence and reproductive rights. The agenda of inclusivity and connectivity between issues of class, gender, sexuality, ethnicity, and race, legitimises not only the right to freedom of expression, but also an assertion on the materiality of women's bodies and the need to reclaim women's rights over their bodies.

Summarising the analysis of subaltern women's agency on the issue of ecological crisis within a postcolonial feminist framework, we see that there is knowledge related to language and gendered bodies. There is a different context of language and meaning shared by subaltern communities and those in power. For subaltern women, their actions and thoughts are embedded with gender identity. Yet, environmental conservation programmes often construct the subject as a gender-neutral body, failing to recognise women's experiences, needs, and knowledge at the local level. To ensure inclusive engagement and equitable environmental management, the intersections between gender, geography, social class, and other factors must be recognised in order to generate adequate and equitable responses. As narrated by ecological feminist thinkers, especially postcolonialist thinkers, subaltern voices are important sources of knowledge to respond to the climate crisis.

Closing

Women's agency on the issue of ecological crisis exists. It is the narrative and language of the subaltern communities that is different. The postcolonial feminist framework and feminist political ecology (FPE) methodology become a bridge that allows subaltern communities' narrative to be heard, intersectional positionality to be drawn, and henceforth recognised. Based on field talks, the agency of subaltern communities is formed because individual and group consciousness exists in the form of knowledge "imperialism"; from the story that is a challenge to the recognition of knowledge.

The recognition of knowledge production from subaltern communities is a decolonisation of social discourse, including the strands of feminism itself. The idea of designing development programmes, especially participatory responses to ecological crises, would be meaningless without decolonising the frameworks and methodologies of social research, especially on environmental issues. This article does propose a presumptive premise of recognising the agency of subaltern women; however, in reality, the production and reproduction of knowledge from subaltern women's communities continues, and is seeking recognition from the scientific public. The decolonisation that occurs is actual and practical and takes a political path because it has to deal with the regulation of engagement.

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End Notes

1 Field research conducted as part of a Preparatory Proposal Grant from Recoftc-Explore, March 2022.

2 Today, this biodiversity is in crisis and endangered; not only because of dramatic universal changes to the ecosystem, but also because of many human pressures that are accelerating its extinction. KEE scheme was designed to maintain the sustainability of the mangrove forest sites, inviting local participation and safeguarding community welfare. Fieldwork showed how much of a hidden phenomenon *Teluk Pangpang* KEE agenda is. KEE is an option to save the ecosystem in this climate crisis situation. The design of KEE lacks efforts to improve the livelihoods of the communities around the area. Therefore, the context of a decolonisation study of KEE area is crucial to further respond to its local socio-political impacts for stakeholders.

3 The concept of gender is an innovation of feminist scholars, so its discourse base is often referred to together with the concept of gender.

4 It turns out that the practice of colonialism continues, metamorphoses, and mutates into imperialism and is embedded in indigenous patriarchy (Candra, 2019). Candra's research (2019) in Manggarai, NTT shows that the marginalisation of women is legitimised by local culture and customary traditions through patriarchal patterns. Local narratives and stories refer to the legitimisation of this patriarchal pattern, while revealing

the voices of subaltern groups that there are complex social phenomena, which are the root of the vulnerability and resistance of the marginalised groups.

5 Ecological and political relations within the FPE framework can reveal hidden phenomena of gender diversity and relational inequality through three main areas ((Sundberg 2015): 1) Gendered environmental knowledge and practices; 2) Natural gender rights and unequal vulnerability to environmental change; and 3) Gender-based environmental activism and organisations.

6 Gender perspective applied in the research promotes alternative solutions for better forest landscape sustainability, focusing on the rights and involvement of women and other marginalised groups.

7 Lakes, rivers, swamps, brackish, and tidal areas with no more than six metres of water.

8 Since 2016, the implementation of some government affairs in the forestry sector has been delegated to the Governor as the representative of the government. According to Permen LHK No. P.66/Menlhk-Setjen/2015, one of the authorities to designate and manage KEEs is included in this delegation framework (Setiahadi 2020). The process of designating and managing essential ecosystem areas according to the Permen LHK is carried out in stages, namely: 1) Identification and inventory of essential ecosystem areas, 2) Facilitation of the patterning (designation) of essential ecosystem areas, 3) Designation of essential ecosystem areas, 4) Development of action plans for essential ecosystem areas, 5) Facilitation of the implementation of essential ecosystem area action plans, 6) Monitoring and evaluation of the management (Setiahadi 2020).

9 In the dialogue, there was a narrative about (1) the determination of the location of KEE programme is in *tanjang* location. Unfortunately, (2) communities were still confused about why KEE is needed, what is the function of the programme, what are the benefits of the programme, for whom is the success of the programme, and (3) communities also wondered about the difference between KEE programme and the old *tanjang* forest area. The important information was that in 2022 there will be no more socialisation, either from the KEE management forum or government institutions (village, district, province). Communities' responses regarding livelihoods show that there are concerns about the loss of livelihoods. In KEE programme, the conservation principle is felt more strongly, as is the position of the communities and their livelihoods. This issue also involves a clash of approaches, or a clash of orientations regarding environmental conservation. Physical environment comes first, people second. Unclear information has led villagers around the mangrove areas to ignore KEE boundary. They carry on their normal activities in *Tanjang* area, no different from before KEE programme.

10 The community sees the "sectoral ego" of stakeholders, for example between the Social Affairs Office, BKSDA, NGOs, and the Fisheries and Marine Affairs Office.

11 Public relations with KEE programme include: (1) KEE was established by Governor's Decree No. 188; this decree provides a legal umbrella for its socialisation. However, communities felt that socialisation was lacking. One example was the "stalled dialogue between the communities and the village head and authorities". As a result, law enforcement and programme implementation were not well received by the communities. KEE programme is like a programme that runs "on its own", while the communities carry out their own activities as well. Women's activities, including women's productive activities, have no connection to KEE.

12 Ms. Dv dan Ms. Pn, both middle-aged women, were invited because they were active in several mangrove forest assistance activities.

13 The term KEE is not used daily. Because the programme's location is in *tanjang* area where people carry out their activities, they continue to use the term *tanjang*. Something has changed, namely that there are now many obstacles, because of the different methods and ways of looking for clams, crabs, and shrimps in *tanjang* area. This change in method has become a gap between the programme's authority and the communities. This difference is not simple because this difference becomes an intersectional clash of interests (gender, class, ethnicity, language) stemming from language differences.

14 Communities understand the importance of *tanjang*. *Tanjang* is important for livelihoods. For fishing communities, in particular, tanjang is useful for protecting the village from floods and tsunamis. Did the fertility and replanting of *tanjang* increase the number of clams and crabs? The dialogue participants hesitated; apparently the answer is no. Once the situation of *tanjang* forest improves, the population of clams and crabs does not automatically increase. Some fisherfolks feel that clams and crabs are now difficult to find; not because the numbers are decreasing but because the mangrove roots prevent small fishing boats from passing through, making it difficult for them to penetrate the roots in the forest.

15 When asked who the fisherfolks are? Are all fisherfolks only from villages around *tanjang* forest? Are there fisherfolks from outside the area? They answered that the fisherfolks are from the local village and from outside the village; all of them can get sea products.

16 The method used was drawing and sticking colourful post-its on HVS paper. In this article, the focus of analysis is on female participants.

17 What future research needs to look for is the composition of the communities, indigenous, and migrant.

18 Mr. An, a village leader who runs many village programmes, said that he was far from KEE programme (Mr. An's position was outside the circle). Mr. Im put up post-its in the programme area because he was invited several times and participated in socialisation at the Village Hall and other places. Mr. Im was involved in some of the implementation of KEE programme. However, he did not claim to be at the centre of KEE locations in the village.

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Sulapa Eppa: Bissu, Bugis Cosmology, and Queer Political Ecology

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Abstract

Various discourses about locality and indigenous peoples emerged as an effort to overcome the climate crisis. This term is also a part of seeing the sustainability of nature. This paper departs from arguments such as queer ecological studies and the indigenous paradigm. Furthermore, some of these academic studies are used to foster focus through indigenous knowledge in recalibrating the God-Human-Nature relationship through Bugis cosmology and the role of the *Bissu*. The main argument in this paper is to present Bugis knowledge and understand the embodied resistance in the existence of *Bissu* in South Sulawesi. This study used a qualitative method with participant observation and in-depth interviews. Data collection was carried out in two steps, namely, literature study, which was followed by participant observation and in-depth interviews. Data is then collected, classified, and interpreted through the indigenous paradigm as an effort to decolonize knowledge. The results of this study show some holistic, cyclic knowledge, and based on experience in the Bugis community, namely: (1) Environmental conservation can be guided by Sulapa Eppa as an environmental ethic based on Bugis cosmology; (2) Sangiang Serri as an eco-prophetic ritual that denounced heteropatriarchy; (3) Embodied resistance of *Bissu*'s gender identity ambivalence as a political representation of queer ecology.

Keywords: *Bissu*, Sulapa Eppa, Bugis Cosmology, Queer Ecology

Introduction

Natural disasters are a consequence of environmental degradation. The National Agency for Disaster Management (*Badan Nasional Penanggulangan Bencana/ BNPB*) noted that throughout 2019, there were 3,768 disasters in Indonesia - this has doubled from 2018 (1,999). Based on the Climate Change Vulnerability Map on the Directorate General of Climate Change Control website (2018), South Sulawesi is one of the areas with a high probability of natural disasters. Based on the general vulnerability index mapping through SIDIK, there are 73 villages that are vulnerable to climate change, floods, and landslides. As reported by mongabay.com (2022), environmental problems in South Sulawesi occur due to issues of exploitation of mining and groundwater, air pollution, and global warming. In environmental management, damage to watersheds (Daerah Aliran Sungai/DAS) due to the use of forests, rice fields, fields, plantations, and others has an impact on the potential for floods and droughts. In addition, water and air pollution caused by the disposal of factory waste and garbage in sewage (drain) makes less oxygen that damages the ecosystem.

The climate crisis also exacerbates disasters caused by reclamation, marine sand mining on the coast of Makassar City and Takalar Regency, deforestation around Tokalekaju mountain, and damage to karst ecosystems in Maros and Pangkep Regencies (WALHI's End of Year Note 2018). Natural disasters also affect public health in South Sulawesi such as poor water and air sanitation. The lack of clean water leads to various diseases such as typhoid, polio, dengue fever, worms, diarrhoea, and respiratory tract infections (*ISPA*) as quoted on Jawapos.com (2019).

Departing from the explanation above, this paper arrives at the points of interest of climate damage, which also leads to cultural disintegration. The natural destruction of South Sulawesi is not only a climate crisis, but also a cultural crisis. Through the phenomenon of *Bissu*'s disappearing role due to desacralisation, the relationship between humans and nature has become

unbalanced. We are too preoccupied with the distortion of *Bissu*'s gender identity, which is considered contrary to Islamic values; hence, *Bugis* society ignores the important role of *Bissu* in maintaining environmental sustainability. In fact, the existence of *Bissu* is crucial for environmental conservation. This has led the researchers to further examine the relational relationship between *Bissu*, *Bugis* cosmology, and the climate crisis in South Sulawesi. Through queer ecological politics, this research challenges heteropatriarchy, which is one of the main causes of human disconnection with nature and culture. This research aims to explore how *Bissu* and the local knowledge of the *Bugis* community are key to environmental sustainability in South Sulawesi.

The methodology used was qualitative with participant observation and in-depth interviews. For data collection, a literature study was conducted to contextualise this phenomenon in the intersectionality of indigenous, ecological, and queer issues. Then, the researchers conducted participant observation and in-depth interviews by taking part in *Bissu*'s daily life. The fieldwork was conducted from November 2018 to October 2019. Initially, the researchers met *Bissu* Nandar, who is the head of *Bissu* in *Pangkep* Regency, along with their students. The researchers also met *Bissu* Jamil, who lives their daily life as *indo' botting*. Their ability as a bridal dresser has been passed down from generation to generation. *Bissu* Sahril, among the three, has an education level up to senior high school. They follow the older *Bissu* to live in the *arajang* house. All three interlocutors identified themselves as *calabai* early in life, then *Bissu* after receiving the call to become *Bissu*. The subjectivity of the three interlocutors suggests that *Bissu* means having a male body and a soul like a woman. In addition, we directly observed *mappalili* as a routine ritual before going to the fields in *Pangkep* Regency. The ritual we attended coincided with the momentum of moving the old *arajang* house to the new one. In the process, the *barzanji* ritual was performed by a religious leader as part of *Bugis* ritual before entering a new house. The data collected was then analysed through the indigenous paradigm as an effort to decolonise knowledge, and closed with a critical reflection from the authors.

Indigenous Paradigm: The Interdependence of Nature and Humans

"One seeks knowledge because one is prepared to use it".

Maggie Kovach

The indigenous paradigm is an attempt to escape the dichotomous reasoning between 'self' and 'the Other'. This paradigm comes from the fragmentation of knowledge that is entrenched in the educational system of Western countries through the Cartesian worldview. This occurred in the shift from theocentrism to anthropocentrism in the Enlightenment. The paradigm shift brought humans into rationality of thinking and the rapid development of science and technology that was (in fact) destructive to nature (Toynbee 1974). Not only destructive to nature, anthropocentricism that emphasises capitalist economics makes humans experience a crisis of spirituality. The emphasis on anthropocentrism can detach reason from the sacred. As a result, humans are trapped in rationality and then erode humanity. Nasr (1975) criticised the Cartesian worldview and presented the paradigm of perennialism. He argued that cosmology in the relationship between human interdependence and nature is precisely the basis of spirituality.

Lynn White (1967) argues for the need to re-evaluate how pantheism can answer the question of the separateness of the God-Human-Nature relationship. Humans should embody the cosmology of indigenous knowledge in their spirituality. And not trapped in the 'false' dichotomy between profane and sacred in the Cartesian worldview. Apart from dichotomous reasoning, the indigenous paradigm defines 'Otherness' not as a negation of 'self', but as a representation of transformation, hybridity, encounter, and experience (Rutherford 1990).

Bissu discourse in the indigenous paradigm is always in the pull of religion (*sara'*) and custom (*ade'*) in *Panganderreng*. As the foundation of the indigenous knowledge argument, the researchers refer to the *ade'* charter proposed by the first *Kadhi* as a counter-heteropatriarchal form of Islam *Bugis*. The understanding of *ade'* and *sara'* also emphasises the importance of nature as part of the human relationship with *Dewata SeuwaE*. Since the arrival of Islam in South Sulawesi, the position of *Kadhi* or religious leader has emerged in the social layering structure of Bugis society. Datuk ri Bandang was the first *Kadhi*. He was the most instrumental in establishing the institution of *sara'* in the Islamic kingdoms of South Sulawesi. His position as *Kadhi'* led Datuk ri Bandang to formulate two main principles in *sara'* institution, namely: 1) The *sara'* charter or agreement between custom (*ade'*) and *sara'*; the meaning is that *sara'* honours *ade'* and *ade'* honours *sara'*; the two do not cancel each other's decisions, if *ade'* cannot decide a case,

ade' asks *sara'* and vice versa; 2) *Sara'* officials should be of noble or royal descent to avoid clashes between the *sara'* and *ade'* (Ridhwan 2016).

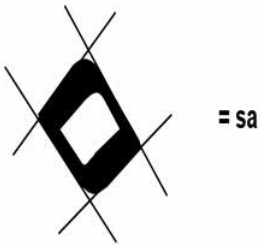
However, after the fall of the New Order, democratisation gave rise to more varied Islamic movements in South Sulawesi such as Preparatory Committee for the Upholding of Islamic Law (*Komite Persiapan Penegakan Syariat Islam/KPPSI*), *Laskar Jundullah*, *Wahdah Islamiyah*, etc. The conservative turn of some Islamic movements in South Sulawesi through *da'wah*, education, and politics led to a more layered structure of *kadhi* and not all of them come from noble or royal descent; hence, the clash between *sara'* and *ade'* that always occur corner the position of *Bissu* as an important element in *ade'*. From this point, the authors highlight the importance of the concept of *Sulapa Eppa'* and the position of *Bissu* in *sara'* and *ade'* as a counterweight and connector of *Botting Langi'* (Upper World) and *Ale Lino* (Middle World) as explained in the next section.

Sulapa Eppa': Environmental Ethics in Bugis Cosmology

This section explains how *Bugis* cosmology applies *sulapa eppa'* as environmental ethics. We can see how *Bugis* cosmology fits into the indigenous paradigm. This is seen in the balance between living and non-living beings and entities, as explained below. *Bugis* cosmology generally believes that the world is built on four essential elements: water, fire, wind, and earth. These four elements are associated with a philosophical view that is identical to the consonant *sa (s)* in the *lontara* script (see Figure 1). *Sa (s)* is identified with the four cardinal directions (Mattulada 1985). The concept of sulapa eppa' is inseparable from interrelated analogies such as red for fire; white or clear for water; yellow for wind at dusk; and black for earth. The cosmology of *sulappa eppa'* is also evident in the production of rice (white, black, yellow, and red rice) as the main food source for *Bugis* people (see Figure 2). In addition, based on Morrell's research (2001), *Bugis sarong* weaving motifs are also inspired by *Sulapa Eppa'* philosophy, which is reflected in the four-sided plaid cosmic motif as a representation of human harmony with the four elements of life, namely earth, fire, air, and water.

The four elements represent the God-Human-Nature relationship. In *Bugis* cosmology, humans are at the centre with the responsibility of 'control'. Control is not to exploit, but to create harmony; harmony and balance between themselves and God and nature (Mahbud 2008). In addition, the visualisation of the letter *sa (s)* makes *Bugis* people understand the concept of balance. *Bugis* people always have an analogy that if the letter *sa (s)* is faltering or too heavy on one side, it will indicate imbalance and disorder. If that happens, the stability between humans and God and nature is lost. *Bugis* people believe that if individuals or groups only prioritise one part, they will eventually suffer the consequences because they tend to emphasise one trait only (Mahbud 2008). As expressed by *Bissu* Nandar:

> *"Yero diasengge sulapa eppa, de na matane cuali, de to na maloppo cuali, balanced i. Nappa de to namaega pahanna, ceddi mo onion, mallinrukki ri anu maegae."*
>
> "What is called *sulapa eppa'*, it is neither one-sided nor big on one side, it is balanced. There are also not many understandings in it, only one that must be interpreted, taking refuge in the will of the people" (*Bissu* Nandar, 2019, January interview).



Balance applies not only to the God-Human-Nature position, but also to the element of balance within each body that affects human relationships. *Bugis* cosmology places the preservation of nature, which also relates to human relationships, as a moral burden (Mahbud 2008). In this context, *Bissu* as religious ritual leaders in pre-Islamic *Bugis* society know the intricacies of *Sulapa Eppa'*. The *Bugis* cosmology passed down by *Bissu* through rituals is considered a source of knowledge in *Bugis* land. For example, when the researchers interacted with *Bissu* after *mappalili* ceremony (ritual before going to the rice fields) was completed, which became a momentum for the younger generation to ask *Bissu* various knowledge, including mysticism.

> "I saw many young generations, men and women, sitting on their knees in front of *Bissu* elders. In between conversations, they slipped questions about the concept

that has always been upheld together, about *Sulapa Eppa'*. Like a teacher who gives lessons to his students, so does *Bissu* Nandar straightforwardly explain the concept of *Sulapa Eppa'* to the younger generation who come to ask him" (Field Notes, 2019).

When *mappalili* ceremony is in progress, some *Bissu* is seen busy chanting mantras. *Bissu* believes that to summon the gods (divine spirits), they must offer offerings stored in four places to represent *Sulapa Eppa'*. For example, water is symbolised by throwing offerings into the river or partially submerging *arajang* (a sacred royal object that they guard). Fire is symbolised by scraping *arajang* into the centre of the ground which has four stones. Bugis people believe that long ago the four stones were used by their ancestors as a furnace to start a fire. Later, land, which is symbolised by storing offerings in large trees inhabited by *tenrita* (spirits) or scraping the bottom of *arajang* in rice fields, the care of which was reserved for *Bissu*. Lastly, the wind is symbolised by the storage of several offerings during the ritual on the roof of the house (*rakkeang*). In addition, *arajang* guarded by *Bissu* is also stored on the roof of the house. This is meant for the gods, who inhabit the *arajang,* to be close to the upper world of the gods. Respect for the harmony of *Sulapa Eppa'* is the fulfilment of the basic *Bugis* human element for life. The presence of balance is not based on one trait being the top priority, but rather the unity of four interdependent spaces. This is the basis of *Bugis'* ideal environmental ethics in the context of civil society.

Ahimsa-Putra (2007) notes that the people of South Sulawesi believe that the figure of a leader called *karaeng* or *arung* is determined by his or her ownership of *arajang* (heirlooms). It is a well-known fact in South-Sulawesi society that *arung* or *karaeng* owns *arajang*. In addition, *arung* or *karaeng* also owns land, gardens, rice fields, ponds as resources that are actually owned by *arajang*. In other words, power actually belongs to *'arajang'* not *'arung'* or *'karaeng'* because the power possessed by '*arung'* is actually borrowed from the power of *arajang* (Ahimsa-Putra 2007). This is similar to Goffman's (1955) and Hornborg's (1994) research. *Bissu*, as the guardian of *arajang,* is tasked to properly manage the resources owned by *arung'* or *'karaeng'*. The power base comes in the form of mantra chanting and expertise in caring for *arajang* that has been passed down from generation to generation.

The same applies to the sacredness of lands, big trees, rivers, and other resources. *Bissu* believes that there are points considered as *posik* (centre) of the land that will always be guarded by spirits (*to tenrita*). *To tenrita* will get angry and haunt a person who disturbs the place where they live (Lathief 2004). Some myths of sacred places become shields to preserve the location. For example, the place used by *Bissu* to collect spring water for a ceremony. *Bissu* will visit seven springs to collect water, which will be put together in one container. *Bissu* will recite certain mantras to ask permission from the guardian (*to tenrita*) of each well. All seven springs used when *Bissu* wants to start a ceremony have a mythical guardian. This symptom is in line with the results of Nurfadillah's research (2019), that offerings tend to be found in places believed to be inhabited by spirits, so that they do not disturb humans in their activities in that place. This is in accordance with Aaisyah's research on environmental ethics. She argues that *I La Galigo*, for example in the episode *Ritumpanna Welenrengge*, is closely related to the concept of ecoprophetics. For example, *maccera* ritual is a tribute to trees and the supernatural beings that inhabit them. This ritual is performed by *Bissu* in a way that the trees must be painted with the blood of several animals in the forest. This ritual is performed to increase *sumange* (the power of nature). *Sumange* is believed to be the power of *Botting Langi* (Upper World) for humans. This knowledge system demonstrates how *Bugis* society promotes respect between humans and nature (Pelras 2006; Kern 1993 in Aaisyah 2018).

The knowledge of *posik* shows how water become one of the elements of livelihood. All water sources have myths about cleanliness that must always be maintained. The phenomenon indicates that the myth about water sources that must always be kept clean is nothing more than a way of preserving these water sources. The ritual of giving offerings for *to tenrita* is a symbol of the sacredness of nature that must be maintained as a shared resource. If we think about it more deeply, the myth of the fear of people doing 'dirty' things in this place is used to maintain and protect the sacred springs. The knowledge of *to tenrita* as *posik* is evidenced by the number of pipes that flows directly to people's houses in one of the springs (aquifer). Ironically, one very large pipe is directly connected to one of the drinking water companies in the area (Field notes 2019). Despite the capitalisation of resources through groundwater extraction in the aquifer, *Bissu* remains faithful to performing rituals by upholding *sulappa eppa'* as environmental ethics.

Ritual in Honour of the Life-Giving One

According to *Bugis* people, cosmology juxtaposes all gender elements as life-givers. Not just one of them. The *La Galigo* story tells us that *Sangiang Serr*i was the son of *Batara Guru* who died and turned into a rice goddess (Hamonic 1991). Her honour is attached to her position as the child of Batara Guru, who was the first human being to descend on earth. *Bugis* people believe that to honour and love rice is to honour *Sangiang Serri*. The challenge to heteropatriarchy is seen in the important role of *Sangiang Serri* and the important position of *Bissu* (who is 'in between') in rituals to connect the Upper and Middle Worlds. *Sangiang Serri* is a female personification of the Goddess of Rice (Hamonic 1991; Koolhof 1999; Sintang 2004; Purday 2013; Sulkarnaen 2017). Respect for *Sangiang Serri* is evident in the *mappalili* ritual, which can only be guided by *Bissu*.

In the days leading up to the ritual, *Bissu* is busy preparing tools and materials. Everything is taken directly from nature such as banana trees, coconuts, nutmegs, and rice. *Bissu* says that natural materials must always be available for use in rituals. For example, one bamboo stick, one banana tree, and one bundle of paddy. Before cutting down the bamboo tree, *Bissu* sits kneeling in front of the tree and chant a certain mantra, then they meditate. As if in dialogue, *Bissu* asks the bamboo tree, how long will it last if you cut it down at this time? After being spoken to, *Bissu* then hits the bamboo tree three times with a machete, after selecting the bamboo with the longest durability.

The local wisdom in cutting bamboo possessed by *Bissu* is a lesson learned from their ancestors and transmitted from generation to generation within *Bugis* society. *Bissu* is able to estimate the durability of the bamboo they cut down. Some last three to five years and some even up to 10 years. The selection of bamboo that does not make a loud sound when being hit indicates that the bamboo is old enough and has fibre density so that it can last a long time if used. Meanwhile, bamboo that makes a loud sound when being hit indicates that the bamboo is young. Young bamboo does not have maximum fibre density, so it does not have durability. This is what *Bissu* Sahril (56 years old) told us when we talked to him while preparing the materials for the ritual. He recounted the hereditary experience gained from previous *Bissu*, just like the way he felt when he thought of cutting down bamboo.

Bissu always teach the *Bugis* people about the existence of bamboo tree that has a meaning. For them, bamboo tree is very useful for human life. During the early stages of growth, or before buds and leaves emerge, bamboo tree first perfects its root structure. The root that digs into the earth makes bamboo a tree that is very strong, flexible, and does not break easily even in strong winds. The meaning of bamboo tree teaches the *Bugis* people to grow, develop, and achieve perfection, like a bamboo tree that moves from the inside out, not the other way round. In addition, in life, the strong root of bamboo depends on the understanding, appreciation, and practice of faith in God that is embedded in the heart. This is the root of the Bugis people's way of life.

In line with *Bissu* Sahril, *Bissu* Jamil (52 years old) also expressed the same thing. *Bissu's* relationship with nature is shown by his knowledge of nature. They described a time when a couple came to them for interpretation, because after a year of marriage they have yet to be blessed with children.

> *"Makedanna de'pa gaga wijakku, langsung lokka ka malanggi colli daung rekko ota, nappa malaka uwwai ri ketuangge, ubacai ni nappa mitai di uwaiyye denre, siruntui padanna pucu', langsung ka pedanggi ye urane'e. de' tongenna tu namitta nak".*

> "When two people came to me, they said they have yet to have children. I immediately took two betel leaves and took water in a basin. After I recited the mantra, I put the leaves into the water and their shoots met. I immediately told the good news to her husband that in the not-too-distant future, they would be blessed with a child" (*Bissu* Jamil, 2019, January interview).

The couple asked for guidance in order to have children. After the consultation, *Bissu* Jamil heard that they were about to celebrate the birth of their first child. *Bissu* Jamil used betel leaves as a medium for their power that did not just come out of nowhere. Rather, they learned it for a long time and it requires them to use a certain leaf. Likewise, when they predict the annual harvest of farmers, for them the more festive *mappalili* ritual ceremony is held, the more likely the harvest will be abundant.

To date, the procession of *mappalili* ceremony or the initial ceremony to descend the rice fields to ask for rain by *Bissu* is still routinely carried out. Farmers believe that if the entire series of *mappalili* rituals are not performed, it will bring misery to their crops. Farmers' belief in *Bissu* does not come without reason. Farmers believe that *Bissu* can invite, even move rain to make their crops abundant; as well as control animals that are suspected of bringing pests to rice. *Bissu* can

transfer rice pests to other animals or plants that are less useful to many people. The belief in *Bissu's* power to call for rain and repel pests makes them even more sacred to people. I had several conversations with *Bissu* Emil, who admitted that their power comes from *arajang* they keep. In line with the view of Ahimsa-Putra (2007) that the researchers have previously mentioned, *Bissu's* greatest source of power comes from *arajang* ornaments (royal objects), which shows the relationship between nature and God.

Meanwhile, *bata'* (corn), *betteng* (sago), and *na berre'* (rice) as the main source of food (agricultural products) for people in South Sulawesi are related to honouring *Sangiang Serr*i. This can be seen from the series of rituals performed before, during, and after planting rice. Firstly, *Bissu* performs *maddoja bine* (sowing seeds) ritual before farmers plant the seeds (Sulkarnaen, 2017). Then, *Bissu* performs *maccera darame* ritual after the crop is harvested (Harfila, 2019). After *Bissu* has successfully guided farmers to start planting rice, they then oversee the growth of rice by routinely making small offerings every Friday night in front of *arajang* (royal object). The honouring of *Sangiang Serr*i shows how the interdependency relationship in narrative and metaphorical forms.

> "We ask the gods (God) so that farmers are always given good rains, because there are also bad rains, which are usually accompanied by strong winds that can damage crops. We also pray that farmers go to the fields with a happy heart, so that the harvest is abundant, not eaten by pests. We do this ritual every Friday night" (*Bissu* Emil. 2019, January interview).

However, changes in the types of cropping patterns affect the balance of nature and the stability of the knowledge passed down to *Bissu* about *bata'* (corn) and *betteng* (sago) as crops. Today, the harvests from maize and sago plants have been abandoned by *Bugis* people as staple foods. They shifted from a hunting and gathering society to a sedentary farming system marked by the opening of rice fields in the era of President Soeharto in the 1970s, which centred only on *na berre'* (rice) (Anwar 2018). Land conversion due to the shift in the types of cropping patterns from polyculture to monoculture no longer allows sago to grow. Agricultural lands dominated by rice fields and ponds make *Pangkep* unfriendly to sago trees that must grow for a long time first. Unlike maize commodity that can still grow as it lives during the transition between rice harvest seasons.

Pangkep Regency is known for its agricultural activities. This is supported by data from the Central Bureau of Statistics (Badan Pusat Statistik/BPS) regarding the area of rice fields which is higher than ponds, namely 8,987 hectares of rice fields and 7,267 hectares of ponds (BPS Pangkep 2018). This figure is taken from the three sub-districts used as research samples (Labakkang, Ma'rang, and Segeri) where *Bissu* exists as a balancer between nature and humans (in relation to *Sangiang Serri* or the Goddess of Rice). The shift from agricultural activities to ponds also affects the constellation of natural balance. The landscape of the region that is not far from the coast, making lands originally used for agricultural activities to be turned into ponds that are only filled with nearly uniform fish species. As if ignoring the fact that Pangkep Regency is mapped with agricultural activities, the government encourages the promotion of regional excellence and 'directs' the promotion of fishponds and marine products alone, which are not in accordance with the contours of the Pangkep Regency area.

Bissu: Embodied Resistance and Queer Ecological Politics

Heteronormativity comes from a heteropatriarchal system that enables the exploitation of the environment with consequences presented by various actors. Heteronormativity is therefore considered to undermine social institutions that balance relationships between humans, as well as humans and nature when looking at the interdependence between nature and culture (Mortimer-Sandilands 2010). The dual structure not only implies intrinsic meaning for individuals, but also creates 'mortal boundaries'. This dichotomy creates rigid binary categories such as: native/non-native, civilised/wild, sacred/ profane, traditional/modern, male/female, and masculine/feminine and ignores how social balance and system function. Queer political ecology looks at how the 'false' binary dichotomy created by heteropatriarchal system eliminates the narratives of marginalised groups and popularises the rhetoric of the 'conquest' of nature, the romanticisation of modernity, and the human right to control nature with technology for the good of all humanity (Starhawk 1989).

The politics of queer ecology looks at the liminality that women are not only those who are in female bodies and feminine souls, but can also be in male bodies and feminine souls. That femininity transcends the limited body and soul of heteronormativity. Not only that, a queer ecological perspective helps to understand how a personification can remove nature's sovereignty over their body. For example, how women are only objectified and 'tried' to be governed based on their bodies. This can be seen in the analogy between women and nature, such

as a forest that is still "virgin" as a definition of unspoilt nature; or the personification of Mother Earth also seems to limit that the nature of nurturing and care is embodied in the words "woman" and "Mother". Heteropatriarchal views gives rise to the metaphor that women's bodies are personified with natural resources. We must understand that queer ecology encourages us to consider land as a living thing, just like human. Therefore, if we talk about reclamation for example, the land should have the authority over the transition of its body, not humans (Bååth 2021).

Queer ecology is not only about gender and sexuality, but also political resistance. This approach presents how reality is something that is considered 'strange', dynamic, and will never be 'normal'. Queer ecology can provide diversified perspectives on ecological policies and political practices in everyday life; and understand how gender shapes the way we interpret 'nature' and the unnatural, which in turn relates to how individuals treat other beings and the role of socio-economic and political institutions in producing power. According to Lee Pivnik, founder of the Institute of Queer Ecology, queerness in ecological studies embodies the 'in-between', grey area, and diversity. It represents elements of nature and reality that are not compartmentalised (Parkins 2018).

In essence, *Bissu* (in performing rituals) emphasise queer politics, i.e., the relationship between humans and nature must look beyond binary oppositions, should not be limited to masculine or feminine traits inherent to the body or soul, nor to nature, representing the sacredness of androgynous ancestors in *Bugis* cosmology. The existence of *Bissu* demonstrates the importance of the interdependence of the two elements: male and female and feminine and masculine as caretakers and guardians of nature. The presence of *Bissu* is a critique of the perpetuation of heteropatriarchal norms by challenging (again) the dichotomies in the dominant society. Distortions in the elements of *Sulapa Eppa'* lead to the destruction of nature and fragmentation of human relationships, leading to cultural destruction. The special relationship that exists between *Bissu* and nature is not only seen from *mappalili* ritual procession, but also from *maggiriq*, and *mappadendang* or *maccedareme*. *Bissu* sacrifices their bodies as a medium between the Upper and Middle Worlds. The unity of body, mind, and soul is seen in *maggiriq* ritual, which means *Bissu* goes into a trance and draws a dagger (*keris*) into their body as an extension of the Gods. The *Bissu* conducts awareness that is wrapped in a magical and sacred perspective. Further, *mappadendang* or *maccedareme* is a form of gratitude that is carried out after farmers succeed with their harvest. The whole ritual is a series that should not be interrupted as a form of *Bissu's* respect for nature.

The main challenge faced by *Bissu* is desacralisation, which leads to the loss of their role and position. Their resistance is not considered as political resistance because it has no place at the structural level (Umar 2008). This is evidenced by the determination of *mappalili* ritual, which is decided by the local government, not *Bissu*. At the most extreme point, their role was eliminated in the ritual in early 2022. According to an interview with one of the traditional leaders,

> "In the past, *mappalili* was done to invite rain. But not anymore. *Mappalili* is done when the budget has been disbursed although there is a cycle for rain to come; it could be November this year or October next year. Now, it is no longer like that because it must be adjusted to the budget disbursement, which is only done in November" (AD, 2019, November interview).

In addition, *Bissu* were not present at the *Mattompang Arajang* ritual on Bone's 62nd Anniversary. *Puang Matoa Anchu* invited several people to be present at his residence when the ritual was performed (28/03/22). Instead of protesting to the local government and customary (*adat*) groups about how crucial their role was in such a ritual, *Bissu* performed *Tola Bala'* ritual. *Puang Matoa Anchu* explained that this ritual was performed as an apology to *Dewata SeuwaE* because *Mattompang Arajang* was performed without *Bissu*. The greater the attempt to distort them, the greater the strength of *Bissu* to survive. *Bissu's* non-violent resistance is interpreted as embodied resistance to their unrest. The absence of *Bissu* in a ritual can affect the positionality of the indigenous group to stand with *Bissu*.

Successful queer ecological politics can be seen in the resistance of two-spirits against the construction of a pipeline access in Dakota that passes through reservation land and sacred sites in North Dakota in 2016. Two-Spirit identifies itself as an indigenous queer or *indigiqueer*. During European colonisation of North America, gender and sexual expressions that conflicted with Western dichotomous concepts were eliminated, erasing two-spirits tradition in many North American nations. This also led them to the Native Americans Meeting in Winnipeg, Canada. They asked to separate their identity into their own terms that better represents their locality, 'Two Spirits' and to disassociate themselves from LGBT+ identification. They were not trying to leave the movement, but they felt that indigenous communities do not always have the same agenda priorities as the LGBT+ movement.

At the meeting, Cecelia Rose LaPointe, Director of the Native Justice Coalition of the *Ojibway* and *Métis*, said that the breath of the two-spirits' struggle cannot be forced into "limited colonial LGBT+ terminology". This could lead to dichotomous entrapment and essentialise gender and sexuality that should be ambivalent for two-spirits. In indigenous knowledge, two-spirits means connectedness to *Ojibway* culture as a whole human being in body, mind, and spirit. Elise of Idle No More, a two-spirits from Ohlone Island also said:

> "My two-spirits identity has nothing to do with my sexuality. My job is to fulfil my roles and responsibilities in my community. Our existence transcends the notion of sex and gender. Two-spirits bridge an existence of opposites, be it masculine vs feminine, eternal vs temporal, spiritual vs earthly" (Amor, 2018).

Two-spirits fight to maintain their identity that is directly related to nature. Because for them, land is part of themselves. Violence against land is violence against the ancestors who also live within them. It is also why they call for an alliance between environmental activist movement and two-spirits and other *indigiqueer groups*. If separated, a pattern of repeated coloniality due to multiple discrimination will occur (Amor 2018).

We can see that the contrast between two-spirits' resistance and that of *Bissu* shows the weak role and position of *Bissu* in Bugis society. Does the example of two-spirits' resistance show the failure of *Bissu* to fulfil their role as the God-Human-Nature connector? This shows the powerlessness of *Bissu* to fulfil their role due to the various layers of discrimination and marginalisation they face. The real impact of the removal of *Bissu's* role and position in rituals is a warning of the need for new steps in strengthening *Bissu* community. The limited emphasis on *Bissu* empowerment strategies has led to a tendency towards 'resistance' to change within *Bugis* society. In this context, *Bissu's* position becomes static and their authority is constantly diminished within the community. At this point, the researchers emphasise *Bissu* as *indigiqueer* and queer ecological politics to become an articulate point of symbolic and political resistance for *Bissu*. *Bissu* need to come out of their *Bissu* resistance. However, this requires the help of many parties. It is important to remember that *Bissu's* resistance is cultural resistance through rituals, which requires empowerment. The horizon of *Bissu* movement must be embedded in their role in the context of *Bugis* society. Accentuation of the meaning of *mappalili* and *sulapa eppa'* rituals could be a new focus (Triadi 2019; Ismoyo 2020).

Queer ecological politics is expected to re-locate *Bissu's* function in customary institutions, without reducing their central position as a ritual leader. *Bissu's* function in rituals can be emphasised as an embodied resistance. The resistance of *Bissu* community is not only about the aggressive and intolerant majority Islamic group, but also the aggressiveness of capitalism and homophobia. Massive exposure from all parties without consideration for the empowerment of *Bissu* community also needs to be observed because it can lead to the iconisation of culture and tourism. Ideally, iconisation goes hand in hand with capacity building and networking, both internal and external. Through a cultural approach, strengthening *Bissu's* social capital will improve socio-cultural institutions, local wisdom, and environmental preservation. To be effective, such empowerment needs to collaborate with South Sulawesi Waria Harmony (*Kerukunan Waria Sulawesi Selatan/KWRSS*). It needs to be emphasised that the sacred characteristics of *Bissu* come from the ambivalence of their gender identity. Stakeholders' reluctance to engage with non-normative minority groups should be targeted as a key challenge.

In other words, *Bugis* and *Bissu's* cosmological knowledge and queer ecological political frames can be an alternative to the formation of resistance narratives. This right aims to give authority to *Bissu* community so that they can better fulfil their important ritual roles. The initial initiative has been seen from a meeting held by Perkumpulan Wija Raja (PERWIRA) Lapatau. PERWIRA Lapatau is an organisation that houses the descendants of King Lapatau (the 16th King of Bone). On 4 May 2022, a focus group discussion on "Strengthening Bone Regional Customary Institutions" emphasised the importance of *Bissu* community in the institutionalisation of *adat*. This initiative needs to be well guarded. For further action, queer ecological political strategies can be based on the Cultural Advancement Law No. 5/2017. Even within the frame of culture, queer ecological politics can be achieved. A cultural strategy for the protection, development, utilisation, and fostering of *Bissu's* ritual governance, indigenous knowledge, and technologies that are closely related to their role in maintaining the balance of God-Human-Nature interdependence can be a good bridge for the ecological movement and the non-normative gender movement in South Sulawesi to create impetus for the Provincial and District/City PPKD.

Closing

The climate crisis can be interpreted as an imbalance in the God-Human-Nature relationship. The loss of interdependence between the three misses the aspect of spirituality in humanity. This happens because of human-centred Cartesian dichotomous or anthropocentrism. The indigenous paradigm comes as an epistemology disobedience by emphasising the knowledge of *Bissu* community that can actually be a guide to overcome the climate crisis. For example, in *Bugis* society, *Sulapa Eppa'*, *Bugis* cosmology, and the embodied resistance of *Bissu* can be the basis of queer ecological politics. The values that exist when *Bissu* perform their rituals cannot be separated from the four elements of life in the universe, namely fire, water, air, and land. Every ritual performed by *Bissu* is a 'medium' for the production of local knowledge of *Bugis* people to use natural products in moderation, without damaging the existing ecosystems of plants and animals.

However, *Bissu* no longer have authority in rituals and customary institutions. The organisation of rituals become the domain of the local government, without involving *Bissu* in its decisions. We should be alarmed by the removal of *Bissu's* role and position in the structure of traditional rituals, such as the *mattompang arajang* ritual on Bone's 62nd anniversary. This proves the cultural divide in *Bugis* society. The loss of cultural values in life and livelihood. Human's alienation separates them, not only from nature, but also from their local knowledge. In other words, the cultural rupture that occurs in the context of *Bissu* requires a narrative that becomes a bridge to maintain the existence of their rituals and beliefs.

The analysis above is based on field data that was been recorded and translated through this paper. The narrative of queer ecological politics is expected to be an alternative approach in interpreting the existence of *Bissu* and understanding the dynamics in the context of *Bissu*. This can be done as an effort to preserve the environment based on the value of *Sulapa Eppa'*, which is part of environmental ethics in *Bugis* cosmology. In addition, the experience as a *Bissu* in seeing and considering *Sangiang Serri* as part of an ecoprophetic ritual that dares to challenge heteropatriarchal thinking, becomes its own distinction that has not been found in common in other times and spaces. This makes the nature of resistance embedded in *Bissu* being approached as an embodied resistance to the ambivalence of gender identity within the scope of queer ecology.

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Critical Ecofeminism: Revisiting Gender, Ecological Justice, and Climate Crisis

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Abstract

Ecofeminism as an intellectual theory is often criticized for its incoherency in the body of thinking. Thus, ecofeminism is reputed as promising nothing transformative and adequate in answering the challenges of multiple ecological destructions, including climate crisis. However, the trajectories and influences of ecofeminism can't be denied—from ethical debates to policies. Therefore, this research invites us to think about ecofeminism from a critical perspective without perpetuating patriarchal stereotypes and essentialism. The critical ecofeminism approach is an offer from writers to help to understand and portray gender-affected climate change impacts.

Key words: Critical Ecofeminism, Non-dualistic, Climate Crisis, Environmental Justice

Introduction

The interconnectedness of the relationship between women and nature is a thesis that all ecofeminist thinkers adhere to without exception. This then distinguishes ecofeminism from other environmental intellectual movements and theories. The use of the word feminism indicates that environmental intellectual movements and theories need to position gender analysis as an effort to track environmental damage and efforts to save it. However, how the relationship between women and nature is articulated invites different and often contradictory arguments. Arguments over the relationship centre on how women's feminine qualities are treated and directed. Women's attachment to empathic, nurturing, co-operative, and altruistic traits makes them perceived as more environmentally responsible, and therefore 'greener' compared to men. Thus, the argument of women's closeness to nature is an image often referred to in explaining ecofeminism. Feminine qualities are analogised with nature and used as a basis for interpreting it. At least two positions emerge: one that celebrates women's closeness (because of their feminine qualities) to nature and one that rejects women's closeness to nature altogether, blaming feminine qualities as the source of oppression - Val Plumwood (1993) calls this The Feminism of Uncritical Equality.

Various explanations and sifting of what constitutes "liberating" and defensible feminine qualities in the search for a feminist identity has been a major task of feminist theory over the past few decades. Each position of ecofeminism, whether celebrating or rejecting women's feminine qualities, also endeavours to do so. However, the two opposing positions end up at an impasse as they question what is emancipatory. The position that celebrates women's closeness to nature, also called spiritual/cultural ecofeminism (cultural universalism), fails to capture the exclusion of women due to the equation with nature.

Such a position also does not take into account how nature is interpreted under the Cartesian dualism that contrasts it with ratio. As ratio is associated with human excellence, nature is excluded and associated with that which contrasts with ratio-emotion, corporeality, animality, primitiveness, the non-human world, and physicality (Plumwood 1993). It is this understanding of nature that makes it seen as passive, non-subjective, and merely giving. Often, these traits are linked to the maternal instinct, leading to the concept of "Mother Earth". This concept is nothing but an extension of essentialist patriarchal stereotypes. This attribution of feminine traits to women is simplistic and reductionist, presupposing that all women are equally empathetic, nurturing, co-operative, and altruistic. This is not the case; women are also capable of conflict and domination. Thus, the word "woman" has both theoretical and practical challenges.

The basic idea of the woman-nature relationship, as held by spiritual/cultural ecofeminism, appears regressive. So, what about the second position? This position, which blames women's feminine traits for being the source of oppression, promotes a phallocentric model. In this position, liberation is only achieved when women give up their feminine attributes and conform to masculine patterns of life that are presented as gender-neutral. This presupposes that the strategy for women-nature liberation is to fit women into the broader dominant class. Ultimately, the conceptual tools that connect the dominator and the oppressed remain unquestioned. This position eventually does not address how the understanding of nature should be navigated and allows a definition of nature that is shaped by Westernised exclusions to be maintained.

Due to this lack of uniformity in viewing the relationship between women and nature, the coherence of ecofeminism theory is questioned. Ecofeminism as a theoretical construct is considered incomplete because of the disputes and overlaps between each other (Asmarani 2018). Bonnie Mann, philosopher and phenomenologist, points out in Women's Liberation and the Sublime: Feminism, Postmodernism, and Environment (2006) that essentialist content has long served to silence feminism - in particular, feminism that asserts that women's oppression and the environment need to be reconciled (Mallory 2010). Hence, the allergy to the term ecofeminism is widespread in academia.

This can be seen through the reluctance of thinkers to use the term ecofeminism, even though what they say refers to the same concept. Therefore, terms such as feminist political ecology, feminist environmentalism, global environmental justice feminism, and so on have emerged to avoid using the term ecofeminism (Gaard 2017). Elizabert Carlssare attributes the resistance to ecofeminism to concerns about essentialist positions a form of marginalisation or "policing" of certain forms of ecofeminism. Thus, the non-dualistic and critical discourse approach of ecofeminism does not receive much attention because spiritual ecofeminism, which is based on essentialism, is considered to represent the various clusters of ecofeminism. In fact, it should be underlined that ecofeminism is a theoretical entity that has different positions. Analyses of the marriage between the ecological movement and feminism are not monolithic. As such, there has never been a single set of claims that can go beyond the generalisation of the term "ecofeminism" without causing turmoil among ecofeminist thinkers.

Mortimer-Sandilands reveals that the recent resistance to ecofeminism has favoured white male ecocritical and ecophilosophical thinkers who summarise it in a few paragraphs and reject the whole idea of ecofeminism on the grounds that it is essentialist and outdated. Instead of critiquing more deeply what is meant by gender and sexuality in ecofeminism, they use anti-essentialist rhetoric to deny the significance of gender in ecological thinking and politics (Mortimer-Sandilands 2010).

In the early development of ecofeminism in the 1970s, the vortex of discussion around ecofeminism revolved around ethical perspectives on the relationship between women, non-human animals, and nature (Warren & Twine 2014). This position on connectedness led to at least two opposing positions within ecofeminism: spiritual and material. According to Ariell Saleh (1997), despite the diversity of frameworks, ecofeminism places equal importance on global sustainability and gender justice. However, ecofeminism is made up of many different ideas and actions, which makes it impossible to generalise easily. Therefore, the term ecofeminism is one big umbrella that represents a variety of positions on the relationship between women, non-human animals, and nature.

The problem is that both positions in ecofeminism ultimately maintain a dualistic concept that sees nature as passive and mechanistic. This then demands a third way which is a non-dualistic approach with critical discourse. An approach that does not compromise with a position that celebrates the old identity as "Mother Earth" or a position that unconsciously adapts to masculine patterns of life. Both positions have not been able to unravel ecological problems.

On the other hand, ecological damage continues to grow and find new forms. Burdening women with the responsibility of protecting the earth is certainly not a solution that we can expect, especially in responding to the challenges of the climate crisis. It has been six years since the international treaty that strengthens the global response to the threat of climate change through efforts to reduce carbon emissions was signed. At least 195 countries have ratified the Paris Agreement, including Indonesia. Instead of showing an improvement or suppression, the last six years have been recorded as the six hottest years on earth. Information about climate change is manifested in scientific evidence and its interpretation. The climate crisis shows that the threat of natural change and ecological damage is a

threat to all humanity, regardless of the socio-cultural attributes attached to it. This has led to the adoption of a depoliticised or even anti-human position that places the entire blame for the ecological crisis on humanity.

Faced with the conceptual confusion surrounding ecofeminism, the authors attempt to present a third way to the two positions of ecofeminism through critical ecofeminism. Critical ecofeminism seeks to see nature as a political arena, rather than a descriptive category. The demand to promote critical ecofeminism is not without reasons that have praxis dimensions. For example, the ecofeminism movement in Indonesia, which is based on spiritual spirit, has in fact succeeded in stopping ecological destruction through development. However, the feminisation of nature is taken for granted without examining or improving the social and cultural situation of women. Therefore, the demand not to see women as purely part of nature, just as men are part of culture, is important. Both women and men are part of nature and culture that seek to challenge dualistic construct in different ways.

Methodology

The method of this research refers to a philosophically reflective-critical approach and literature review. These two approaches aim to develop the basic concept of a particular philosophical position to formulate the possibilities of criticism and its praxis implications (Cappelen et al. 2016). The issue that the authors raises is the essentialist position that glorifies women as guardians of nature. According to Daly (2010), there are five stages of philosophical methodical criteria, including 1) sceptical methods to formulate the hypothesis of a study, 2) defining the problem, 3) re-articulating the issue, 4) rebuttal of a concept/criticism (objections), and 5) legitimising the argument. Sceptically, the authors propose a critical position for ecofeminism. Like Val Plumwood (1993), the authors position ecofeminism as capable of destroying patriarchal stereotypes, but at the same time not trapped in an essentialist position, and focuses on power imbalances embedded in various racial, gender, sexuality, and colonial categories. On the other hand, the authors also do not attempt to say that all the theses contained in spiritual ecofeminism are cancelled out. Because, in its daily practice of activism, spiritual ecofeminism has also become a strategy and an inspiration for many women's groups to mobilise against destructive development.

Ecofeminism: Defend the Term, Be Critical of It

The phrase "nature is a feminist issue" can be said to be the slogan of ecofeminism. In this case, feminist issue intends to provide ways to understand, annul, and realise alternatives to end the oppression of women. Thus, even considering nature as a feminist issue is also an attempt to understand why and how the oppression of women is parallel to the exploitation of nature (Warren & Twine 2014). Chipko Movement, introduced at the 1985 United Nations conference in Nairobi, aims to protect trees from logging is cited as the first driver of women's defence of the environment. In the same decade as the height of Chipko Movement, the term ecofeminism (*écologie-féminisme; ecoféminism*) was first introduced by Françoise d'Eaubonne in her book *Le féminisme ou la mort* (1974).

d'Eaubonne's book title, which means "Feminism or Death?" in English, was intended to highlight the environmental damage caused by human overpopulation. To her, injustice against women in relation to their control over reproduction is the cause of human overpopulation. In this case, the patriarchal system that wants women to constantly reproduce is the source of environmental destruction. In the years that followed, ecofeminism was widely studied and disseminated. However, the liberation of reproductive rights is not the spearhead of ecofeminism as d'Eaubonne argues in articulating the relationship between women and nature. How the relationship between the two is represented continues to be a battleground within ecofeminism itself. In the following discussion, the authors will present a summary of how the debate between these various positions takes place.

One of the sharpest debates within ecofeminism is the accusation that ecofeminism is trapped in a "spiritual" rather than "political" dimension (Arivia 2014). This debate has given birth to at least two contrasting positions, namely cultural/spiritual ecofeminism - some thinkers like Mary Mellor call it affinity - and material ecofeminism. On the other hand, the tension within the body of intellectual theory of ecofeminism can also be explained by the fact that many traditions of thought have grown up alongside ecofeminism, ranging from spiritual ecofeminism, Marxist-oriented ecofeminism, cyborg ecofeminism, vegan ecofeminism, and so on.

Cultural/spiritual ecofeminist thinkers, such as Andre Collard and Joyce Contrucci (1988), observe a radical difference by seeing men/patriarchy as the source of ecological destruction, while women are symbols of the ancient gynocentric way of life that is glorified. This view

of cultural/spiritual ecofeminism sees that women have bodily and cultural entanglements through their womanness as mothers, life-givers, carers, and nurturers. The spiritual foundation, however, advances the movement against environmental oppression. Yet, this position fails to highlight that reviving patriarchal stereotypes about women's "closeness" to nature will make ecofeminism fall into the pit of essentialism and leave no room for social and cultural transformation - as is the agenda of feminism. In brief, essentialism in this paper refers to the assumption of a common essence shared by all women, namely a basic biological identity or a universal trait.

In the context of this argument, cultural/spiritual ecofeminism claims that femininity is a trait or force that has the potential to protect nature. On this claim, the authors agree with Prentince (1998), who writes that pointing to men alone as "wrong-headed" and that biological categories are "inherent" will only deflate history, economics, and politics by providing a glimpse into social structures. Prentince's (1998) critique of cultural/spiritual ecofeminism: by locating the origins of domination over women in male consciousness, cultural ecofeminism analogises that simple political and economic systems are generated by male thinking. The notion that women and non-human nature are connected to denigrate men's disconnectedness from nature does nothing to restructure the hierarchical relations of privilege that feminism and social movements have struggled with for years. Karen J. Warren (2000) argues that male-centred thinking is followed by a logic of domination that advocates for a male-female oppositional relationship, placing men in a higher hierarchical position. According to Warren, it is important for us to be able to see the similarity of this androcentric logic with cultural logic as a result of human domination over nature that forms a hierarchical culture/nurture relationship.

Meanwhile, in looking at the connection between women and nature, Carolyn Merchant tracks it more radically. In The Death of Nature: Women, Ecology, and the Scientific Revolution (1989), she bridges the gap between feminism and ecosocialism by providing historical documentation for the claim that the domination of women and nature share common roots, namely the logic of science and the economics of capitalism. This intertwining of the two was specifically traced by Merchant from 1484 to 1716. She shows the intersectionality between racism, speciesism, sexism, colonialism, capitalism, and mechanistic models of science. The mechanistic paradigm of women and nature was heavily influenced by the philosophy of Rene Descartes (1596-1650), which flourished in Western civilisation. *Cogito Ergo Sum* (I Think, Therefore I Exist) pervades all perspectives on human beings, including nature. The implication of Cartesian philosophy is that humans are reduced to being merely identical with their rational abilities, while corporeal matters are negated.

Merchant's historical analysis of how the oppression of women and nature began, in part from Cartesian dualism, has influenced the tradition of material ecofeminism. A position that sees the close association between women and nature as not natural, but socially constructed. Material ecofeminism asserts that gender inequality is not a by-product of other inequalities, but rather a material relation between male domination and female subordination. In the context of the following argument, Merry Mellor mentions the double dialectic in describing this relationship. Human-human relations have been gendered in such a way that they interact with human-nature (Mellor 1992). Women are materially situated between men and nature. As such, gender mediates the human-nature relationship. This position also inspires the authors to argue for critical ecofeminism in the following research.

Critical ecofeminism is an offer of reading from the authors as a position towards the overcoming of dualism and disruption of the hierarchy of men/women and culture/nature that always puts one of them in a subordinate position. The dismantling of dualism is an overreach of the two positions of spiritual/cultural and material ecofeminism that maintain Cartesian dualism and essentialism of women's equality. Therefore, critical ecofeminism aims to advocate for a shift in political standards from humanity to more-than-humans. The term critical ecofeminism was used by Val Plumwood, an Australian philosopher and ecofeminist thinker, to situate humans in ecological terms and non-humans in ethical terms. Plumwood in Feminism and the Mastery of Nature (1993) points out that binary thinking that is based on Western civilisation and pivots on the dualism of human/nature and reason/matter not only resides in the dimensions of gender, race, and class, but also constructs a colonial identity which she calls the "Master Model".

According to Plumwood, there are five oppressive operations of dualism that form the "Master Model": 1) backgrounding, where the dominant denies the contribution of others and rejects its dependency; 2) radical exclusion, where the dominant asserts its differences with others and minimises similarities; 3) incorporation, where the standards of the dominant become the measure for others; 4) instrumentalism,

where others are only seen as a resource to be exploited without agency or subjectivity; 5) homogenisation, where the entire oppressed class is considered the same and lacks individuality. This operation shows how others are continually reinforced to be inferior, irrational, and submissive. Interestingly, in the introduction to the same book, Plumwood writes that transcending dualistic dynamics require recognising continuity and difference. This is a reminder for us not to understand natural others as something alien and unassimilated with us - humans. To be able to accommodate more-than-humans, it is necessary to change the theoretical framework of the subject and expand the notion of agency.

Gaard writes that in her reading of Plumwood's writing, she recognises the critical ecofeminist framework as science and experience that are simultaneously embodied (Gaard 2011). Drawing on Greta Gaard's concept of critical ecofeminism, analysis of the relationship between women and nature is always presupposed to be rooted in relational attitudes that explain injustice not only from personal, but also political patterns. This has fuelled the debate on fairness by raising questions such as, who benefits and who bears? (Gaard 2017).

To alleviate the problem of dualism is to dismantle it. If dualism is a paradigm that defines entities and attributes in hyper-separation, Plumwood argues that relationality is key to the emerging new paradigm and will define entities and attributes in terms of constitutive relationships with each other by retaining differences, but not by interpreting them in terms of exclusion, hierarchy, instrumentalism, consolidation, and homogenisation. Rather, it is more about continuity. At the practical level and in the search for an ecofeminist identity, critical ecofeminism highlights efforts to maintain a balance between self-criticism and self-affirmation.

The politics of emancipation, constituted through such relationality, maintains resistance to the inescapable and persistent narratives created by power relations. In other words, the political stance of critical ecofeminism is rejection, resistance, and destruction. It is an attitude that seeks to uncover the ways in which power is transformed into a system of thought, in this case dualism. To overcome mind/matter dualism, an alternative principle of individualisation is proposed, which defines entities in terms of their relationship with other entities.

Alaimo and Heckman argue that instead of perpetuating culture/nature and gender dualism, we need to reconceptualise nature in a way that takes into account the "intra-action" (to quote Karen Barad's term) between material, discursive, human, more-than-human, physical, and technological phenomena (Alaimo & Heckman 2007). The radicalisation of Karen Barad's new understanding of materialism (2007) makes matter and meaning not separate entities like dualism. On the contrary, the material as it is must be interpreted literally, not by the preference of subjectivity, let alone capitalist-patriarchal-oriented subjectivity that often obscures the appearance of the materiality of the world as it is. At that moment, it is possible to interrupt anthropocentrism into de-anthropocentrism, decentralising humans as the centre of everything including the environment and all its problems in order to provide new demands for political standards that are able to better recognise more-than-human worlds.

On the other hand, Marti Kheel extensively clarifies the interstructure of sexism, speciesism, racism, and classism through the term "sacrifice" (Kheel 2007). Historically, the term "sacrifice" has been deceptive in legitimising the ritual killing of non-human animals, land grabbing, and deforestation. Ecological injustice is then rationalised under the pretext of saving the larger community. The pretext of sacrifice is also what produced Western civilisation's amnesia towards the subjugation of indigenous communities, preventing white middle-class groups from acknowledging oil colonialism. In addition to the term sacrifice, Karla Armbuster in "Buffalo Gals: Won't You Come Out Tonight" (1998) argues that regardless of whether ecological politics are linked through the equation between women and nature or by a broader dimension of differences, namely race, class, ethnic, gender, or species that construct human and non-human relationships. Ultimately, we still seek to maintain the concept of dualism and hierarchy that has been criticised.

Simply put, without the analytical tools of environmental humanities and critical ecofeminism, discussions of sustainability still rely on neoclassical economics and liberal political theories of individual freedom (Gaard 2017, p. 20). Humanities analytical tools foreground multiple and complex background networks. It also helps to trace and expose North/South relations and explain metaphorical relations of domination through territory. At least attempts to cultivate provocative reflections on ecofeminism as an environmental analytical tool can be seen in the Ecofeminism series initiated by Dewi Candraningrum. She made initial efforts to mainstream ecofeminism in various aspects based on women's knowledge of nature and ecological crisis. The definition of ecofeminism

should not be limited to mere criticism, but also a way of identifying and articulating freedoms that can be realised in the real world in transformative daily practices.

Lee Quinby in a section of the book entitled Ecofeminist and the Politics of Resistance agrees that it is difficult, even for ecofeminist thinkers, to justify a body of thought that overlaps with each other. Ecofeminism is not without attempts to build a coherent theory. At this point, it is appropriate to reiterate that ecofeminism is a battleground, not only within ecofeminism, but also between ecofeminism and its critics. Furthermore, I agree with Quinby's position that ecofeminism's most effective challenge to modern power is by recognising the diversity of theory and practice. She writes:

> "Against such power, coherence in theory and centralisation of practice make social movements irrelevant or, worse, vulnerable, or even - more dangerous - participate in the force of domination" (Quinby 1990).

The Climate Crisis and its Gendered Impacts

"Crisis" in the phrase "climate crisis" is a very strong word. The word "crisis" implies a precarious situation. It also calls for all attention to be focused on it. As such, crisis also demands mainstreaming. António Guterres, Secretary-General of the United Nations, delivered a melodramatic line: "we are digging our own graves" when it comes to the climate crisis (Worth 2021). This statement does not sound far-fetched when we are presented with the real picture of the alarming threat of climate change that grows with the acceleration of the ecological crisis.

At least, we can see it through the extinction of biodiversity, the melting of icebergs in Antarctica, tropical rainforest fires, and the difficulty in accessing clean water and land. John Robert McNeill, an environmental historian, in The Great Acceleration: An Environmental History of the Anthropocene since 1945 (2016) calls the 20th century a period of extraordinary change in human history. The surge in human population from 1.5 billion to 6 billion, a fifteen-fold increase in the world economy, a 13-fold to 14-fold increase in energy use, a nine-fold increase in freshwater use, and a five-fold increase in the opening of irrigation areas. These drastic changes are influenced by human activities (McNeill 2016). Due to humans' significant role in changing the earth's order, they have been placed at the centre of ecology.

The post-Great Acceleration crisis turned out to be a further catastrophe in that there were two important events preceding the Great Acceleration, namely nuclear test residues and plastics as a result of the petrochemical industry. Both clearly provide geological stratigraphic signatures that will persist for millennia to come accompanied by a series of radioactive contamination events, including the Three Mile Island Disaster (1979) in Pennsylvania, the Chernobyl Disaster (1986) in the Soviet Union, and the Fukushima Daiichi Nuclear Disaster (2011) in Japan (Foster & Clark 2021). This means that these (non-human) plastic entities have been a major element driving the global economic system since the 1950s. Instead of plastic helping to better human life, it has done the opposite. Plastic is a symbol of fossilised capital whose availability is based on the domination and hegemonic power of capitalism (Soriano 2018). Moore (2015) stresses with the term cheap nature that capitalism is embedded in the web of life, not only exploiting humans but also nature and the environment, leading to Capitalocene Crisis. The peak of this crisis is known as the "ecological rift in nature-human metabolism" with the term Great Climacteric (an allusion to The Great Acceleration), which originates as a continuation of the accumulation of previous damaging effects of "fossilised capital", leading to species extinction and global climate breakdown.

The climate crisis is a planetary crisis. This means that the risks of the crisis do not only affect all humans, but also all beings. On this basis, the climate crisis On this basis, the climate crisis is a call for us to extend the notion of politics and justice to the non-human, including the living and the non-living (Chakrabarty 2021). However, discussions on the climate crisis also recognise that groups of people who have experienced social injustice will be more vulnerable in the face of ecological damage. Sherilyn MacGregor (2010), in a journal article entitled 'Gender and Climate Change: From Impacts to Discourses', mentions that this can be traced to how dimensions of class, poverty, and race often appear in social scientific analyses of the climate crisis. However, similar analyses do not apply equally to the gender dimension. Greta Gaard, citing MacGregor (2010) for the same journal article, suggests that from a feminist perspective, the problem with international climate discussions is that they emphasise climate change as a human crisis without gender relevance (Gaard 2017).

Ecofeminist thinkers have long claimed that women are more vulnerable to all forms of environmental degradation due to their social role as caregivers and their social location as the largest population of the poor along with children. Climate change as a driver of ecological degradation is no different. A special issue of Gender and Development journal on climate change shows that there

are gender-differentiated impacts (Masika 2002). This is evident from the low survival rate of women in natural disasters. In various reports, it has been calculated that women are 14 times more likely to die in natural disasters than men (Aguilar et al. 2007). For example, at least 60-70% of the fatalities of the 2004 tsunami in Aceh were women (National Disaster Management Agency 2019). A report on the *Nagris* cyclone in Myanmar similarly noted that 61% of the 130,000 people who died were women (CARE Canada 2010).

According to the United Nations High Commissioner for Refugees (UNHCR), the average number of forced displacement due to weather-related events, such as floods, storms, forest fires, and extreme temperatures reaches 21.5 million per year (United Nations High Commissioner for Refugees 2022). Forced displacement from one's home is not only a physical displacement, but also a dislocation from all channels of life. Situated knowing is one of the most influential concepts in feminist epistemology. The concept requires taking into account women's experiences as a knowledge base that has been negated. For those who emphasise the idea of situatedness, one's social location (gender being one of its dimensions) is one that shapes and limits one's knowledge (Haraway 1988; Haraway 2015). Situated knowledge suggests active perspectives as ways of knowing.

Methodologically, Haraway's research (1988 & 2003) rejects the distinction of nature and culture, through the concepts of material-semiotic and naturecultures. This concept is to realise queering sensibility as an embodiment of our self-awareness of a relation that is wholly strange, alien, different, undetectable, which means it transcends the rigid understanding of knowledge of the world. On the contrary, situated knowledge does not fall into the trap of objectivism-relativism because it often neglects responsibility for the representations it has constructed (Haraway 1991). This situated knowledge means resisting the epistemic trappings of culture, gender, and other identities with the consequence that we will always have a plural perspective; the epistemic constitution will always be flexible and intertwined without final stability. At the level of praxis, this situated knowledge will recognise the diverse selection of situations involved in constructing representation of something and at the same time consider how we are able to influence the content of other representations (Harding 1993). Epistemologically, this situated knowledge approach positions that described knowledge always has more complex responsibilities and collectively constitutes knowledge-that-is-shared among some perspectives of the knower and the known.

Arguing that knowing always involves a limited perspective, situated knowing helps to expose how pervasive masculine biases can influence our knowledge production practices. Such situated knowledge helps to understand how knowledge of the climate crisis is produced. While the word "crisis" is attached to the climate crisis to signify its urgency, many people perceive the impacts of climate change as something very distant and unrelated to them. In fact, it cannot be denied that the increase in extreme weather due to fossil fuel addiction, which has led to climate change, has resulted in disasters such as floods and storms.

Situated knowing provides an adequate explanation of how marginalised people, in this case people directly affected by climate change, are better positioned, based on their social location, to acquire this knowledge. A situatedness approach can help answer the question of what shapes belief or disbelief in climate change knowledge. As Lorraine Code (2006) writes, the situation itself is not just a place of knowing, as in how anyone from anywhere can freely choose his or her "perspective". "Situation is itself a place to know whose intricacies have to be examined for how they shape both knowing subjects and the objects of knowledge" (Code 2006). Therefore, the social location of women in the face of climate change has a major influence on how they see its urgency. For groups of people who are not directly confronted with the climate crisis, there is a significant gap in interpreting the climate crisis. Therefore, the authors propose the position of critical ecofeminism in addressing climate crisis to invite readers to visit the idea of ecofeminism without being trapped in the choice of "spiritual" or "material", but rather as critical steps.

Table 1. Differences between Spiritual/Cultural, Material, and Critical Ecofeminism

Related Arguments	Spiritual/Cultural Ecofeminism	Material Ecofeminism	Critical Ecofeminism
Women-nature relationship	Accept and reinforce because interdependence is inherent	Reject women-nature relationship, as nature is defined as passive, non-subjective, and all-giving.	Critical affirmation, which recognises but rejects women's similarities and emphasises the diversity of women's experiences.
Feminine qualities	Feminine qualities in women such as empathy, co-operation, and altruism that will save the earth	Feminine qualities are the source of women's oppression	Recognition of women's qualities that are not singular and diverse
View of nature	Nature is associated with femininity	Nature is contrasted with ratio, so it is passive and non-subjective	Nature is seen by attempting to transcend relationality, that is seen as mutual
Source of oppression	Masculinity and the patriarchal system	Patriarchal system and feminine traits that make women weak	System of oppression is not singular; dominator identities are complex

Source: Processed by the authors

Gender and Ecological Justice: Mutually Shaping Relationships

Among ecopolitical thinkers, the term "ecological justice" has become a popular buzzword, despite its ambiguous meaning. The notion of ecological justice has a variety of concepts that are contested with each other. These range from distributive justice, distinguishing between what is environmentally "good" and "bad", benefits and risks, to arguments about participatory justice and procedural justice (Gaard 2017).

In 1991, the First National People of Colour Environmental Summit changed the course of environmental justice discussion. The meeting resulted in the formulation of the 17 Principles of Environmental Justice. The 17 Principles of Environmental Justice include the vision that people of colour share in this community. They build national and international movement against the destruction and dispossession of their lands and communities. They do this by re-establishing a relationship of spiritual interdependence with Mother Earth; respecting and celebrating cultures, languages, and beliefs about the universe and their role in healing; ensuring environmental justice; promoting alternative economies that contribute to harmless livelihoods; and gaining political, economic, and cultural liberation that has been denied for more than 500 years of colonisation and oppression that poisoned communities and lands, as well as the genocide of people of colour (People of Colour Environmental Leadership Summit 1991).

The seventeen Principles of Environmental Justice were later ratified in formulating another definition of climate change from an environmental justice perspective contained in the 27 Bali Principles of Climate Justice (Johannesburg for the Earth Summit 2002). Climate change from an environmental justice perspective also mentions gender, indigeneity, age, ability, wealth, and health. Such mentions make it possible to examine how relief and mitigation of climate change impacts are mapped for vulnerable population in the world (Gaard 2017).

Marti Kheel (2007) calls these categories "truncated narratives". These truncated narratives have not been taken into account, resulting in mitigation and solution to climate change impacts that are biased towards these categories. Therefore, like Kheel (2007), the authors also hope that by considering these truncated narratives, ethical decisions relating to the climate crisis can be made more consciously. In the praxis of activism, ecological justice has been supported by people of colour who have a focus on race and class dimensions alongside grassroots women's communities who have taken many actions.

Reflectively, the authors realise that ecofeminism is not just a jargon or an empty concept, but the possibility to move transformatively as a collective ecological movement. Haraway (2016) asserts that we are always in, living in, and living through a crisis, in her book Staying with the Trouble, which means that our actions will never change what has happened, but what has happened always demands our responsibility.

> "We are all responsible to and for shaping conditions for multispecies flourishing in the face of terrible histories, and sometimes joyful histories too, but we are not all response-

> able in the same ways. The differences matter—in ecologies, economies, species, lives". (Haraway 2016).

This means that we all always have a responsibility to the changes that occur, in this context, climate change.

However, responsibility does not mean that every human being has an equal share. Is it possible that Indigenous Peoples of the Amazon, Alaska, and the Baduy tribes have equal responsibility to the arrogance of globalised multi-national corporations that persistently erode indigenous non-human entities? Clearly not. The climate crisis of the Anthropocene, for example, has changed the course of modernity's understanding of the separation of ontological dualism as the current geological power movement demands what is called 'responsibility' to become 'response ability', a kind of sensitivity to multi-species and the world being lived in (Haraway 2008).

Of course, if the general understanding of ecofeminism still revolves around a climate justice orientation that always demands a gendered basis, then the ecofeminism movement will stop at the anthropocentric puddle, but with another manifestation. This means that ecofeminism needs to rethink that the world as it exists today is running simultaneously - an ecological multiplicity that lives and breathes crisis into each other.

This global ecological crisis always opens up the possibility of a variety of other worlds, the world of many worlds because geographical distinctions are directly proportional to the complexity of knowledge of this crisis as well as perceptions that are always situated being intertwined with everyday life (worldings) (de la Cadena & Blaser 2018). It is evident, then, that the everyday life is the most tangible space for understanding how climate justice justification works. Climate justice in today's catastrophic times is not only in the interest of the ecofeminism movement to break free from the shackles of patriarchal bias and the domination of capitalism that destroys nature. Once again, ecofeminism needs to base itself on an epistemology of situatedness as well as a political ontology that emphasise that the crisis is not a universal problem alone. Rather, it is a pluriversal problem. This pluriversal politics intends to offer a way of recognising the expression of locality among diverse cross-cultural-nature (human and non-human) without the limit of a 'single structure', a more simply situated experience, across the everyday worlding that clarifies the pluriversality of the world (Escobar 2020).

Ecological justice always demands openness across generations and even across entities of life. Instead of fighting for justice for nature itself, Anthropocene societies always live with crises as well as various inequalities that occur through the relationship between the ecological rift between the life-world (life-world; socio-cultural perception) and the earth (earth; as a habitat setting for species occupancy), which is getting wider (Mahaswa 2022). This challenge must be addressed in a simple way, either by understanding the various kinds of ecological rifts that are happening around us, or always being introspective about the obscurity of ecological decision choices that are only based on linear-romanticised assumptions but forgetting the existence of pluri-reality-based evidence. The reality of the "harmonisation of nature" hoped for in the name of humanity's modern interests is not always stable and true, but the situational experience of the experienced crisis leads us to environmental politics that are no longer pseudo, let alone spinning without direction.

Ecofeminism's neglect in articulating gender categories negates the question of what kind of women ecofeminism is referring to. Because it assumes that women share the same universal categories and are united in a "unity of oppression", ecological damage does not recognise the expressions and ways of knowing that pass through everyday life. The shift in political ontology towards more-than-human worlds in response to the challenges of the climate crisis requires us to be done with humanity, in this case gender. The current discourse on climate crisis reopens the discussion on gender, which is shown through the gendered impacts of climate crisis. As such, gender is not seen as a singular category, but is also subject to encounters with situated experiences of crisis and is, therefore, diverse.

In Indonesia, a documentary film titled Tanah Ibu Kami (2020) captures these ecofeminism movements from various regions. Kartini Kendeng, who protested by cementing their feet to reject the construction of a cement factory is one of them. At the beginning of the film, a chant from the Kartini Kendeng is heard: "*Ibu Bumi wis maringi* (Mother Earth has given), *Ibu Bumi dilarani* (Mother Earth is hurt), *Ibu Bumi kang ngadili* (Mother Earth judges)". From the chant, it can be seen that the determination to defend the environment comes from the knowledge of the alienation of women and nature through the feminisation of nature. Similar spirit also flows in the struggle of Mama Aleta Baun in East Nusa Tenggara, Mama Loedia Oematan, and Eva Bande.

The diverse models of reflective approaches of critical ecofeminism at least guarantee a promising openness to ecological justice in Indonesia. The context of the plurality of society and nature in Indonesia has a concrete materialisation. But by approaching the analysis through critical ecofeminism, it can be ensured that the perspective on diversity is not merely about pseudo-spiritual romanticisation. The critical ecofeminism movement in the Indonesian context means that it must have the courage to affirm all forms of materialisation of diversity, both society and nature, as they are. "As it is" means voicing the situation (fairly) without any tendencies or assumptions that romanticise harmonious and balanced nature, nor accepting the conception of environmental feminism in its rawness. In fact, in concrete terms, ecological justice is an ethical motivation that will be realised if and only if ecofeminism is embedded at the level of consciousness, theoretical, praxis, and daily practice. Critical means open and not anti-criticism, (critical) ecofeminism must always be open to all possibilities in a world in crisis.

Closing

It is important to remember that ecofeminism is a cluster of a deep variety of critical thinking. Some forms resonate with the spirituality of deep ecology and critique anthropocentrism, and others propose emancipatory politics that reject the normative principles of deep ecology (Vakoch et al. 2012). However, denying spiritual/cultural ecofeminism precludes the possibility for us to learn from such positions and obscures the diversity of discursive positions and forms under the umbrella of the term ecofeminism. Meanwhile, the crisis that hit is always intertwined with the various life-worlds. [L]ife does not solely operate at the level of immateriality, but quite the opposite. Its materialisation manifests in the everyday world that is always situated against both the oppressed subject and the subject-who-is-always-ignored. Ecological intra-action becomes a necessity for ecofeminism that the crisis is hitting on two levels of life, which means humanity that lives and is lived by the crisis itself. If we only stop at the spirituality of ecofeminism, then the ecofeminism movement is nothing more than a pseudo-romanticisation - that we were once intimate with nature.

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Variety of Rural Women's Capital Against Climate Change in the Midst of Subordination

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Abstract

Climate change causes the emergence of various phenomena in social life. This phenomenon has a tendency to increase uncertainty over the fulfilment of food, clean water needs, health, to the household economy in various communities in rural Indonesia. Women and children are the vulnerable groups who bear more of the burden of climate change. In reality, women are indirectly required to be able to strategize to meet family needs in the midst of the vulnerability of life due to climate change. The strong patriarchal pressure on Indonesian society makes the role of women often invisible and not taken into account in seeking household resilience, especially in rural and coastal areas. This paper aims to identify the characteristics and raise the story of rural and coastal women in Indonesia in the face of climate change. Another thing identified in this study is the variety of strategies used by women, as well as the challenges of subordination they experience. This study was conducted using a literature study method as well as collecting qualitative field findings on the experiences of women facing climate change in various regions in Indonesia. This study draws on the literature from 2010 to 2020 and compares it with field findings on the experiences of women in rural and coastal areas in Java and East Nusa Tenggara in the period 2019 – 2022. The results show that rural and coastal women are proven to continue to carry out various adaptation strategies that tends to be dominated by social capital in facing the challenges of climate change even though its role is not taken into account as a struggle within the community.

Keywords: rural, women, climate change, coastal, capital

Introduction

Every generation that is born into the world faces its own crisis. For the current generation, one of the major crises faced is climate change. According to the Directorate General of Climate Change Control of the Ministry of Environment and Forestry of the Republic of Indonesia (2017), climate change refers to significant changes to climate, air temperature, and rain fall ranging from decades to millions of years. This is due to the increasing concentration of carbon dioxide and other gases in the atmosphere, which causes the greenhouse effect. Furthermore, climate change can also be defined as a significant change in the average state of the climate or its variability over a long period (decades or longer). The impacts of climate change are profound and can be found in many aspects of life. Decreased water quality, reduced water quantity, habitat alteration, species extinction, decreased forest quality and quantity, increased greenhouse gases, reduced agricultural areas, and decreased agricultural productivity are just a few examples of the massive impacts.

Meanwhile, the United Nations (UN) (2022) states that climate change is a long-term change in temperature and weather patterns. Essentially, these shifts occur naturally, as can be observed through variations in the solar cycle. However, with the growth of industrialisation that began in the 1800s, human activity became one of the causes of this crisis. The burning of fossil fuels such as coal, oil, and gas, which are widely used around the world, produces greenhouse gas emissions that act like a blanket around the earth, generating solar heat and raising temperatures.

Earth has been 1.1°C warmer in the last ten years than it was in the 1800s, with the warmest on record from 2011 to 2020. If not addressed, the impact of disasters such as droughts and floods will be more severe, especially on vulnerable groups. In this regard, the UN said that small islanders and population of developing countries can be categorised as vulnerable groups. Climate change impacts, such as sea level rise and saltwater intrusion, have intensified to the point that entire communities have had to relocate. In addition, prolonged droughts

can lead to famine in some vulnerable regions. In the future, the number of "climate refugees" is expected to increase (UN 2022).

Then, when examined more deeply, in vulnerable groups scattered around the world, women are the ones who are most affected. From a socio-economic perspective, women generally experience subordination, which is an assessment or assumption that a role performed by one sex is inferior to another (KPPPA 2022). Climate change exacerbates this position. Not only subordination, women also experience gender injustice, which results in different vulnerabilities when facing climate change. Therefore, the Ministry of Women's Empowerment and Child Protection (Kementerian Pemberdayaan Perempuan dan Perlindungan Anak/ KPPPA) of the Republic of Indonesia published General Guidelines for Gender-Responsive Climate Change Adaptation/CCA (Adaptasi Perubahan Iklim /API). These Guidelines, published in 2015, contain strategies for gender integration in CCA, CCA programmes that include sectoral programmes and core activities, as well as governance ranging from organisation, mechanisms, and monitoring and evaluation of CCA. Through this Guidelines, KPPPA emphasises that in terms of potential environmental crises due to climate change, social relations between men and women become unequal due to the different experiences of men and women during and after the climate change crisis. This gender inequality creates various forms of gender injustice, one of which is the double burden. For example, in agricultural communities, unpredictable weather causes crop failure. To be able to continue supporting their families, women farmers will look for other sources of income in their home areas and continue taking care of domestic work while men farmers migrate to find other jobs. Moreover, climate change that causes natural disasters will cause damage to infrastructures and laws and increase competition for food and other resources. When these natural disasters hit communities where discrimination against women still exists, women become more vulnerable and can become victims of disasters that lead to death.

Among the impacts of climate change, food and clean water crises are threats felt by vulnerable groups, especially women and children. Food crisis has increased childhood malnutrition and maternal and child mortality rates. Meanwhile, clean water crisis also contributes to child mortality rate of 34.6% in third world countries. About 5 million children die each year from diarrhoeal diseases due to clean water crisis. Nevertheless, the experiences of women outlined in previous studies show the resilience of women in their efforts to respond to various problems that arise due to the effects of climate change. This condition then gave birth to the term women as "agents of change" (Oxfam Canada in Latifa A. & Fitranita 2013).

Women in rural and coastal areas experience multiple impacts due to climate change. A study conducted by Arham & Adiwibowo (2022), for example, states that the impact of climate change in 2019 in Java Island was very significant, especially with regard to food supply. Some of the variables that have changed significantly include: increased air temperature, changes in rainfall, and extreme climates that cause drought. Some coastal communities in Java also felt the impacts of climate change in the form of abrasion and tidal flooding due to sea level rise (Sunarti & Apriliasari 2015). Akbar et al. (2017) state that due to climate change, fishing accidents at sea have increased and are closely related to poverty in fishing communities.

According to Kaho (2021), in his presentation on climate change and disaster in East Nusa Tenggara in the period 2020 to 2021, there was a significant increase in disaster risks at various points in East Nusa Tenggara due to global temperature rise. These disaster risks include floods, droughts, and forest fires. Basically, East Nusa Tenggara is relatively drier than other parts of Indonesia. However, climate change has significantly shifted the number of wet and dry months, resulting in significant and even extreme impacts on food provision and disasters.

Thus, this research aims to elaborate the impacts of climate change on women in rural and coastal areas in Java and East Nusa Tenggara from the perspective of ecofeminism and various social capital. This paper aims to identify the characteristics and stories of Indonesian rural and coastal women in addressing climate change. Other issues identified in this research include various strategies used by women, as well as the challenges of subordination experienced.

Research Methodology

This research draws on literatures from 2010 to 2020 and compares them with field data on women's experiences in rural and coastal areas in Java and East Nusa Tenggara in the period 2019-2022. The results show that rural and coastal women are proven to continue to carry out various adaptation strategies that tend to be dominated by social capital in facing the challenges of

climate change even though their role is not taken into account as a struggle in the community.

This research uses a literature study method from reliable sources as well as a set of field data collected from several communities in Java and East Nusa Tenggara. There are eleven literatures that were referred to in the literature study method. These eleven literatures were published between 2010 and 2020. Each piece of literature was analysed in relation to subordination to similarities in the patterns.

The field data come from qualitative experiences of Tapawallabadi women's group in Waingapu City, East Sumba, NTT and the Karangantu coastal fishing community, Kasemen District, Serang City, Banten Province. The data on these field experiences were collected during 2019-2022. The selection of locations was done incidentally, in conjunction with the implementation of other activities related to exploring community experiences of their food fulfilment and climate challenges. The data collected focuses on women's experiences in dealing with climate change over the last 4 years until 2022. Data was collected through in-depth interviews with 5 key informants for each research location. The selection of key informants was done purposively by considering the representation of women in the community who are facing climate change challenges in fulfilling family food.

Climate Change Indications in Java and NTT

Since 1900, Indonesia has experienced a 0.3°C increase in temperature accompanied by a two to three percent decrease in annual rainfall over the last hundred years (Hulme & Sheard in Latifa & Fitranita 2013). However, the decrease in rainfall differs between regions. In southern part of Indonesia, there is a decrease in rainfall (such as in Java, Lampung, South Sumatra, South Sulawesi, and Nusa Tenggara), while an increase in rainfall can be found in northern part of Indonesia (such as in most of Kalimantan and North Sulawesi (Boer & Faqih in Latifa & Fitranita 2013).

The Centre for Population and Research - Indonesian Institute of Sciences (Pusat Penelitian dan Kependudukan-Lembaga Ilmu Pengetahuan Indonesia/ PPK-LIPI) states that in 2010-2011, agricultural and fisheries areas in Lamongan Regency were vulnerable to climate change. The condition felt by the community in the fisheries area is that the season is unpredictable, making it difficult for fisherfolks to determine when to go to sea. As a result, the frequency of fishing decreases and the catch decreases. Women respond to this situation by engaging in productive spaces, although in the end the choice to deal with the lack of household income leads to a double burden: a domestic role that is not diminished, coupled with a productive role that is also carried out.

Meanwhile, in agricultural areas, erratic seasons make it difficult for farmers to determine the planting season for rice and secondary crops. Various types of diseases such as rice blast also arise and result in rice decreased rice production (Latifa & Fitranita 2013). Some male farmers then decide to seek other livelihoods, one of which is to become migrant workers or TKI (Tenaga Kerja Indonesia). From interviews conducted by Latifa & Fitranita (2013), it was found that farmers who go outside the region to earn a living do not regularly send money to their wives. To cope with this condition, farmers' wives are forced to find ways to survive. Unlike men, women tend to stay and continue living in their home areas by strategising in the form of finding alternative income.

Furthermore, Latifa and Fitranita (2013) reveal that due to changes in rainfall patterns, Lombok Island was hit by drought and extreme rainfall in 2010 and 2011. As a result, cocoa and tobacco plantation sectors, which are the main commodities in this region, have declined dramatically. Ramadhani and Hubeis (2020) say that food crop agriculture and horticulture belong to the sub-sectors that are most vulnerable to changes in rainfall patterns because horticultural crops are generally annual crops that are relatively sensitive to excess and lack of water. This vulnerability is strongly related to land use systems, soil properties, cropping patterns, soil management technology, water, crops, and varieties.

Natural disasters due to climate change have also hit Gekbrong Village, Gekbrong Sub-district, Cianjur District, West Java Province. In 2007, the village experienced landslides and in 2012, a major flood washed away three junior high school students. This tragedy encouraged farmers in Gekbrong Village to carry out climate change adaptation and mitigation movements. This initiative inspired many parties, and Gekbrong Village was appointed as the only village in West Java worthy of being a pilot village in climate change adaptation and mitigation efforts by the Ministry of Environment and Forestry in 2013 (Ramadhani & Hubeis 2020).

Mustangin (Al-Farisi et al. 2020) examine the climate crisis, gender, and vulnerability of women farmers in Karanganyar Regency, Central Java Province. Referring

to the regency's climate vulnerability profile and disaster trends, Karanganyar area is among the affected areas. The observations of the BMKG Climatological Station Semarang in collaboration with PUSLITBANG FP-UNS Jumantono Climatological Station show that Karanganyar Regency experienced an increase in the average temperature trend of 0.017% per year and an increase in rainfall trend of 0.03% per year. This phenomenon has affected farming households not only physically but also socially. When examined further, the affected groups include farmer, women, female-headed households, children, people with disabilities, and informal workers.

Indications of climate change are also found in Larangan Village, Candi Sub-district, Sidoarjo District, East Java Province. Darmawati (2019) suggests five indicators of climate change in Larangan Village, namely irregular rainfall patterns, increased air temperature, changes in water availability in the dry season, and damage to cultivated plants. The impact of irregular rain patterns is that the rainfall is unpredictable and delayed from the expected start of the rainy month. Meanwhile, the increase in air temperature results in hotter temperatures and can trigger extreme hot weather. In terms of changes in water availability in the dry season, the impact felt by communities is the decline in water quality and well water containing iron. The last indicator is damage to cultivated plants, causing pests and damage to cultivated plants.

The study conducted by Arifah et al. (2021) tells that the frequency and intensity of extreme weather causing drought and flooding will threaten the stability of food fulfilment and the household economy. Climate change is causing uncertainty in livelihoods, resulting in declining purchasing power and household consumption. Therefore, women farmers are forced to provide food with less nutrition than normal. In times of crisis, women and girls are forced to reduce their intake so that male family members can continue to eat normal portions because they are considered the 'main breadwinners' (Arifah et al. 2021).

Stories of Subordination and Climate Change Adaptation Strategies

Subordination, which is a form of gender injustice, is an important issue that must be addressed. Gender injustice itself, according to Fakih (2013), can occur in various forms of injustice such as marginalisation or the process of economic impoverishment, subordination or insignificance in political decisions, stereotype formation or through negative labelling, violence, longer and more workloads (burden), and socialisation of gender role ideology. In subordination related to the impacts of climate change, the condition of women workers is of particular concern. Fakih (2013) divides human rights of women workers into two perspective frameworks, namely based on conditional and structural characteristics. Conditional analysis of women workers discusses the plight of workers as a whole (male and female workers) in terms of physical conditions, minimum wage, wage discrimination between male and female workers, working conditions concerning occupational safety, and the right to organise. Structural analysis looks at women's labour rights from the perspective of women workers' position within the overall structure of social formation.

Women have different experiences from men and in gender mainstreaming thinking, one of the causes of inequality between men and women is the failure to understand the different experiences, aspirations, and needs of men and women's roles in development. The levelling of experiences has led to discriminatory policies, stigma, and violence that marginalise both men and women in the context of development (Wiasti 2017). At one point, subordination became a daily situation faced by Indonesian women.

The significant role of women is also largely overlooked because the patriarchal construction in society places women's work in the domestic, social, and productive spheres as part of women's responsibilities. Ironically, this negation of women's roles, work, and labour is even preached from religious pulpits (Mulia 2022). In the end, the legitimisation of the idea that women are relegated to the shadows of men is firmly rooted in Indonesian society.

The subordination of women does not necessarily stop women in rural Indonesia from taking a role in supporting communities to face the challenges of climate change. Although on the one hand, it shows how deep the subordination has been, when women no longer know that they are subordinated. Here are some of the experiences of women from two regions in Indonesia and their strategies for dealing with climate change and the subordination they experience. The field data in this paper will further narrate how women's subordination makes development policies to deal with climate change biased.

Mothers' Groups and Hunger Season in East Sumba Regency

East Sumba is one of the districts in East Nusa Tenggara that feels the impact of climate change quite significantly. This situation is exacerbated by the history

of changes in consumption patterns experienced by the people of East Sumba during the New Order period, when the food regime at that time encouraged rice to become the main food commodity. East Sumba has a very different agroecosystem from other rice-producing regions in Indonesia, such as Java, Bali, and Sulawesi, so intensive rice cultivation will require many ecological interventions. Locations that have sufficient suitability for rice cultivation are also very limited and tend to cluster in a few areas (Banjarnahor & Simanjuntak 2016; Killa 2021).

In addition to experiencing 'ethnicisation', East Sumba, as recorded by the People's Coalition for Food Sovereignty (Koalisi Rakyat untuk Kedaulatan Pangan/KRKP) in 2013, also experienced a massive locust infestation that migrated from Australia to the North. Upon reaching NTT, particularly the village of Mbatakapidu, thousands of locusts (*migratory locusta; locusta migratoria*) destroyed hundreds of hectares of cornfields that were nearing harvest time. At that time, a severe famine hit the village.

Mbatakapidu Village is an illustration of the hunger situation that has hit the majority of villages in East Sumba. According to KRKP (2013), the Mbatakapidu village government in 2010 then encouraged villagers to replant vacant lands and yards with a variety of tubers, which are basically a source of local carbohydrates. During this period, Tapawallabadi Women Farmers Group (KWT) was formed as a forum for women of the village to work on replanting local carbohydrates. This group later became one of the pioneers of resistance efforts in Mbatakapidu Village.

According to the mothers (Mama), who are members of Tapawallabadi group in interviews conducted in 2019, before almost the entire East Sumba community made rice the main food crop in around 1998, Sumba community had a source of carbohydrates obtained from tubers and secondary crops such as corn. These food crops were cultivated in family-owned fields and yards. Before the change in consumption patterns, women who were culturally constructed for domestic roles could more freely serve food for their families by harvesting tubers and crops from their gardens, or those that had been stored in the house from previous harvests.

The situation changed when rice was introduced as the main source of carbohydrates: the cultivation of tubers in East Sumba declined, replaced by secondary crops and partly by field rice, which tends to have a higher probability of crop failure than tubers. The domestication of tubers was replaced by secondary crops and tubers were left to grow wild in the forest.

> When it is hungry season, we go into the forest to dig yams until we get them. It is very hard to find sweet potatoes. We then clean them in the river for days before eating...only now we are planting sweet potatoes in our yard. We will take them when we are hungry. People say El-Nino delays the rain, resulting in many crop failures. Then there is no money to buy food (Mama F, 2019, October interview).

Climate change has made the arrival of rain and dry seasons uncertain, causing crop failure to occur frequently in East Sumba (Oru 2013). Women who are charged with domestic activities must then look for alternative food sources to the forest to dig wild tubers. This situation puts an additional burden on women to provide food for their families. Just like the role of women, this local source of carbohydrates starting to be subordinated to a 'second-class' food source, which is only sought after during critical situations. This situation is the result of thinking about solving food problems that do not see women and their role in decision-making; when decision-makers both at the government and donors level made rice as a shortcut to solving food problems in East Sumba.

> This *gali ganyong*, even if there is no rain, is still good in the soil. This is what we eat. It is strong. Just leave it in the ground. When you need it, you can dig it up. On average, we at Tapawallabadi plant this near the house. Let me show you how to dig it (Mama F, 2019, October interview).

One of the strategies carried out by the mothers in East Sumba is to form groups, which seek productive activities through groups, such as weaving, attending training, taking care of food gardens, and other activities. Tapawallabadi as a women's group in East Sumba has become one of the spaces for women, who were initially constructed to only play domestic roles, to have space to show their existence. Through this group, women's work in seeking family food and efforts to strengthen financial capital through group savings are recognised by many parties.

> Many of my daily activities involve weaving. In the morning, after finishing the housework, I roll the yarn. After that, I prepare lunch, then roll the yarn again. In the afternoon, I feed the pigs and water the garden. Then, I continue to roll the yarn, prepare dinner, and rest (Mama Y, 2019, December interview).

> Now, the women's group will be informed of everything. We get a lot of training calls. Any member can join. In the group, there is also a saving account. Although it is not much, it can be used when the children want to go to school, or when there is a party (Mama K, 2020, February interview).

Through the group, the mothers build social capital among women who would otherwise be invisible and unconsidered to emerge in public spaces. This social capital then paves the way for increased human capital through the opportunity to gain the confidence to learn new skills and knowledge that would otherwise be denied to these 'unseen' women. These two capitals then encourage the growth of financial and physical capital. Social capital becomes a solution to get around the low natural capital that has already declined as a result of the subordination experienced by women in East Sumba.

Mending (*Mewiwil)*[1] Hope against the Tide: Stories of Women in Serang City

Unlike the mothers in East Sumba, the women-wives of crab fishermen in Karangantu, Serang City, Banten Province become family workers for their husbands who are known as crab fishermen. Almost all of their time is spent on *mewiwil* or fixing the crab nets that their husbands will use to go out to sea to catch crabs. Every day, in addition to doing domestic chores, the wives of the crab fishermen will hold nylon threads and *wiwil* tools to fix broken or detached net connections.

> When I am fixing the nets (*ngewiwil*), I forget about time. After cooking and taking care of the house, I will go back to *ngewiwil*. I will do it until late at night... I am helping my husband. If I am not here, he will not be able to do it. For crabs, we need a lot of nets. If you want to catch a lot of crabs, you need more nets (Mrs N-wife of a crab fisherman, 2022, August interview).

In addition to helping with *mewiwil*, the wives of crab fishermen act as intermediaries for their husbands (fishermen) to sell their crab catches to the boss. The boss is a financier or middleman, who takes the catch of Karangantu fishermen, for further processing. The relationship between the fishermen's wives and the boss is a patron-client relationship. The wives can borrow or request for new nets or ask for other financial favours from the boss, and in return, they are morally bound to always sell their catches to the boss at a predetermined price. Usually, the price set by the boss is always below the market price.

> Yes, the boss' price is different (lower) from the market price. But I always sell to the boss... yes. I am the one who sells. My husband is already at sea. I will contact the boss... for example, if I need a net, I just say. When my child is sick, I will also tell the boss: please lend me money, boss... my child is sick, like that. Yes, if the price falls, we get even less. But later we can still borrow from the boss (Mrs R-wife of a crab fisherman, 2022, September interview).

Women play an important role in ensuring that the catch is sold to the wider market. The same situation also occurs in the results of Latifa & Fitranita's study (2013), which tells that although women are said to bear the brunt and are the group that suffers the most from climate change, this group also has a high capability to survive and to support their households when there is a drastic decrease in income. The interviews show that it is women who will generally neglect the fulfilment of their needs in favour of prioritising the needs of the family in the face of climate stress.

> The women here *ngewiwil*. If not, I do not know how to cover the capital. *Ngewiwil* is all-day long work (Mrs N-wife of a crab fisherman, 2022, August interview).

The role played by the fishermen's wives is quite significant. However, again, their story is not far from the story of subordination. No government programmes or assistance are directly addressed to fishermen's wives as they are 'invisible' and only serve as family labour (Jumiati 2018, Darmawan et al. 2021). Law No. 7/2016 on the Protection and Empowerment of Fishermen, Fish Raisers, and Salt Farmers, for example, does not specifically mention what kind of protection the state provides to fisherwomen or women involved in fishing households. The discussion of women appears in Chapter V on the Implementation of Empowerment, which states in Article 45 that empowerment of fishermen, "... pays attention to the involvement and role of women in the fishermen households, fish raiser households, and salt farmer households...". Women's work in post-harvest processing of small fish and fishermen's bycatch is often claimed as their participation in government programmes. In fact, the efforts of these women are their initiatives, which may be part of the tactics or strategies chosen to support the fulfilment of family needs. This claim is also not accompanied by incentives that can be utilised to develop women's capital, whether financial, human, social, physical or natural.

> Training? I do not think there is any. There are also women who are part of Joint Business Group (Kelompok Usaha Bersama/KUB), but I do not know what their activities are. As for the crab, we just sell it directly to the boss, we do not process it (Mrs R-wife of a crab fisherman, 2022, August interview).

This situation is similar to the argument of Dewy & Umar (2020) and Dewy et al. (2012) that criticises national climate policies for not being gender-responsive. The understanding of gender and climate change in both national ministries and local governments is still weak.

Women are only seen as a vulnerable group that is the target of adaptation climate action, so gender and the word 'women' are only embedded to add strength to the narrative of the programme. Another criticism is that government policy budgeting is not gender responsive. There is no budget available to conduct gender impact studies of existing climate policies, engage gender experts, and make efforts to reduce vulnerability and gender inequality due to climate change and climate change responses.

Mayastuti & Sari (2016) in their study suggest that as the most vulnerable group to climate change, women are often underestimated as decision makers in the domestic and public spheres. Vulnerability and non-neutrality of government policies towards women's rights must be addressed through the implementation of climate change adaptation education.

> If my husband goes, I just pray a lot. It feels like it is getting more and more unpredictable when it rains and when it does not. Usually when it rains, my husband does not go. But sometimes when it rains, he catches a lot. That is the point of being a sea person. You have to deal with the waves. I do not go to the sea, I just stay here. I take care of the house and the household (Mrs R-wife of a crab fisherman, 2022, August interview).

The issue of climate change is not new to the wives of Karangantu crab fishermen. They are accustomed to utilising strategies to save and manage their financial capital as best as possible. The uncertainty of fishing activities has become an everyday concern for fishermen and their families, including the women. When the fishermen (husbands) or their sons come home from fishing with little or no results, these women will use their social capital, namely patron-client relations with the boss to cope with their needs with the 'moral debt' that is constantly maintained. In this context, the relationship with the boss becomes a safety net for fishermen's wives to survive during lean times.

> When we catch more, we have a lot, but when we catch less, we have nothing. We borrow from the boss. Sometimes we need to save, but that is how it is, it is hard to save as fishermen (Mrs N- wife of a crab fisherman, 2022, September interview).

Climate change for crab fishermen's wives is part of their natural capital. The sea that gives and the sea that 'does not' give. There are times when these women have enough and even more financial capital. There are also times when the uncertainty of the weather leads to periods of scarcity (*paceklik*) that require women to 'step up' and strategise, mobilising their social capital to ensure their family's needs are met. Although never taken into account - because they are not considered fishermen - these fishermen's wives have a very significant role in maintaining the dynamics of the survival of the Karangantu coastal community.

Ecofeminism and Various Women's Capitals against Climate Change

The issue of subordination related to climate change can be explained by the theory of ecofeminism, which is a theory and ethical movement that breaks down anthropocentrism. Anthropocentrism tends to prioritise humans over nature. Ecofeminism also challenges androcentrism, which is a male-centred ethical theory. Based on this, it can be said that the domination of men over nature and women has led to a severe ecological crisis and humanitarian crisis. Therefore, ecofeminism emerges as a movement identified with women who have a special task to do in difficult times due to the destruction of nature (Shiva & Mies 2014).

The idea of ecofeminism began to be discussed since around 1974, then developed when Shiva (1989) in her writing states that women were able to mobilise defence for the environment. Sundberg (2015) further states that ecological issues cannot be separated from their relationship with political economy and vice versa. All three are interconnected and founded on gender relations between men and women, particularly pointing to the relationship between women's oppression and the exploitation of nature.

In the Indonesian context, Indirastuti & Pratiwi's (2019) article shows that interventions in dryland ecosystems in Kalimantan have essentially displaced women from their living space. This can be seen from the difficulty of obtaining water and food sources. As a result, women are forced to take over the role of head of the family because men migrate and experience subordination in the form of not always being recognised for their role as head of the family. Women also experience impoverishment because they lose their independence and have to work as palm oil labourers.

The perspective of subordination in the perspective of ecofeminism in this paper is elaborated in relation to the capital owned by women, especially women in rural Indonesia in order to deal with climate change. Ellis (1999) states that there are at least five categories of capital owned by rural households in an effort to fulfil their needs, namely: human capital, financial capital, natural capital,

social capital, and physical capital. Household resilience strategies are inseparable from the combination of these capitals. Human capital, for example, is capital owned by individuals or groups that are human resources such as labour and certain skills in meeting needs. Examples of human capital are agricultural labour and the ability to identify food and medicine owned by women in the community.

Financial capital is the ownership of a number of assets related to finance and used to fulfil needs, such as money, savings, and loans. In the context of rural areas and women, this capital can take the form of money, jewellery, savings (Lawalu & Goba 2020) and inheritance from parents that can be cashed in to meet family needs or desires. Women in some villages, for example, are traditionally provided for by their parents when they settle down. This provision is either in the form of gold, jewellery or livestock that can be inherited on or cashed in in times of need.

Natural capital is human access to surrounding biotic and abiotic factors that provide benefits for access and even ownership of this capital. In the rural context, the availability of springs that can be accessed by women around their residence for daily needs or the shade of forests or coastal areas that are rich in food sources around their residence (Situmeang et al. 2019), can be classified in the natural capital group.

Social capital is a combination of social relations that allows individuals or groups to have shared power. There are many theories about social capital, such as Coleman (1988) and Siisiäinen (2020), which link the actions and behaviour of actors in social structures based on the social capital that exists. In the context of women's experiences, this social capital can be in the form of relationships in extended families, gathering (*arisan*), the existence of women's groups, and so on, which become a safety net for fulfilling food and other life needs (Puspitasari 2015; Mozumdar 2017; Handayani 2019; Osei & Zhuang 2020). Social capital is based on trust and organises social networks between actors who are members of it.

The last capital is physical capital. This capital is in the form of physical buildings that facilitate the fulfilment of daily needs, such as infrastructures. Some examples include roads, waterways, green open spaces, dams, agricultural lands (Purwaningsih 2021), and other physical buildings that become tools or means of supporting the fulfilment of individual or community needs. In the rural context, for example, there are farm roads that make it easier for women to carry out on-farm activities, waterways, village street lighting, and meeting rooms that can be used for gatherings.

The experiences of the women in East Sumba Regency and the fisherwomen in Karangantu, Serang City reflect the experiences of Indonesian women in dealing with climate change. Their bargaining position, which tends to stagnate in the shadow of men, means that the contribution and variety of capital combined in order to deal with climate change tends not to be taken into account. Changes in the ecosystem of local food crops in East Sumba, which make food production vulnerable in the face of climate change, force women to bear a double burden and do not get recognition that they are the ones who ultimately sustain household life. This absence of recognition is reflected in ecological interventions that do not involve the mothers in development decision-making. The mothers make their own way through the capital they have access to. The movement carried out by these mothers is part of the ecofeminism movement that makes women work to fight climate change and is exacerbated by government policies that fail to manage agroecosystems.

The women wives of fishermen in Karangantu are also key actors who manage the majority of household capital to survive the uncertainty of the coming of the high and low seasons. The time and energy they put into *mewiwil* is seen as unpaid family labour even though the majority of their time is spent on *mewiwil*. Without women's help in *mewiwil*, fishermen (men) would not be able to prepare their crab nets in time to go to sea when the weather is favourable.

The strategies employed by the fishermen's wives reflect how ecofeminism becomes a living practice. In a form that is different from what the mothers do, the fishermen's wives understand the rhythm of nature - due to their closeness to domestic work and nature - in providing 'more' and 'less' catches. Fishermen's wives do not use group platforms as a vehicle for their resistance. They manage to mobilise the capital they have around their community to make ends meet in uncertain times due to climate change.

Table 1. Women's community capital to tackle climate change

Capital	Capital owned & Strategy	
	Case of East Sumba Regency[2]	**Case of Karangantu, Serang City[3]**
Human	Weaving skills and knowledge. Improving skills through training in women's groups.	*Mewiwil* skills. Human resources tend not to experience capacity building, and there is no communal strengthening of human capital.
Financial	Crating group's savings.	Keeping a little bit of the surplus from fishing during *along* (harvest time) in the form of savings for the lean period.
Nature	Availability of germplasm of local food crops that are relatively resistant to climate change. Planting yards and going into the forests as locations of local food reserves for the hungry season.	The sea provides catchable crabs for fishermen's household income, despite catch fluctuations due to climate change.
Social	Joining Tapawallabadi women's group.	Maintaining patron-client ties with boss (collector); utilising kinship ties as a safety net.
Physical	There is no physical capital directly related to mitigating climate change impacts.	There is no physical capital directly related to mitigating climate change impacts.

Source: processed by the authors from primary data

In addition, the various cases of rural women's capital that have been mentioned can also be examined through several points of the Sustainable Development Goals (SDGs), namely no poverty, zero hunger, gender equality, and climate action. The efforts of women who often look for other sources of income amidst climate uncertainty aim to release themselves and their families from poverty (no poverty). However, this condition leaves women with a double burden because women tend to stay in their original homes to take care of children between jobs while men tend to look for new sources of income in other areas when their main source of income can no longer be relied on due to climate change. This double burden is a problem that is difficult to eliminate given the understanding of the community that still considers that taking care of the family is the main task of women and has not implemented the division of tasks between men and women.

Furthermore, in the second point of the SDGs, namely zero hunger, women in the cases mentioned in the paper are trying to find alternative sources of income to prevent their families - especially young children - from starving. Rural women who do not get regular income from their husbands who work outside the city must find ways so that the income from alternative livelihoods is enough to buy basic daily food. The next SDGs point is the fifth SDGs point that emphasises on gender equality. As a major theme of this research, gender equality is an ideal condition that must be achieved in order for women to be free from the double burden. There are many things that a woman must sacrifice in order for her family to survive amidst climate uncertainty that affects sources of livelihood. Therefore, the community's understanding of a good division of roles in the family, especially in taking care of children, must receive more serious attention from the government so that women do not always have to experience subordination.

The last point in the SDGs that is closely related to rural women's capital is the thirteenth point that emphasises on climate action. The climate crisis in the 21st century is one of the main environmental issues that requires cooperation between countries. Various schemes to reduce global warming have been formulated, but in reality, the needs of industry always trump the interests of the environment. As people who are very vulnerable to the climate crisis, rural women must get an additional safety net from the government so that their main living needs and those of their families are still met.

Based on the experiences of rural women, both in the agricultural and coastal contexts, it is clear that the role of women is closely related to efforts to mobilise the various capitals they have to face the challenges of climate change as a result of ecosystem interventions in the name of development. Efforts to preserve local food by the mothers is an ecofeminism movement gathered in a social group. Meanwhile, fishermen's wives in Karangantu

mobilise the capital they can access in the fishing community. These two approaches have contributed significantly to the efforts to achieve the SDGs on poverty alleviation, zero hunger, and gender equality through safe spaces for women to gather strength together in groups and communities.

Closing

Climate change has blatantly impacted rural areas in Indonesia. This phenomenon has affected farming households not only physically but also socially as can be seen in the experiences of women in rural Java and East Nusa Tenggara in facing the challenges of climate change. In this paper, the struggle of ecofeminism is inseparable from the context of ecosystem, political and economic interventions that do not place women equally as actors who play a significant role through the management of various capitals - as well as the most vulnerable group to the impacts of climate change due to gender construction.

The subordination of rural women in Indonesia is a real situation that occurs to date. Patriarchal-biased climate change responses only exacerbate the subordination experienced by women. Women in East Sumba deal with climate change and fight subordination to patriarchal decisions in the development mindset by strengthening social capital through strengthening women's groups. The stories of fishermen's wives in Banten show that the subordination they experience is not a barrier to taking a strategic role in dealing with weather uncertainty. The wives of crab fishermen have a significant role with the utilisation of social capital, although they are less likely to be considered and have access to strengthening financial capital, human capital, and physical capital.

The reflection obtained from the stories of women facing climate change that give an overview of the context of inland agricultural communities and the context of coastal communities is that subordination is one of the root causes of decision-making in development strategies to deal with biased climate change. In the end, development decisions that marginalise and do not consider the situation of women only complicate the fulfilment of household needs in rural areas.

The experiences of rural women from the various studies described above, both in agricultural and coastal ecosystems, show that a fundamental improvement is needed in the understanding that the contribution of women's roles in supporting communities to deal with climate change is very significant. The absence of gender-responsive climate mitigation and management plans, as well as the organisation of gender-based educational spaces in the face of climate change need to be initiated.

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End Notes

1 A term used by the Karangantu fishing community. Defined as the activity of repairing damaged nets after being used to catch crabs or fish.

2 Primary data collected in 2019-2020.

3 Primary data collected in 2022.

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Women's Initiative Forms Environmental Culture as an Effort to Overcome Climate Change

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Abstract

This research discusses the efforts of women in the community as a form of environmental culture in responding to the climate change crisis. The arrogance issue of patriarchal reason has distorted human ability to recognize the main problem of environmental damage. Humans are trapped in the illusion of the domination of reason which seeks to control nature as non-humans. As a result of this arrogance of reason, culture is formed hierarchically dominating nature (non-humans). We offer a change in cultural perspective through the environmental culture raised by Val Plumwood. This culture with an ecological and caring perspective is a form of the feminist ecological thought movement. We use the method of analysing feminist issues through feminist knowledge standpoints that interact with ecological research methods. We collect data through various media with a focus on telling the experiences of women in dealing with environmental problems. Our analysis comes to the conclusion that concrete initiatives and actions are needed that involve all ecological elements as a form of solidarity. In this way, we no longer glorify humans as the rulers of reason, but rather create critical and creative communities in realizing an environmental culture.

Keywords: Environmental Culture; Climate Change: Feminist Ecology; Val Plumwood; The story of the Women's Initiative for the Environment

Background

Feminists, especially ecological feminists, see that the problems of exploitation and environmental destruction that led to the climate crisis have the same patterns and/or go hand in hand with the patterns of women's oppression. Therefore, environmental issues are feminist issues. Amidst the various schools of ecological feminism, all of them share similarities on: (a) Exploring issues and connections between women and nature; (b) Applying feminist principles in responding to environmental issues while criticising environmental masculinity; and finally (c) Linking feminism and ecological perspectives, which means that an environmentalist must have a feminist perspective (Warren in Jaggar & Young 2000).

The assertions of a number of environmental feminist scholars are supported by various research data and reports from various world organisations. The climate crisis, which is often considered a natural and neutral environmental issue, has a disproportionate impact in its intersection with gender and various other social categories. UN Environment in OHCHR (2022) states that 80% of people displaced by climate change are women. Statistics also show that in natural disasters, women and girls are 14 times more likely to die than men (Peterson 2007). As an illustration, of the 230,000 people killed in the Indian Ocean Tsunami, 70% were women. There are various factors that contribute to women's greater vulnerability to death in natural disasters. Numerous reports show that cultural and structural inequalities in society have resulted in the exclusion of women from access to information, education, exclusion from public spaces, women's poverty, and more, minimising their power to respond to disasters. This means that women's low life expectancy during disasters is not caused by biological factors but rather gender-biased social construction.

Referring to the gender division of labour, women are charged with the responsibility of social reproduction. Therefore, culturally, they have a greater dependence on natural resources. It is revealed that in low-income and middle-income countries (LMICs), 8 out of 10 women are responsible for collecting clean water for household needs. Globally, more than 70%

of women are responsible for household water supply. The impact of the water crisis is experienced differently by each community, but women in developing countries face multiple challenges. Droughts mean women have to spend more time and energy just to get clean water, firewood, and other basic necessities. Women's vulnerability is exacerbated because they are not equipped to cope with the impacts of the climate crisis. The climate crisis does not only produce ecological disasters for women but also produces a multidimensional crisis that threatens to violate a number of women's basic rights. The real threats are loss of livelihoods, food insecurity, intensified competition over scarce resources, migration, conflict, political and economic insecurity, increased rates of domestic violence, child marriage, trafficking of girls, and others (UN Women 2022).

According to a number of feminist scholars, prevailing gender roles in society are to blame for women's increased vulnerability to the climate crisis (Agarwal 2000; Colfer 2017; Plumwood 2000; Mohanty 2003). Gender identity has positioned women as a disadvantaged group in society. Why is this? In patriarchal societies, women from the start do not have equal access to valuable resources but are attached to reproductive responsibilities in the household. These social roles and expectations of women often result in women's higher environmental concerns and initiatives compared to men (Slovic 1999; Finucane et al. 2000). Gender roles related to social care and reproduction mean that women tend to feel more responsible and more concerned about environmental quality (Zelezny et al. 2000; Dietz et al. 2002; Hunter et al. 2004). It is important to note that while women are at a disadvantage and often excluded from adaptation and mitigation due to their gender roles and positions, they are often at the forefront of efforts to build resilience in communities. Across the world, including in Indonesia, many women have spoken out against the climate crisis.

A number of women's collective actions in response to the climate crisis have patterns that are built on a feminist standpoint. The aspects that this research aims to show, namely social initiatives by the agencies; concrete experiences that form the basis of their actions; engagement/participation; and solidarity. These concepts are adapted from the thoughts of various feminist thinkers, particularly Val Plumwood (Plumwood 2002).

McLaren (2019) points out that participation that demonstrates women's agency needs to be examined from a feminist lens in relation to their concrete daily experiences; the capacity of the self or individual to voice and encourage social change or transformation for themselves and/or others. Agency is also related to community solidarity and empowerment. The climate crisis has asymmetrical adverse impacts on women, but if read and intervened with a feminist perspective, this situation can be used as a momentum to change gender norms and practices. Evidence from the field suggests that the impacts of climate change are resulting in significant socio-economic shifts including traditional gender norms in relation to women's economic activities, social relations, and leadership. In some parts of the world, climate crisis, crop failures, and resource scarcity are forcing rural men to migrate or change professions. Meanwhile, women, who are left behind in the village, inevitably have to do the work traditionally done by men (United Nations Environment Programme, UN Women, UNDP and UNDPPA/PBSO 2020). The climate crisis situation is miserable and not ideal, but women have shown many examples of meaningful participation. They are resisting and building resilience to the climate crisis. At the village/site level, women's leadership and collective initiatives have shown significant changes in environmental conservation, resource conflict prevention, community economic empowerment, and solidarity strengthening.

Using a feminist lens, this research aims to show that although women experience multiple vulnerabilities due to gender and climate situations, they cannot be seen as mere victims because various data show that women have strong resilience for themselves and their communities. Women are important agents and carriers of solutions to climate change. They play an important role when they are integrated in climate change adaptation and mitigation processes. It is also identified that women have concerns and knowledge related to climate threats so that they often carry out initiatives as well as joint work to preserve the environment. Without falling into gender essentialism, this paper aims to show that the situation and condition of society have an impact on the formation of women's subjectivity. How women know, how women make decisions, and how women are involved in responding to the climate crisis, are related to the examination of certain socio-political positions occupied by women, whether they bring certain privileges or otherwise put them at a disadvantage.

Research Methodology

This research prioritises women's knowledge and experiences in taking initiatives to address climate change issues. The first method we used was data collection through the experiences of several women from various mass media. The collection of success stories of these women is related to their initiatives in making changes related to environmental issues and climate change. This method is part of feminist case studies as mentioned by Shulamit Reinharz (1946-) in her book entitled *Feminist Methods in Social Research* (1992). The method starts by gathering a spectrum of analyses based on various sources, one of which can be archival research (Reinharz 1992) - which we used in this research. Feminist case studies refer to research that focuses on one major issue by compiling various examples (Reinharz 1992).

Our first step was to select several cases of women's success in taking praxis initiatives to overcome problems caused by climate change in the area where they live. These cases illustrate experiences that can help us structure analyses in an effort to understand a complex theory (Reinharz 1992) on the issue of feminism and climate change. Some of the female figures who illustrate the cases in our research are: 1) Melati and Isabel Wijsen (Initiators of the Bye Bye Plastic Bags Movement); 2) Rubama (Aceh Natural Forest and Environment Foundation); 3) Masnuah (Founder of Puspita Bahari Fisherwomen Community); 4) Siti Aisyah (Founder of NTB Mandiri Waste Bank); 5) Westiani Agustin (Founder of Biyung Indonesia – a social enterprise that focuses on women and environmental issues); and 6) Yuktiasih Proborini (Disabled and environmental activist; Founder of Sejiwa Foundation). We collected various articles that tell the story of environmental care initiative programmes, which go hand in hand with the empowerment of women's groups. The selection of these figures is intended to show concrete experiences and different situations behind the initiatives and solidarity movements that women carry out.

The stories of these women environmentalists become illustrative points that we formulate in the analysis of this research. One of the characteristics of feminist case studies is to place the experience and presence of women's solidarity to answer various problems, which in this research focuses on the environment. Illustration of women's experiences will illuminate processes of women's involvement, which is often uncharted in the broader view of the issue (Reinharz 1992). This approach is also emphasised by Sandra Harding (1935-) through the concept of standpoint feminism (1993) as an important effort to examine the situation of women's involvement - in this research we relate how women respond to environmental crises. Of course, this principle goes hand in hand with the idea of solidarity and feminist activism.

The feminist standpoint comes as an attempt to accommodate and recognise the viewpoint of the silenced 'others'. This awareness of marginalisation is usually the starting point that women's groups do not come from favourable epistemological, power, and socio-political positions. The excluded groups then choose defensive ways to speak out and fight back. Standpoint feminism is the foundation of feminist politics (Harding 1993). It does not simply tell the story of individual concrete experiences but can also illustrate the power of the community/collective. Standpoint feminism departs from the examination of identity, how one experiences the world. Furthermore, women's agency in the framework of standpoint feminism does not stop at the capacity to save oneself, but has a social intention to support and empower the surrounding community, as well as to bring about social transformation.

Our analytical framework brings together feminist issue analysis methods with ecological research methods. Ecological research generally has the following main perspectives: concern for the environment, the relationship between the environment and humans, and the impact of humans on environmental health and sustainability (Given 2008). The overall concern of the issue arises from the interconnectedness of actors, events, practices, and policies that ultimately critically seek to demonstrate concern for the well-being of future generations - the relationship of the earth and the creatures that live on it (Given 2008).The intersection of feminist issue analysis with ecological problems is one form of intersectional - an interdisciplinary form that tries to understand the relationship between ecological problems and gender issues in society to produce a solution (Given 2008).

Based on the confluence of feminist issue analysis with its knowledge standpoint, as well as ecological methods, we underline four important ideas in feminism, namely: the importance of concrete/everyday experiences as the basis for collective actions; feminist solidarity; women's agency and involvement in fighting climate crisis; and women's resilience which is closely related to empowerment. This research also shows the forms, patterns of women's engagement, and initiatives for climate justice undertaken by young women's groups;

grassroots activism; and women with disabilities groups. We come to the understanding that climate justice is not possible without also fighting for gender justice.

Understanding the Concept of Environmental Culture

We take Val Plumwood's (1939-2008) concept of environmental culture as his response to the environmental crisis and climate change (Plumwood 2002). Basically, technological development can facilitate human life and the environment. However, often human decisions in utilising technology do not consider its impact on the environment - which in this case includes non-human life situations. Plumwood argues that our response to environmental crises, including climate change, will determine the degree to which we value our lives as humans in our environment (Plumwood 2002).

The word "culture" in the concept offered by Plumwood is a reminder to recognise different perspectives in understanding ecological issues. The term culture also marks in contrast cultural and social change that basically recognises our (human) attachment to ecological conditions (Plumwood 2002). Plumwood believes in a deconstructive strategy of nature/culture dualism that affects the separation of mind from body; and reason from emotion. We need to systematically use the term culture as a way to focus attention on the depth of understanding of culture amidst patriarchal dualist understandings of culture. The culture/nature dualism radically excludes nature from human life-nature becomes inferior and manipulable (Plumwood 1993).

The supremacy of human reason in the patriarchal pattern of rationalism has radically placed a hierarchy between humans and non-humans. Rationalism is glorified and restricts the understanding of human reason as the best. As a result, the non-human environment experiences systemic discrimination. Elizabeth Anne Grosz (1952-), an Australian philosopher, points out that Western knowledge thinking fails to understand the process of knowledge production, especially when there is a denial of the body (1993). This crisis of reason is a consequence of the privileging of purely conceptual history, ignoring the experience of the body as knowledge (Grosz 1993). Starting from this understanding, we can understand Plumwood showing that the ecological crisis is a crisis of reason that closes itself off from different bodily experiences (Plumwood 2002).

The typical rationalism of human/nature dualism has created a culture with a distance between humans and non-humans - as the Other - thus justifying control over (non-human) nature. It is also what removes the role and rights of 'the Other' over the earth by eliminating them rationally (Plumwood 1993). There is a denial of the working logic of 'the Other' so that they are not considered to have the ability to survive in a world without the presence of human rationality. We are trapped in the assumption that nature is "dependent" on humans - a denial of nature's independence. This pattern even goes as far back as the children's upbringing by eliminating the existence of nature (the Other) as part of their life. Children are accustomed to understanding the process from "cared for" to "carer" (as adults) (Plumwood 2002) - and this is how we come to understand that nature ultimately becomes a task of our "care". Human/nature dualist rationalism denies that it is we humans who need nature because of its radical independence-its ontological existence is not dependent on humans.

The formation of a rationalist culture eventually succeeded in distorting various human lives. The patriarchal cultural tradition has played a role in the history of Western thought; hence, this dominant dualistic reasoning also endangers ecological conditions. We are accustomed to the logic of subjugation of other cultures - as a form of competition and comparative advantage in the dominant rationalist culture (Plumwood 2002). The roots of the ecological crisis are inadequate knowledge (ignorance), unjust political structures (interests), and an unequal ethical, philosophical, and spiritual worldview of humans (illusion) - these three mutually reinforce the dominant rational culture.

In the process of one's journey to maintain their existence, there is a conflict to prove who is the strongest. Humans are used to seeing those outside their culture as 'the Other'. As a result, they use humans with different cultures and even nature (non-human) as a comparison in the survival competition. Those who are strong will dominate, exclude, and exploit 'the Other' - under the alibi of an ecological adaptation process (Plumwood 2002). The logic of competition and survival even forgets how we care for nature in return for what we use (in the process of survival) – a form of failure of rational culture to implement ethical ecological conditions in the long run. If this continues, we will soon face extinction - as a form of ecological crisis (Plumwood 2002).

The ecological crisis arises from a dominant rational culture that does not even hesitate to say this is part of the evolutionary process (Plumwood 2002). There is an arrogance and inability to recognise that it is humans who are dependent on nature, and this shows the failure of reason to work - and jeopardises our survival as humans. However, Plumwood does not see this as a fault of reason. Asserting reason without any concern for different experiences will make it work in a way that is unclear. It is human arrogance and insensitivity that has evolved within the framework of "ratio", thus reinforcing the narrative of domination over nature (non-human) and disengaging the human connection with nature (non-human).

The offer in environmental culture is an offer to change the perspective of reason. Plumwood invites us as humans to no longer ignore ecological conditions. The neglect of nature will also contaminate reason from emotions, attachments, and manifestations of care. Rationality should no longer be used to dominate but as an effort of liberation - close to life (Plumwood 2002). The effort to change the perspective of the use of reason can start by listening to and sharing knowledge about 'the Other' through the storytelling of their experiences. This also changes our perspective on "culture" and no longer places human domination over nature (non-human). By doing so, we also learn to take initiatives that do not dominate, but involve all ecological aspects to take collective responsibility for the care of life - while building a sense of solidarity.

Stories of Women's Initiatives to Address Climate Change

The Story of Melati and Isabel Wijsen, Founders of Bye Bye Plastic

Melati and Isabel Wijsen are sisters who have been environmentally sensitive since the age of 12 and 10 respectively (byebyeplasticbags.org). They started the Bye Bye Plastic Bags movement in 2013, with the goal of freeing Bali from the threat of plastic bags.

They started the movement by picking up rubbish at 115 points on the island as the tides brought tonnes of plastic waste to Bali. They got thousands of people on board to help collect rubbish from Bali's seas, rivers, and streets. They realised that the movement needed support from the Balinese Government, so they put together a petition and managed to collect one hundred thousand signatures. This support led them to meet the then Governor of Bali, I Made Mangku Pastika, and they agreed to make Bali without plastic bags by January 2018 (cnnindonesia.com 2021a). Melati and Isabel are concerned about environmental issues, especially pollution through plastic bag waste because plastic waste pollutes the beaches, sea, and streets in Bali. They were inspired to start the movement as teenagers by finding out the problems in their neighbourhood, namely about plastic waste. To date, Bye Bye Plastic Bags has 30 permanent core members consisting of 9-year-olds to university students (sampahlaut.id 2020).

Melati and Isabel have become the voices of youth to campaign for the movement for young people to start small steps for their neighbourhood. In the Time 100 Talks programme, they discussed the impact of the COVID-19 pandemic on economic, political, climate, and environmental developments in the world (cnnindonesia.com 2021b). In addition, they have been invited as speakers at TED Talk London on the waste crisis in Bali and invited to the World Marine Debris Conference in San Diego. In 2018, they were also included in Time magazine's list of the most influential teenagers in the world. They were also selected as CNN Heroes Young Wonders (cnnindonesia.com 2021b).

Their movement in 2018 even involved 20,000 volunteers and managed to collect 65 tonnes of waste. They also worked with 350 businesses in Bali to slowly reduce the use of plastic bags, disposable cups, and straws (sampahlaut.id 2020). Through Bye Bye Plastic Bags, they created a pilot village by helping local shops and 800 families to use bags from alternative materials. After 3 years of starting Bye Bye Plastic Bags movement, Melati gained global support from 13 countries. In the past 4 years, Bye Bye Plastic Bags has successfully engaged 57,500 people in 430 locations to prevent 115 tonnes of plastic from polluting the oceans (cnnindonesia.com 2021a). In addition, Bye Bye Plastic Bags also supports the empowerment of women on the slopes of Mount Batukaru through the Mountain Mamas project. This project is carried out through women's economic empowerment by making bags from recycled waste materials that have been collected.

The Story of Rubama, a Natural Forest and Environmental Activist from Aceh

Rubama has a background in tourism education at Bogor Agricultural University (IPB), in the field of ecotourism. Rubama's work related to the environment often encourages her assisted villages to become nature and cultural tourism villages. Gampong Nusa and Damaran Baru Village in Aceh are examples of this. In late 2005, Rubama, along with a resident of Gampong Nusa,

attended a training on waste management in Calang, Aceh Jaya District, organised by an NGO (Mongabay 2018). She put this knowledge into practice and disseminated it to the women's group of Gampong Nusa. Together, they turn plastic waste into creative products. Rubama also created a waste bank programme, where children sell their waste.

Another Rubama's environmental initiative is to encourage the involvement of women in Damaran Baru Village in the management and conservation of forest areas. Rubama believes that women have long been involved in forest conservation. This is reinforced by the knowledge she gained through dialogue with women at the village level. She recognised the women's anxiety about the flood-prone environment caused by illegal logging. Rubama recalled that the beginning of her involvement was to assist villagers in the Gayo highlands. In 2015, Damaran Baru Village was hit by a flash flood that destroyed a number of houses. Village women were worried and needed to intervene, but on the other hand they lacked the courage to protect the forest because they did not have permits and information about the rules related to illegal logging.

Rubama and her organisation facilitate village women to legally access and preserve the forest. Together with the women, Rubama mapped the village's potentials and challenges (Boang Manalu, Subono & Putri 2022). Through information and knowledge, women in Damaran Baru Village have been empowered to protect their environment, understand their rights, and know the law as a tool to resist illegal loggers. Women's involvement in environmental protection demonstrates a uniquely female approach. They use negotiation skills or conversational methods to educate illegal loggers. Not by violence but by peaceful means. Rubama's involvement in facilitating women forest rangers has also led to the development of an ecotourism education village in Damaran Baru-Aceh.[1]

The Story of Masnuah, a Fisherwoman Warrior

Climate change is a global challenge that affects people from all levels of life. However, the impacts are more pronounced for a group of fisherwomen in Demak, Indonesia, who are struggling amid the COVID-19 pandemic. This picture is more or less revealed in a UN Women's article (2021) entitled "How the fisherwomen of Java rise above climate change and an increase in gender-based violence". According to Masnuah, Chairperson of Indonesian Fisherwomen's Association (Persaudaraan Perempuan Nelayan Indonesia), without the pandemic and climate change, fisherwomen already have their own vulnerabilities. These include social and economic vulnerabilities, lack of protection against accidents at sea, increased school dropout rates among fisherwomen's children, and high cases of domestic violence.

Masnuah said that sea waves are becoming more unpredictable, tidal floods are increasing, and rising sea levels have submerged two villages in Demak. Tragically, before the issues caused by climate change can be fully addressed, Demak residents are facing another emergency, namely the COVID-19 pandemic, which has further exacerbated social inequality. The pandemic has caused fish prices to plummet (Anggita 2021).

During the pandemic, Masnuah and Puspita Bahari did advocacy work against violence. What was difficult was that the victims and their companions had no money for transport. Masnuah's work is not easy because there are many challenges ranging from stigma against women's organisations, limited funds, double workload, social restrictions, and others.[2] Nevertheless, Masnuah has taken initiatives that have had an impact on her community and neighbourhood. Masnuah applies feminist solidarity by empowering the fisherwomen community through economic, political, and legal empowerment. The fisherwomen were given a number of trainings on processing and selling seafood; they received training on legal advocacy for their communities; they were recognised in their communities and by the state through legal recognition on their ID cards as fisherwomen. Masnuah also always collaborates with various agencies, such as LPSK (Witness and Victim Protection Agency), Legal Aid Institute (LBH), media, and others to fight for justice for fisherwomen. Masnuah's initiative to respond to climate disasters and pandemic is to mobilise community solidarity. Masnuah's collective actions with PPNI related to disasters include raising donations for villages drowned by tidal floods. She also actively voices this issue in various forums and media so that their problems are heard and receive wider attention. Another important action by Masnuah in responding to disasters, especially in the COVID-19 era, is to build food security for vulnerable groups by organising barter between farmers and fisherfolks groups. Masnuah believes that through solidarity, people can participate in helping vulnerable communities such as fisherfolks (Anggita 2021).

The Story of Siti Aisyah, Founder of NTB Mandiri Waste Bank

Waste Bank NTB Mandiri, which Aisyah Odist founded, is one of the waste management centres

that has implemented household waste management as an entrepreneurial motivation for housewives. By developing and increasing public awareness in waste management and changing people's perspective, waste that is considered having no value can have economic value if managed properly (Alfina & Herlina 2022). The beginning of Aisyah's involvement in waste management and processing was due to her concern about her environment, Lombok. In an interview with Imajie *TV*, Aisyah stated that she sees Lombok as a place that is beautiful and full of potential, but has serious problems that must be addressed. Although Aisyah is aware that waste is a big issue, she believes that even the smallest participation can have an impact. She also believes that with love (care), the waste problem can be solved (Kompasiana 2016; Imajie TV 2021).

Seeing the condition of her neighbourhood, Aisyah took the initiative to educate people about waste and change their practices towards waste. Aisyah teaches the community to turn waste into economically valuable items, such as crafts, bags, and others. Aisyah seeks to change not only people's perspectives, but also their practices. Her work as an environmental activist is accompanied by the work to empower women and disabled groups. She often conducts training for these groups using her personal funds. Her hope is that her knowledge can empower other groups and be disseminated for greater impact. Aisyah's environmental activism is rooted in her commitment to empowering her community (Mongabay 2019). Aisyah's form of agency is her success in encouraging the transformation of a village in Lombok from a slum village to a tourist village.

The Story of Westiani Agustin and the Cloth Sanitary Pads Movement

Ani, as she is affectionately known, has long been active in environmental education programmes. She is the founder of Biyung Indonesia - a social enterprise that focuses on women and environmental issues. In various organisations and activities related to environmental issues, she participates in creating educational programmes about efforts to protect the environment. Her collective action related to the environment stems from the reflection that women have contributed to the production of waste through disposable sanitary pads. She wants to change the consumption of disposable sanitary pads to reusable cloth pads. Since 10 years ago, she has switched to cloth pads (Jogjapolitan 2022). Ani's collective action departed from the spirit of feminist solidarity. She invited women's groups in one of the villages in Jambi and Papua to produce cloth sanitary pads for their own circles. She also empowers women with disabilities in Jogja, Sukoharjo, Jakarta, and Jambi to make cloth sanitary pads that can be used and sold.

The vision of Biyung's social programme is "women helping women". According to Ani, the production of sanitary pads is done by women and used by women, so in this process there is a relationship of mutual need, help, and empowerment (jogja.suara.com 2020). Ani's social action with Biyung is not only about environmental conservation and women's economic empowerment. This programme is also intended as a space for sharing knowledge from the community to other women to be able to make their own pads. This movement also shares knowledge about menstruation and reproductive health, especially for women with disabilities.

The Story of Yuktiasih Proborini, a Disability and Environmental Activist

Yuktiasih Proborini became an environmental activist because of her reflection on her concern when she saw organic waste and food scraps being wasted. To reduce the waste problem, she decided to cultivate magot. She learned about magot from her youngest son. The magot she raises is the Black Soldier Fly or BSF. She collaborates with a university in Semarang to use their land, and also works with the Environmental Agency (Dinas Lingkungan Hidup/DLH) to source the waste to be processed. As a magot farmer, she often provides training that is not limited to the women's community. For example, to Laudato Si' (religious) community and the disabled community.

The owner of Sejiwa Foundation, Yuktiasih Proborini, shared her reasons for making transparent masks. The first thing that came to mind was that not everyone understands sign language. People with hearing impairment can pay attention to their interlocutor's lips to communicate. "So, what they see are their lips when they speak, making it easier for the other person to understand", she said when interviewed by *Jawa Pos Radar Semarang* at the Sejiwa Foundation Secretariat. When the initiative emerged, Yuktiasih was part of a community of people with disabilities throughout Indonesia. She then gathered people with disabilities in Semarang and facilitated them to make products with economic value (Jawa Pos 2020).

Assisted by her friends, Yuktiasih initially managed only 30 kilograms of fabric, but in the following months

the demand for transparent masks boomed until finally they managed 1.2 tonnes of fabric for transparent masks. Together with the community, Yuktiasih made not only masks, but also clothes that could then be sold by friends in the deaf community. Yuktiasih's movement shows how she uses her experience as a woman with a disability to make innovations that adapt to the situation of climate change (pandemic) and sensitivity to the needs of friends with disabilities (hearing impaired).

Learning from Women's Experiences: A Feminist Ecology Proposal

The six stories of women's activism that we have presented in the previous section are our sources in showing how environmental culture work can transform dominant reasoning into caring reasoning, especially in ecological care. The pattern of work in environmental culture offers a unique encounter: assertive and caring (Plumwood 2002). Assertive in rejecting institutional and systemic violence; at the same time caring and respectful through intentions and communications that recognise and understand the existence of 'the Other'. This is also what we can show from the six stories of activism of women who managed to mobilise ecological awareness projects not only in relation to personal concerns, but also efforts to involve local communities to the government level. They have deconstructed the dominant understanding of reason and replaced it with a definition of reason that is closer to ecological care.

The activism of these women environmentalists fights against the distortion of reason and culture through efforts to create environmental culture in their environment. The rejection of anthropocentric logic in the name of rationality - as a characteristic of environmental culture (Plumwood 2002) - is evident in each of their movements. They do not make the movement as a form of control and profit-seeking, but embody what Plumwood has offered, namely an ecological movement that favours and gives an active role to each ecological element (2002). These women's movements make us aware of the shortcomings of human understanding of nature (non-human) so that they do not hesitate to offer a corrective reasoning that no longer ignores the voice of 'the Other'. With critical communication, women's environmental activism invites us to reflect on the mastery of reason in ecological space. Based on the experiences of these women, we found several steps that can bring about an intensional relationship with critical communication through: initiative, concrete experience (action), engagement, and solidarity. These four steps constitute a reasoned approach to ecological care. These four steps can be seen in the following table:

Table 1

No	Name	Initiative	Concrete Experience	Involvement	Solidarity
1.	Melati and Isabel Wijsen (Young Group) Bye Bye Plastic Bags	Collective action that started from young girls' concerns about their neighbourhood. Empowerment that they do not only change individual practices, but also the neighbouring community. This initiative expanded into a local movement, amplified at the national level, and received global support. In the last 4 years, Bye Bye Plastic Bags has successfully engaged 57,500 people across 430 locations to prevent the use of 115 tonnes of plastic that can pollute the oceans.	In 2013, Melati and Isabel Wijsen started Bye Bye Plastic Bags movement. The initiative was undertaken due to concerns of the threats of plastic around them (Bali), especially related to marine pollution by plastic waste. Their work started from the initiative that it does not need to wait to grow up to make change.	Their initiative and work started out as simple day-to-day labour. work, namely collecting rubbish at 115 points and raising awareness as well as support through a petition that included 100,000 signatures. As of 2018, they have been able to engage 20,000 volunteers and collected 65-tonnes of waste. They involved local businesses and the government. They also received global attention, thus, being named as the most influential teenager by Time magazine.	Bye Bye Plastic Bags supports the empowerment of women on the slopes of Mount Batukaru through the Mountain Mamas project. This project empowers women's economy by making bags from recycled materials.

No	Name	Initiative	Concrete Experience	Involvement	Solidarity
2.	Rubama (HAkA Foundation)	Sharing information on plastic waste management into creative products. Building Gampong Nusa into a natural and cultural tourism village (ecotourism) by referring to the experiences and agreements of the assisted village women. Activities that are carried out derived from joint mapping related to existing potentials and challenges.	Having a concern towards Aceh's forest environment. Through her work as a in the field, Rubama recognised the women's anxiety about the flood-prone environment caused by illegal logging. From her experience having emphatic dialogues, Rubama mapped the strengths and needs of the village women and facilitated them through relevant programmes.	Independent plastic waste management that involves the community and village officials in Gampong Nusa, Aceh. Independent development and management of the potential of Gampong Nusa Village Nusa, Aceh. Joining forces with HAkA Foundation that focuses on the advocacy around the protection of forest area, habitat, and implications on species populations.	Engaging women in meetings and village activities. Empowering women in forest management, supervision, and conservation in Damaran Baru Village Aceh. This also includes the formation of a group of forest rangers that made up of local village women. Facilitating village women Damaran Baru Village to organise Social Forestry Decree, as well as becoming members and being part of the policy-making process.
3.	Masnuah (Fisherwoman)	Taking the initiative to empower fisherwomen's economy and reduce and respond to domestic violence in the community. The initiative came about because she saw how climate change makes women increasingly vulnerable. Less catch means higher fishing costs as you have to go deeper to get fish, and the weather is erratic, making fisherwomen more vulnerable. Their work is highly dependent on the sustainability of the sea.	Establishing Puspita Bahari community, which plays a role in emancipating fisherwomen through education and advocacy. Reflecting on her experiences and that of her community, fisherwomen live in a cycle of violence and poverty. Reflecting on Masnuah's observations and experiences as a fisherwoman, she sees that the vulnerabilities of fisherwomen are linked to economy, education, gender, and coastal culture, which is patriarchal.	Starting her engagement of economic empowerment of fisherwomen; responding to domestic violence; then moving on to political recognition struggle, namely recognition of fisherwomen's identity on their IDs. In the last few few years, Masnuah has also been a driving force in the COVID-19 solidarity for the fisherwomen. Currently, she is fighting for environmental justice for several villages that are sinking due to climate change's tidal flooding.	Economic empowerment of fisherwomen through trainings on seafood processing; establishing fish processing centres. Helping to provide basic necessities to fisherfolks' families during COVID-19 pandemic. Initiating the fisherfolks and farmers barter movement for food security. Currently, Masnuah is also actively mobilising awareness and showing visibility of the community around the drowned beach.
4.	Aisyah Odist (Waste bank NTB)	Aisyah synergises with the community as partners of the Waste Bank. Household wastes are collected, sorted, processed, and managed into valuable products. The Waste Bank system implemented by Aisyah is an innovation that pioneered the adoption of this system in the NTB provincial government's policy on waste management and environmental conservation.	Her involvement in the campaign on waste management processing derived from her concern and love for Lombok. Her work and commitment to waste come from her belief that care and love for the environment is the the answer to the environmental crisis. To her, the ignorance of the society towards environment caused by the lack of adequate awareness or knowledge that humans have the capacity to change the environment, and that our neglect towards the the environment can result in disasters.	Aisyah was involved as the initiator of Waste Bank NTB Mandiri and Kampung Wisata Kreatif Sampah (Kawis Krisant), which is located in Ampenan, Mataram. This movement has successfully engaged women and disabled groups. Aisyah also endeavours to strengthen the movement through partnerships with a number of NGOs; private sector; and government.	In recruiting the workshop activity team, Aisyah gave priority to women and people with disabilities. Her activities involve waste artisans, who are women and disabled people. Waste products are sold and empower the community's economy. Aisyah is always open and sharing knowledge if there is a community that wants to get involved in waste management. Consistently, Aisyah builds awareness of her community about the principle of zero waste.

No	Name	Initiative	Concrete Experience	Involvement	Solidarity
5.	Westiani Agustin (*Biyung*)	Like the slogan, which is "Women Helping Women", Biyung not only provides an alternative to accommodate menstrual blood for women. With her various her experience while running Biyung, Ani who originally wanted to bring the issue of environment to the society through cloth sanitary pads, eventually expanded the educational spectrum. Biyung even had conducted trainings on how to make cloth sanitary pads for various women's groups.	Ani's activities as an environmental activist stem from her reflection on the amount of waste that is produced by women when having menstruation for 5-7 days/per month. According to her, with cloth sanitary pads, women can be involved in the effort of preserving the environment. Since 10 years ago, she herself switched to cloth sanitary pads. Homeschooling project for her two children in 2016 became the beginning of the establishment of her programme that she named Biyung.	Although Biyung has not collaborated with government agencies, Ani and her community have collaborated with institutions such as Samsara Association and Perempuan Bumi Community. In April, as a response to the pandemic, Biyung together with Samsara Association distributed 143 kits of sanitary pads and contraceptives to four housing estates in Yogyakarta, such as Ledok Tukangan RW 3, Jlagran Kulon RW 1, Sembungan Bantul, and Gedong Tengen.	In the socialisation of cloths sanitary pads through Biyung, it is not uncommon for Ani to encounter the fact that women still have difficulty in accessing sanitary pads as a product that is fundamental to health. In order for the products to be accessible by women from all levels of life, especially those who are in the villages and vulnerable to financial problems, Ani together with Biyung organised workshops that share knowledge of sanitary pads production and health of the female body. Ani assists women's groups in Jambi and Papua, as well as a number of disabled communities in Yogyakarta, Sukoharjo, Jakarta, and Jambi to make cloth sanitary pads.
6.	Yuktiasih Proborini (Environmental activist; disability activist)	Starting a magot farming business to recycle waste. She took the initiative to using fabric waste from factory to make reusable and transparent cloth masks for people with hearing disabilities. Recommending disabled entrepreneurs to receive capacity building through networking with the community of businesswomen. Encouraging disabled entrepreneurs to have a business licence number (NIB) in order to get facilities from the Co-operative Office.	Her involvement as an environmental activist started from her reflection on the amount of household waste produced every day. She has several times provided trainings on magot farming, not limited to the women's community. Her role as facilitator and initiator of transparent mask originated from her observations and her reflection that medical masks do not accommodate the needs of the disabled group with hearing impairment. The idea of making transparent masks was also intended to empower the economy of people with disabilities.	Representing the community of disabled entrepreneurs and MSMEs in the advocacy to Kemenkraf so that women with disabilities be involved in the development programmes under the said Ministry.	Farming magot and conducting a number of experience sharing activities to the community related to waste management waste with magot. Building disability solidarity to make transparent masks. This initiative aims to include disability in the industry and make disability and environmental friendly products.

Source: Compiled from various articles by the authors using Plumwood concepts

Based on the table, we can see that these women's efforts have challenged systemically entrenched dominant behaviours. We indeed need to continue to nurture creative and counter-hegemonic movements such as those offered by Plumwood (1993) in an effort to live together in an ecologically ethical manner. Small community movements need to be listened to and taken seriously if we want to make social, political, and cultural changes at the root of humanity (Plumwood 1993). Women's movements in each of their neighbourhoods can influence the ecological movement and efforts to overcome the crisis caused by climate change. Humans are no longer just conquerors of nature (the Other) and ethical subjects, but are engaged together with care in ecological awareness.

In the table, we have presented four steps to achieve environmental culture that have been pursued by women in each of their communities and neighbourhoods. These four processes of initiative, concrete experience (action), engagement, and solidarity become a series of activities that are closely related to the nuances of ethical concern for the quality of life of humans and nature (non-human). The six activities of women environmental activists seen in the table have changed the perspective of their communities. They do not just make changes in

individual quality (exclusively), but also affect collective changes in the quality of behaviour and thoughts.

This proves how these women with their activism actually encourage interspecies dialogue and mutual development as has been raised by Plumwood (2002). The existence of integration, democratic patterns, ethical responses that do not reduce the presence of nature (non-human), reflection, critical dialogue (communication), and respect for interagency intentionality are seen in the efforts made by the women we discussed earlier. It is their success that we need to learn from in order to create a new culture: environmental culture. We need to achieve a new culture in dealing with climate change so that we are no longer trapped in a hierarchical mindset that views humans as superior to nature - as non-humans. Thus, we as humans can eliminate the arrogance of reason in responding to the climate change crisis through caring for different experiences as well as generating solidarity as a form of ecological awareness.

Conclusion

The issue of environmental crisis due to climate change shows how humans have arrogantly separated their presence from nature (non-human). As a result of this dominant patriarchal pattern of reasoning, we make nature 'the Other' and close our ears to their stories. Women eventually occupy the position of 'the Other', including in ecological awareness efforts. Feminists in the area of ecological thinking consider this as a loss of concern in human ecological consciousness, especially with patriarchal logical reasoning. Val Plumwood, as one of ecofeminist thinkers, also highlights the issue of the dominance of patriarchal reasoning as the cause of the ecological crisis.

Based on Plumwood's thoughts on environmental culture, this research highlights women's experiences of overcoming environmental crises and climate change through initiatives, concrete experiences, engagement, and solidarity. What Melati and Isabel Wijsen; Rubama; Masnuah; Siti Aisyah; Westiani Agustin; and Yuktiasih Proborini are doing shows an ecological awareness that carries a caring reason. They do not only provide tangible evidence in their respective communities, but also have a wider impact.

This mutually positive endeavour is full of feminist and ecological values. Humans are invited to no longer see themselves merely as ethical subjects - with the potential to dominate in the name of rationality - but as part of the ecology itself. It is this collective engagement that we need to support and nurture so that slowly, together, we grow an understanding of caring reason. This caring logic will slowly replace the logic of patriarchal domination. Ecological awareness can only be realised if we eliminate the hierarchy between humans and nature (non-human) by presenting a more caring culture through environmental culture.

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End Notes

1 See Jurnal Perempuan issue 112 under research.

2 See Jurnal Perempuan issues 95 and 107.

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