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A Gender Perspective on Brazilian State Laws Addressing Climate Change^{*,**}

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Climate change affects individuals differently. Women are one of the social groups most vulnerable to climate change. Since the legal study of climate change is associated with the idea of correcting imbalances, the goal of this study is to assess the extent to which state laws addressing climate change take into consideration gender vulnerabilities. To achieve this, the study has been structured in three phases: initially, an examination of the concept of climate justice; next, a review of the vulnerabilities that create disadvantages for women in the context of climate change; and finally, an analysis of state laws addressing climate change. The objective is to determine how these legislative instruments consider gender-related issues and the extent of women's involvement in shaping these laws. The study reveals that, despite being more vulnerable to climate change, women are not protected by state legislation. Out of the 27 federative entities, 23 have enacted specific legislation to address climate change, but only one of them, the State of Pará, explicitly includes the terms 'gender' and 'women' in its text. This shows that the gender perspective proposed by the Paris Agreement has not yet been fully incorporated into local legislation, possibly indicating the underrepresentation of women in positions of power.

Keywords: Gender; women; climate justice; State laws; climate change.

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In recent years, conservative, imperialistic, and short-term individualistic human actions have had profound and destructive consequences. This recognition has underscored humans as the principal agents instigating changes in the fundamental chemical and physical processes of the Earth, as acknowledged by Chernilo (2017). In the context of so many environmental changes, Bueno (2018) highlights that climate change is one of the greatest challenges faced by contemporary governance. Society's involvement in addressing climate change is viewed as an indicator of civilization's progress, showcasing its commitment to tackling climate-related issues and their impacts. These factors contribute to making climate change “[...] more complex than the risk of nuclear Armageddon during the Cold War”, (INOUE, 2016, p. 93 – free translation).

While climate change poses risks to everyone, some groups are more likely to experience more severe impacts. Among these groups, women deserve special attention. The research question for this study is as follows: To what extent do state laws addressing climate change take into consideration the gender perspective? To answer this question, the remainder of this study is organized into three sections and the conclusion. The first section introduces and elucidates the concept of climate justice through an analysis of various bibliographical sources. Section 02 sheds light on some of the primary disparities affecting women across various domains, examining how these disparities exacerbate during climate crises. Finally, in the last section, we analyze state laws designed to tackle climate change to evaluate the extent to which these laws incorporate the gender perspective in their content and to examine the participation of women among the legislators responsible for drafting these laws.

Climate justice: a term in development

While we all share the same global macro-ecosystem, planet Earth, we do not equally contribute to or suffer from the harmful impacts of the environmental crisis. In other words, the problems resulting from climate change do not affect every individual and social group in the same manner, as highlighted by Milani (2008). Thus, at the center of the global climate change issue lies a fundamental

challenge that must be recognized and addressed: the unjust distribution of the consequences resulting from the climate emergency. Those who contribute less to the environmental impacts, whether through their consumption or production habits, are enduring a disproportionate share of its consequences, as emphasized by Robynson (2018).

While the reasons for this differentiation may vary and be linked to factors such as place of residence, social class, gender, race, access to essential public services, and even the intersection of all these factors, there is a clear inverse relationship between responsibility for climate change and the risks it generates.

Social groups experiencing greater socio-economic vulnerability are frequently also more susceptible to events such as floods, prolonged droughts, water shortages, fluctuation in food quantity and prices, and shifts in the dynamics of specific natural resources. These events are becoming increasingly frequent and severe as climate change progresses, and this trend is expected to continue as climate change intensifies. (MILANEZ and FONSECA, 2010, p. 93 – free translation)

The acknowledgment that the impacts of climate change affect individuals disproportionately, combined with the unequal availability of resources and means of protection, has led to reflections on the issue of climate (in)justice. Although not fully established, the term 'climate justice' has been used both internationally and in Brazil. Its prominence increased significantly following its initial explicit inclusion in international negotiations, notably in the preamble of the Paris Agreement¹, regarded as one of the most emblematic documents on the subject.

According to Borràs (2017), the central idea behind the concept of climate justice appears to have been legally established a few years earlier, specifically during the United Nations Framework Convention² on Climate Change in 1992,

¹(...) Considering the importance of ensuring the integrity of all ecosystems, including the oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth, and recognizing the significance the concept of "climate justice" has for some people, when adopting measures to address climate change (...)". Available at: <https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2017/decreto/d9073.htm>. Accessed on February, 04, 2023.

²United Nations Framework Convention on Climate Change or UNFCCC.

when the principle of equity was incorporated into its text³. Although the document in question does not explicitly mention climate justice, the author highlights a significant connection between climate justice and equity. She stresses that the principle of equity involves considering individual characteristics and specific needs, particularly when correcting imbalances.

Justice is the goal to be achieved, equity is the means to advance precisely towards this goal, with climate justice as the ultimate target to be realized through the common goal outlined in Article 02 of the Convention, which is “to stabilize greenhouse gas concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system (BORRÀS, 2017, p. 106)⁴.

Many authors consider climate justice as a facet of environmental justice. However, it is seen as being more contemporary, since it facilitates the establishment of links between climate change and factors of social vulnerability, such as race and gender, as stressed by Scotti and Pereira (2022). This paradigm shift transforms climate change concerns into issues of social justice, acknowledging that the consequences of climate change can disproportionately affect individuals based on their economic status and their access or lack thereof to basic citizenship services like food, healthcare, education, and security. According to Robinson (2018):

[...] the fight against climate change is fundamentally about human rights and securing justice for those suffering from its impact—vulnerable countries and communities that are the least culpable for the problem. They must also be able to share the burdens and benefits of climate change fairly. I call it climate justice—putting people at the heart of the solution. (ROBINSON, 2018, p.10).

³Art. 3 1 - The Parties must protect the climate system for the benefit of present and future generations of humanity, based on equity and in accordance with their common but differentiated responsibilities and capacities. As a result, developed countries, as parties, should take the lead in combating combat climate change and its adverse effects. Decree N^o 2.652, dated JULY, 01, 1998, which promulgates the United Nations Framework Convention on Climate Change, signed in New York on May, 09, 1992. Available at <https://www.planalto.gov.br/ccivil_03/decreto/d2652.htm>. Accessed on April, 04, 2023.

⁴As written in the original: “La justicia es el objetivo a lograr, la equidad es el medio que permitiría eltransito justamente hacia este objetivo, con la justicia clima como fin último, mediante el logro del objetivo común, previsto en el artículo 02 de la Convención, de terrar “la estabilización de las concentciones de gases de efecto invernadero en la atmosfera a un nivel que imposida interferencias antropogénicas peligrosas para el sistema climático” (BORRÀS, 2017).

The same argument is endorsed by Pentinat and Pérez (2016), who stress that climate change should be assessed not only from a scientific and environmental perspective but also by taking into account its social impacts⁵. While recognizing that the term ‘climate justice’ is used in various ways by different parties, Jafry, Mikulewicz, and Helwig (2019) draw attention to a study conducted by the Center for Climate Justice at Glasgow Caledonian University, which identifies current approaches to climate justice. According to this study, climate justice encompasses:

- A vision to dissolve and alleviate the unequal burdens created by climate change.
- A commitment to address the disproportionate burden of the climate crisis on the poor and marginalized.
- The recognition that the most vulnerable are the most deserving.
- Triple inequality – responsibility, vulnerability and mitigation.
- Dismantling the fossil fuel corporate power structure.
- A commitment to reparation and fair distributions of the world’s wealth. A way to encapsulate the equity aspects of climate change.
- An effort to redress global warming by reducing disparities in development and power structures that drive climate change and continued injustice.
- A human rights-based approach to climate justice safeguarding the rights of the most vulnerable affected by climate change.
- Looking at environmental and human impacts of climate change through the lens of social justice, human rights and concern for indigenous peoples JAFRY, MIKULEWICZ and HELWIG (2019, p. 03).

Considering these perspectives, the climate justice movement primarily focuses on the pursuit of equity and justice in the face of the inequalities between the rich and the poor, which amplifies the negative impacts of climate change. In summary, proponents of this cause seek to address the socioeconomic disparities that worsen the climate crisis.

⁵As written in the original: “[...] el cambio climático no es sólo una cuestión científica o ambiental, sino una cuestión fundamentalmente social, con importantes repercusiones sobre los derechos humanos, la igualdad de género y el desarrollo” (PENTINAT and PÉREZ, 2016, p. 03).

Therefore, despite the literature and normative framework on climate justice being so recent, it is possible to say that "the climate emergency has multiple facets, scientific evidence, and facts proving how intersectional this topic is", as pointed out by Louback (2021 – free translation). Climate change requires a perspective that goes beyond the scientific dimension, including the study of its effects on human rights, given that its actions have conspicuously aggravated numerous vulnerabilities, as illustrated in a study featured in the 'New England Journal of Medicine'. This study underscores the negative consequences of climate injustice on human health, emphasizing that vulnerable communities and regions will be differentially affected because of their limited capacity to protect themselves⁶. It also highlights that the groups that have contributed less to consumption and, consequently, greenhouse gas emissions are the ones most impacted by this phenomenon. This reaffirms an inversely proportional relationship between responsibility for emissions and the risks of climate change. About to the influence of various intersectionalities and their connection with climate justice, Harlan (2015) asserts:

People of color, Indigenous peoples, and women are examples of social groups that are disproportionately vulnerable to the long-term effects of increased air pollution, extreme heat, drought, food and water shortages, infectious diseases, storms, and floods. They are more vulnerable to climate disruption due to discrimination, cultural expectations, and subordinate positions in social hierarchies. (HARLAN et al., 2015, p. 17).

According to Brand and Wissen (2018), "the imperial mode of living is the main reason why the capitalist core countries benefit from an unjust international order that guarantees them unlimited access to nature and labor power cheaper than that in the global North, on a world scale"⁷. Kaijser and Kronsell (2014) echo a

⁶As stated by the authors of this study: "Vulnerable populations and regions will be differentially affected, with expected increases in poverty and inequities as a consequence of climate change. Investments in and policies to promote proactive and effective adaptation and reductions in greenhouse-gas emissions (mitigation) would decrease the magnitude and pattern of health risks, particularly in the medium-to-long term." (HAINES and EBI, 2019, p. 03).

⁷The authors further explain: "It structures societal relations of production, consumption, class as well as gendered and racialized relations, the state and the dominant (international) division of labor." (BRAND and WISSEN, 2018, p. 154).

similar viewpoint, asserting that geographical and economic factors alone cannot adequately account for climate injustice. They contend that it is essential to integrate elements such as power imbalances to comprehensively understand how climate injustice is constructed. Hence, the present study is dedicated to examining climate justice through the perspective of gender vulnerability. The intersectionality experienced by this group justifies this choice.

Women, given the intricate array of factors influencing their lives, are frequently marginalized in decision-making. However, much like climate injustice, they are not exempt from the consequences and burdens that will affect their lives. The individuals who will bear the consequences of the climate crisis are primarily women, encompassing various dimensions such as race, class, sexual orientation, ethnicity, nationality, etc. The more intersections, the more injustice. (LIMA, 2021, p. 145 – free translation)

Additionally, this choice is grounded in the fact that this group constitutes one of the largest in terms of population size. In Brazil, according to the Brazilian Institute of Geography and Statistics, women make up 51.1% of the country's population, whereas men account for 48.9%. Focusing research on a specific group of vulnerable individuals can provide a deeper analysis of issues often overlooked when studying diverse groups together.

The relationship between climate change and gender vulnerability

The Fourth World Conference on Women, which took place in Beijing in 1995, marked a shift from using the term 'women' to 'gender'. This transition signified a move away from a narrow, biologically based perspective (sex) towards a more comprehensive recognition of the interactions between men and women, taking into account social and cultural factors.

According to Roy (2018), gender integration has been established as a crucial global strategy for eradicating inequality, particularly in addressing the disparate effects of climate change in the Global South⁸. According to Castro and Abromovay (2005), this approach centers on considering the experiences and

⁸In the author's words: "Since women in the global South are especially vulnerable, from the point of view of gender justice, adaptation resources should be channeled towards them. Women's full involvement in adaptation efforts is also essential to make sure they are effective." (ROY, 2018, p. 05).

integrating the actions of both men and women in policies and programs. Its objective is to recognize differences and similarities and to suggest specific measures to enhance participation, both in the formulation and the results of sustainable development.

The term 'gender' refers to societal patterns and power dynamics that result in the creation of discriminatory dynamics, often placing particular social groups, such as women and non-binary individuals, in more vulnerable and socially marginalized positions. However, in this study, the term will be used in a limited context, specifically focusing on the social group of 'women'. It is essential to highlight that this group is not viewed as homogeneous; instead, it comprises various dimensions stemming from the intersection of gender with other social markers of difference.

Gender vulnerability to climate change can be comprehended from various angles, encompassing biological, physiological, cultural, social, economic, and other dimensions. These multifaceted aspects render climate change a distinct threat to women. Even though gender equality is one of the most universally accepted democratic principles worldwide, as indicated by a 2015 Pew Research Center⁹ survey titled 'Strong global support for gender equality, especially among women', and despite ongoing efforts, true equality remains distant.

UN Women estimates that if we continue at the current rate, it could take as long as 286 years to remove discriminatory laws and close legal protection gaps. Achieving equal representation for women in positions of power and leadership in the workforce may take around 140 years. Additionally, it is projected to require at least 40 years to attain equal representation in national parliaments¹⁰.

There is a huge gender gap separating men and women. Women have a higher poverty rate than men. According to a study published by the United Nations

⁹Available at <<https://www.pewresearch.org/short-reads/2016/03/08/strong-global-support-for-gender-equality-especially-among-women/>>. Accessed on April, 23, 2023.

¹⁰Progress on the Sustainable Development Goals the Gender Snapshot 2022. Available at <https://www.unwomen.org/sites/default/files/2022-09/Progress-on-the-sustainable-development-goals-the-gender-snapshot-2022-en_0.pdf>. Accessed on April, 23, 2023.

Development Program in 2009, out of the 1.3 billion people living in conditions of poverty, 70% were women¹¹.

According to the findings of the report titled 'Education at a Glance, 2021'¹², despite women being more likely to attend higher education, they have fewer employment opportunities. In countries within the Organisation for Economic Co-operation and Development (OECD), the average employment rate for women with higher education (aged 25 to 34) in 2018 was 80%, whereas men in the same age group had a higher employment rate, reaching 87%.

In Brazil, inequality also persists. The employment rate for women stands at 77%, whereas for men, it's 85%. This discrepancy suggests that, despite their qualifications, women continue to experience discrimination in the job market. This inequality may stem from a patriarchal culture that disproportionately values the work done by men.

Another issue is the pay gap. According to data from the Brazilian Institute of Geography and Statistics, women in Brazil, on average, earn 20.5% less than their male counterparts in equivalent positions. However, this disparity increases significantly to 60% when comparing the earnings of a black woman to those of a white man. As noted by Arboleda (2020), it is crucial to comprehensively examine the interconnected dynamics of race, gender, and labor exploitation to completely understand their complexity, avoiding isolated or partial perspectives¹³. The pay gap reflects the enduring presence of a sexist and misogynistic culture in the labor market. It also highlights crucial social problems such as racism and access to fundamental rights like housing.

¹¹United Nations Development Programme, 2009, p. 47. Available at <<https://www.undp.org/sites/g/files/zskgke326/files/publications/Resource.pdf>>. Accessed on April, 10, 2023.

¹²Education at a Glance 2021: OECD Highlights for Brazil. Available at <https://download.inep.gov.br/acoes_internacionais/eag/apresentacao_2021.pdf>, p. 07. Accessed April, 08, 2023.

¹³ In the author's words: "Racial and gender domination should therefore not be understood as an expression of the territorial logic of state power, while labor exploitation is seen as the domain of capital accumulation. The two of them are already imbricated into the inner fabric of the real abstraction to such an extent that it does not make sense to consider them separate." (ARBOLEDA, 2020, p.97).

According to a study conducted by the João Pinheiro Foundation¹⁴ in 2019, 60% of the housing deficit in Brazil consisted of women living in inadequate housing conditions. These women were predominantly black and single mothers. Furthermore, it was noted that the rate of housing instability grew at a rate of 7% annually among women, whereas men experienced a much lower increase of only 1.5% per year. These data highlight that the housing problem in Brazil disproportionately affects women and is intrinsically linked to gender inequality and racism in the labor market. Women's lower income places them at greater risk of housing precarity, consequently increasing their vulnerability to environmental disasters such as landslides and floods. With lower incomes, access to secure housing becomes more challenging, thereby increasing the risk of life-threatening accidents.

According to studies conducted by the 'Mary Robinson Foundation - Climate Justice', women and children are 14 times more vulnerable to natural disasters than men¹⁵. In the international context, the correlation between gender and disasters is more apparent – for example, there are records indicating that women accounted for approximately 80% of the victims in the 2004 tsunami in Southeast Asia¹⁶.

In Brazil, the Digital Atlas of Disasters¹⁷, a digital tool that documents disaster occurrences and their consequences from 1991 to 2021, covers fifty-five distinct variables but does not incorporate data regarding the gender of

¹⁴Déficit Habitacional e Inadequação de Moradias no Brasil: Principais Resultados para o Período de 2016 a 2019. Available at <https://fjp.mg.gov.br/wp-content/uploads/2020/12/04.03_Cartilha_DH_compressed.pdf>. Accessed on April, 21, 2023.

¹⁵In the study's words: "During natural disasters, women and children are 14 times more likely to die than men." (Women's Participation an Enabler of Climate Justice, First edition: November 2015). Available at <https://www.mrfcj.org/wp-content/uploads/2015/11/MRFCJ_-_Womens-Participation-An-Enabler-of-Climate-Justice_2015.pdf>. Accessed on April, 14, 2023.

¹⁶As written in the Oxfam Briefing Note: "In the four villages surveyed by Oxfam in the Aceh Besar district, of 676 survivors only 189 were female. Male survivors outnumbered women survivors by a ratio of almost 3:1. In the four villages in North Aceh district, out of 366 deaths, 284 were female: females accounted for 77 percent (more than three-quarters) of deaths in these villages. In the worst affected village, Kuala Cangkoy, for every male who died, four females died — or in other words, 80 percent of deaths were female. (The Tsunami's Impact on Women, Oxfam Briefing Note. March 2005, p. 04). Available at <<https://oxfamilibrary.openrepository.com/bitstream/handle/10546/115038/bn-tsunami-impact-on-women-250305-en.pdf>>. Accessed on April, 17, 2023.

¹⁷Digital Atlas of Disasters in Brazil. Available at <<http://atlasdigital.mdr.gov.br/>>. Accessed on February, 28, 2023.

the victims. The Manual on the Management of Dead Bodies after Disasters¹⁸, published by the Pan American Health Organization (PAHO), however, recommends the inclusion of gender as a relevant piece of information to be gathered in disaster scenarios.

Disasters also have a significant impact on critical service infrastructure, including healthcare, education, access to clean water, and security, among others. This frequently results in an added responsibility for domestic tasks falling on women, as they might temporarily lose access to support networks like childcare facilities and schools. Additionally, women may be compelled to travel to more remote areas to access essential services such as healthcare.

According to the data presented in the Digital Atlas of Disasters in Brazil¹⁹, spanning from 1991 to 2022, a total of 62,274 disasters were documented in Brazilian municipalities, impacting healthcare and educational facilities. The following information was compiled (Table 01):

Table 01. Damages and losses in the Support Network - Disasters Brazil - 1991 - 2022

	Healthcare	Education
Destroyed Equipment	1.091	2.766
Damaged Equipment	23.898	73.806

Source: Organized by the author using data provided in the Digital Atlas of Disasters in Brazil, covering the period from January 7, 1991, to December 30, 2022. Available at <<http://atlasdigital.mdr.gov.br/>>.

This situation places an extra burden of domestic work on women, particularly when it comes to caring for dependents like children and the elderly. This responsibility adds to the existing one, as pointed out by the Brazilian Institute of Geography and Statistics²⁰ in 2019. During that year, Brazilian women spent an average of 10.4 hours more per week than men on household chores and caregiving

¹⁸Management of Dead Bodies After Disasters: Field Manual for First Responders. Second edition (revised). Washington, D.C., USA: PAHO, 2016. Available at <https://www.paho.org/disasters/dmdocuments/Management-of-dead-bodies_Por_2016.pdf>. Accessed on April, 22, 2023.

¹⁹Digital Atlas of Disasters in Brazil. Available at <<http://atlasdigital.mdr.gov.br/>> Accessed October, 03, 2023.

²⁰Brazilian Institute of Geography and Statistics. Available at <<https://agenciadenoticias.ibge.gov.br/agencia-sala-de-imprensa/2013-agencia-de-noticias/releases/27877-em-media-mulheres-dedicam-10-4-horas-por-semana-a-mais-que-os-homens-aos-afazeres-domesticos-ou-ao-cuidado-de-pessoas>>. Accessed on April, 19, 2023.

responsibilities. It is worth mentioning that this study was conducted before the pandemic, which might have exacerbated this situation.

Furthermore, there are numerous other factors to consider, including biological variances and social as well as cultural conventions.

From a conceptual perspective, it seems most fruitful to distinguish between three main causes for gender differences in mortality vulnerability to natural disasters: First, biological and physiological differences between men and women may at times disadvantage women in their immediate response to the disaster. Second, social norms and role behavior may lead to a behavior of women, which increases their vulnerability in the immediate course of the disaster. And third, disasters may lead to shortage of resources of basic need as well as a temporary breakdown of social order, in which case the competition between individuals becomes fiercer and existing forms of gender discrimination become exacerbated and new forms of discrimination can emerge. (NEUMAYER and PLÜMPER, 2007, p. 553).

Although the data presented may not cover all aspects, it does help illustrate that women constitute the most vulnerable group in the context of climate change due to various social, cultural, and economic factors that have contributed to this situation. Nonetheless, even though women are affected by climate change, their participation in the climate agenda remains marginalized. Men still dominate most of the decision-making spaces addressing climate change. This underscores an imbalance of power and an unequal power structure. Even though women comprise half of the world's population and endure substantial consequences from global warming, they do not enjoy proportional representation in the key decision-making arenas dealing with this matter. Additionally, they are frequently excluded from forums where potential solutions are discussed and crafted, such as Climate Conferences (COPs).

According to the UN Women's Report released in 2020, 67% of decision-making positions related to climate change are held by men²¹. During COP27, held in Egypt in 2022, women made up less than 34% of the delegations from the

²¹Available at <<http://www.onumulheres.org.br/noticias/espaco-de-lideranca-para-as-mulheres/>>. Accessed on April, 20, 2023.

participating countries²². This means that climate policy, to a significant extent, has been shaped by men, highlighting a significant paradox.

In the global political arena, an analysis conducted by the Pew Research Center has shown that fewer than one-third of the UN member countries have ever had a female leader²³. Regrettably, this pattern is not limited to the international stage. Even though women make up 52.50% of the Brazilian electorate, and there are gender quotas²⁴ in place, the Brazilian Congress remains predominantly male. At present, women occupy only 18% of the seats in the Chamber of Deputies, and a mere 15% represent the interests of states in the Federal Senate²⁵. This situation also persists at the local level, with only 16% of seats in municipal legislatures being occupied by women in the last elections²⁶. In the executive branch, out of the 5,568 municipalities in Brazil, only 663 are governed by women, accounting for just 12%. Moreover, only two Brazilian states, Pernambuco and Rio Grande do Norte, have women as heads of the executive, representing a mere 7% proportionally²⁷.

If the percentage of women in the Brazilian political landscape is already low, the situation is even more alarming for black women. Despite 27% of the female population identifying as black, according to the Continuous National Household Sample Survey conducted by the Brazilian Institute of Geography and Statistics, they make up only 02% of the National Congress. This predominantly homogeneous setting, primarily composed of white men, is responsible for governing and legislating on a wide range of issues, including those related to climate change. This helps explain why the approach to these issues often overlooks women's vulnerability and neglects the goals and commitments of the Paris Agreement.

The subordinate roles assigned to women in positions of power confirm that the degradation of natural resources is inherently connected to the way these

22COP27: Onde Estão as Mulheres nas Delegações Oficiais da Conferência do Clima? Available at <<https://www.bbc.com/portuguese/internacional-63651665>>. Accessed on April, 22, 2023.

²³Available at <<https://www.pewresearch.org/short-reads/2023/03/28/women-leaders-around-the-world/>>. Accessed on April, 22, 2023.

²⁴Federal Law 9.504/1997.

²⁵Available at TSE Mulheres. <<https://www.justicaeleitoral.jus.br/tse-mulheres/>>. Accessed on April, 18, 2023.

²⁶Available at <<https://www.justicaeleitoral.jus.br/tse-mulheres/#historia>>. Accessed on April, 21, 2023.

²⁷ Idem.

power dynamics are organized. “Social hierarchies along class and race were stabilized through uneven access to the means of living, a predominant understanding of well-being that focused on income and (status) consumption as well as respective subjectivities and criteria of ‘success’ (BRAND and WISSEN, 2018, p. 16).

According to Sanchez (2021), a study conducted by the Pew Research Center in 2016 in the United States reinforces the notion that women in positions of power often give priority to agendas concerning the environment and the preservation of natural resources. This underscores that the inclusion of gender considerations in climate change policies is not solely a response to the impacts experienced by women but also stems from the contributions made by women to the issue. With respect to women's relevance, the study conducted by the Women's Environmental Network (2010) states that “[c]hanging existing structures and developing the capacity of women to allow their equal participation in decision-making doubles our chances of finding effective solutions. Indeed, climate justice will not be achieved without doing so” (GENDER AND THE CLIMATE CHANGE AGENDA, 2010, p. 62). To accomplish this goal, the study emphasizes the importance of identifying initiatives that tackle climate change while also addressing the injustices inherent in the current system.

As highlighted by Dankelman (2010), the incorporation of gender considerations into climate-related matters is steadily gaining prominence on the international stage. According to Raczek, Blomstrom, and Owren (2010), this integration is advancing and gaining ground at the intersection of two established regimes: the environmental regime and the human rights regime. However, is Brazil's legislative production keeping pace with this evolving trend? Has the gender perspective been taken into account in climate policy? Have the positions of power held by women in state legislatures been sufficient to promote climate policy sensitive to gender issues? These are some of the questions that will be examined in the following section.

The analysis of state climate policy from a gender perspective

Countries around the world, including Brazil, have implemented laws and policies that address climate change. In the case of Brazil, there is the National Policy

on Climate Change (Law N^o 12,187, dated December 29, 2009), which was regulated by Federal Decree N^o 7,390 on December 09, 2010. The principles, objectives, instruments, and guidelines outlined in this policy were designed to encourage policies and initiatives that steer the actions of all three levels of government (federal, state, and municipal) regarding the effects of global climate change and Brazil's commitments in international conventions.

The requirement for adaptation measures to be implemented at the three levels of government is expressed in Articles 3rd, V and 4th, V of Law 12,187/2009, with the latter provision regulating:

Article 4th of the National Policy on Climate Change – PNMC – will seek to: V – implement measures that facilitate adaptation to climate change across the 03 (three) levels of government, with the participation and collaboration of interested or beneficiary economic and social agents, especially those particularly vulnerable to its adverse effects. (free translation)

Therefore, to contribute to the success of the plan and accomplish its established objectives, the law authorizes federal, state, and municipal governments to implement both mitigation and adaptation measures, thereby empowering states and municipalities to take a central role in addressing these challenges. Furthermore, Article 4th underscores the significance of crafting this policy in collaboration with the most vulnerable groups, including those who are most impacted by these changes, such as women, for the reasons previously discussed.

Hence, while we acknowledge that enacting rights through legislation alone may not be sufficient to guarantee women's climate protection, we also recognize that legal instruments cannot be separated from the society they are rooted in, and even less so from the aspirations of these women.

[...] Establishing a legal framework is necessary because the law serves the purpose of providing stability through normativity, not only to prevent disadvantageous situations but also to facilitate coordinated responses and mitigation efforts. In essence, when there is instability, it falls upon the law to establish security and balance through regulation. (MANTELLI, et. al, 2015, p. 133 – free translation).

To evaluate how Brazilian states have approached their climate change policies and whether they have considered vulnerable groups, particularly women, we analyzed the legislation in these federative entities. This research involved three primary phases. First, we identified the existence of specific legislation aimed at addressing climate change. Second, we analyzed whether these laws considered the perspective of women. Third, we sought to understand the gender makeup of the legislative assemblies at the time these laws were enacted.

Concerning the first phase, this study revealed that 23 out of the 27 Brazilian states have enacted specific legislation related to climate change. In the states of Sergipe, Alagoas, Rio Grande do Norte, and Roraima, no state laws dealing with climate change were identified. In these states, some initiatives in the realm of climate change were identified. Sergipe, for example, lacks specific climate change policy legislation. While the state has addressed desertification through Law 8,785/2020, this law was excluded from the study because it deals exclusively with one climate change consequence, unlike the other laws that provide measures, strategies, and guidelines for managing and reducing climate risks. In Alagoas, a 2021 bill declaring a state of climate emergency was found. The State of Rio Grande do Norte implemented the State Policy for Living with the Semi-Arid in 2021. On the other hand, in Roraima, no legislation related to or addressing climate change was found.

Of the four states lacking specific legislation to address climate change, three are situated in the Northeast region of Brazil. This region, comprising nine states, is considered the most susceptible to the impacts of climate change, as emphasized by Marengo (2008). Our finding shows that one-third of the states in this region appear to be neglecting climate change and its potential impacts.

The first federal-level climate change legislation was enacted in the Federal District in 2008, preceding the National Policy on Climate Change. Conversely, the most recent law was enacted in the state of Maranhão, dated November 01, 2021. This study reveals that most state laws, a total of 15 of them, were enacted even before the signing of the Paris Agreement. This suggests that states were already addressing this issue before it gained significant prominence within this international instrument.

Nevertheless, the analysis also indicates that the Paris Agreement failed to motivate all states to prioritize this issue. This is evident as, over eight years after the agreement's signing, four Brazilian states still have not implemented legislation related to this subject.

In the second phase of the research, we evaluated to what degree the gender perspective is integrated into climate change policies. To assess the extent to which these state laws correspond with the Paris Agreement from a gender perspective, this study examined whether these laws include the keywords 'gender', 'women', and 'vulnerable' in their content. These terms were selected to include both traditional and more contemporary expressions, recognizing that the approach to these issues can differ based on the context and the ideologies of the legislators. Thus, using the compilation of these terms, Table 02 was generated.

Table 02 reveals that the term 'women' is found only in the legislation that establishes the State Policy on Climate Change of the State of Pará (PEMC/PA) – Law 9.048/2020. This law includes three provisions that reference this terminology²⁸. Article 3rd, XXI²⁹ defines the term 'safeguard', which includes the protection and mitigation of climate impacts for women. Article 5, XI³⁰ establishes one of the law's objectives as the implementation of specific mitigation and adaptation measures for women in response to climate change. Additionally, Article 16, II³¹ emphasizes that the establishment of a permanent civil defense and assistance program for the population should prioritize women, aligning with the international provision. Moreover, the legislation of the State of Pará also employs the term 'gender' on two

²⁸Art. 3rd, XXI, Art. 5th XI and Art. 16, II.

²⁹Article 3, XXI – Safeguard – measures to anticipate, minimize, mitigate, or address adverse impacts associated with climate change mitigation and adaptation actions, especially impacts on indigenous peoples, quilombolas, traditional peoples and communities, youth, and women.

³⁰Article 5, XXI - XI – to design, implement, monitor, and evaluate measures for climate change mitigation and adaptation, considering their impact on Human Rights, particularly those of women, children, indigenous people, quilombolas, traditional peoples and communities, and other vulnerable groups, respecting their traditions and the right to self-determination, in order to ensure climate justice.

³¹Article N° 16 II - preparation of contingency plans and specific Civil Defense guides for the most critical areas identified in the risk and vulnerability maps, with special attention to the specific needs of women and girls.

occasions when referencing the guidelines of climate policy. – Art. 04, XVI³², XVII³³. Section VI³⁴ of this same article mentions vulnerable individuals in a general manner without providing a definition or specification. However, throughout the text, the legislator further elaborates on this concern by specifically referring to the protection of groups such as children, quilombolas, and indigenous peoples. This consideration for the inclusion of vulnerable groups is evident in the initial legislation from 2020 and is further underscored by the amendment made to the legislation in 2022, demonstrating a strong alignment with the principles of the Paris Agreement.

On the other hand, the other laws (22) that establish state-level climate change policies do not incorporate the terms ‘gender’ and ‘women’. This includes laws created after Brazil ratified the Paris Agreement on September 12, 2016, such as the regulations in Mato Grosso, Ceará, and Rondônia. This suggests a lack of alignment of state policies with international guidelines.

As for the term ‘vulnerable’, it is found in the legislation of 11 other states, in addition to Pará. These states are Paraná, São Paulo, Rio de Janeiro, Espírito Santo, Mato Grosso do Sul, Mato Grosso, Bahia, Piauí, Ceará, Paraíba, and Pernambuco. Additionally, it is worth noting that 11 state laws do not include any of the selected terms. Not even the term ‘vulnerable’, which has a broader interpretation, encompassing a more diverse and larger group than what is implied by the words ‘gender’ and ‘women’, is included in these laws.

The neglect of the gender perspective following the Paris Agreement's guidelines is apparent not only in laws enacted before the agreement's ratification, such as those of Tocantins and the Federal District in 2008, but also in more recent laws, like those of Rondônia (2018) and Maranhão (2021). This suggests that, in

³²Article Nº 04, XVI - implementation of actions that promote gender equity and the participation of young people in the processes of implementing this Policy, with the adoption of measures and tools for monitoring and evaluating progress achieved at different levels.

³³Art. 04º, XVII - participation of the Public Authority and the entire community in national and international discussions of relevance on the subject of climate change and adaptation, ensuring the participation of all genders, vulnerable individuals, indigenous peoples, quilombolas, traditional peoples and communities, and young leaders in governance, decision-making processes, and the implementation of the State Policy on Climate Change in Pará.

³⁴Art. 04, VI - creation of public policies that consider the interests and needs of groups vulnerable to the effects of climate change.

general, most laws, whether enacted before or after the Paris Agreement, do not comprehensively address this issue.

Table 02. Climate legislation of Brazilian states and legislative composition

Region	State	Law Number/ Year	Gender	Women	Vulnerable	% of Women in the Legislative Assembly
South	Rio Grande do Sul	13.594/2010	0	0	0	9,09
South	Catarina	14.829/2009	0	0	0	7,5 / 7,5
South	Paraná	17.133/2012	0	0	01	7,4
Southeast	São Paulo	13.798/2009	0	0	02	11,7
Southeast	Rio de Janeiro	5.690/2010; 9.072/2020	0	0	01; 0	2010 (14,28%) 2020 (17,1%)
Southeast	Minas Gerais	45.229/2009	0	0	0	7,92
Southeast	Espírito Santo	9.531/2010	0	0	02	6,60
Central- West	Mato Grosso do Sul	4.555/2014	0	0	02	8,33
Central- West	Goiás	16.611/2009	0	0	0	17,07
Central- West	Mato Grosso	582/2017	0	0	01	4,16
North	Tocantins	1.917/2008	0	0	0	12,5
North	Rondônia	4.437/2018	0	0	0	8,33
North	Amazonas	4.266/2015	0	0	0	4,16
Central- West	Federal District	4.797/2012	0	0	0	16,70
North	Acre	2.308/2010; 3.880/2021	0	0	0	20,83% (2010) / 12,5% (2021)
North	Amapá	1.491/2010	0	0	0	12,5
Northeast	Bahia	12.050/2011	0	0	02	12,70
Northeast	Piauí	6.140 /2011	0	0	03	23,30
Northeast	Ceará	16.146/2016	0	0	01	15,21
Northeast	Paraíba	9.336/2011	0	0	01	16,70
Northeast	Pernambuco	14.090/2010	0	0	02	12,24
North	Pará	9.048/2020; 9.781/2022	2	3	01	24,40
Northeast	Maranhão	11.578/2021	0	0	0	19,04
Northeast	Sergipe	No				
Northeast	Alagoas	No				
Northeast	Rio Grande do Norte	No				
North	Roraima	No				

Source: Elaborated by the author.

Note: The table provides data obtained from the examination of (i) state laws concerning climate change and (ii) the percentage of women in the makeup of the state legislature when these laws were enacted.

The absence of these terms in Maranhão's legislation is particularly notable, especially considering it is one of the most recent state laws and had the opportunity to learn from other states' experiences. However, it is worth acknowledging that

although the legislation of Maranhão did not specifically tackle the issue of gender and did not employ the terms ‘women’ or ‘vulnerable’, it did reference indigenous peoples and traditional communities, addressing important vulnerable groups. The same is observed in the laws of Acre and Rondônia, both of which mention indigenous peoples.

It is believed that several factors could explain the absence of references to gender policy in state climate policies. One of these factors is the predominantly male composition of legislative bodies. As part of the third phase of this study, research was conducted to determine the gender composition of the state legislatures at the time when the identified laws were enacted. The research did not consider ideologies or party affiliations, concentrating solely on the percentage of women who held seats in the state legislative assemblies with valid mandates at the time the state laws concerning climate change were approved.

The survey revealed that Pará had the highest female representation in the state’s legislative assembly during the year when its climate change legislation was enacted. In this state, the terms ‘women’ and ‘gender’ are notably more prevalent compared to laws in other states. In Pará, female representation stood at 24,4%, which translates to ten out of the 41 seats in the legislature being held by women. This stands in contrast to the low female representation in other states, such as Mato Grosso, at 4.16%, and Santa Catarina, at 7.5%.

The second-largest women's legislative bloc at the time when the climate change law was enacted is Piauí, with 23.3% of women during the 16th legislative term. Even though the climate legislation of Piauí does not incorporate the terms ‘women’ and ‘gender’ in its text, it does mention the word ‘vulnerable’ on three occasions. Notably, this legislation was ahead of the discussions within the Paris Agreement, as it was enacted six years before the agreement's ratification.

The link between legislation and the composition of the legislature can suggest a correlation between the representation of women in decision-making positions and the incorporation of gender-related concerns in climate-related discussions. At the time when the law in question was enacted, only one of the states, Rio Grande do Sul, was governed by a woman. The law of Rio Grande do Sul, however, does not incorporate the terms we examined. This indicates that having a female governor in charge of the state's executive branch may not

guarantee the inclusion of the gender perspective in climate change-related laws. Moreover, the limited representation of women in the Rio Grande do Sul legislative assembly, which was only 9% at the time the law was passed, may have played a role in this omission.

This predominantly male setting often leads to climate policies lacking a gender perspective and failing to align with the Paris Agreement's guidelines. Consequently, climate policies frequently do not address the needs of one of the most vulnerable groups to climate change, which is women. Another significant point to consider is that even after the adoption of the Paris Agreement, states with pre-existing climate legislation did not undertake revisions or updates to their texts. This might suggest a degree of complacency or perhaps the misconception that existing laws already address the essential and prioritized requirements, which could be a mistake.

It is also important to note that the fact that only one state law created after the Paris Agreement was ratified explicitly incorporated gender considerations into climate legislation suggests a lack of adherence to the agreement's principles. The international instrument, while not specifying specific measures for climate adaptation and mitigation, underscores the importance of considering the gender perspective. This highlights a lack of alignment between the international agreement and Brazilian local legislation.

The lack of updates to regulations before 2015 and the failure of recent regulations to align with the Paris Agreement's principles may be connected to the National Policy on Climate Change, which has retained the same wording since 2009. As a result, the policy has yet to incorporate a gender perspective.

While gender is not the sole significant factor, the presence of women in the legislature can make a substantial difference. This is due to the legislative agenda being reframed through a gender perspective, thereby facilitating the creation of public policies in this realm, designed by women and tailored to address the specific needs of women. According to Mavisakalyan and Tarverdi (2019), a politician's gender identity can indeed have implications for policy outcomes. This insight sheds light on why parliaments with a greater representation of women tend to exhibit a stronger focus on environmental and gender-related issues, in contrast to spaces where women are underrepresented, as previously mentioned.

According to a study conducted by Grangeiro (2020), female legislators in Brazil approved three times more bills than their male counterparts between 2015 and 2019 in the Chamber of Deputies. The vast majority of laws concerning fundamental rights, social matters, economic issues, and caregiving responsibilities that were enacted in this House were authored by women. This could signify a higher degree of openness among female legislators to tackle sensitive issues. Indeed, Mavisakalyan and Tarverdi (2019) suggest that “[g]ender differences in attitudes towards climate change identified in the general public suggest that females have greater awareness and concern about climate change than males” (MAVISAKALYAN and TARVERDI, 2019, p. 01)³⁵. They also emphasize that the more women there are in national parliaments, the stricter climate-related policies tend to be³⁶.

This study highlights that in the regulation of state climate policies, state legislatures have overlooked the incorporation of a gender perspective. Women, who face distinctive vulnerabilities and require protection, are not addressed in state laws, intensifying their level of vulnerability, particularly given their lack of representation. Therefore, it is essential not only to tackle the social, economic, and cultural disparities impacting women but also to guarantee that positions of power, including legislative roles, are held by individuals who understand women's needs and are dedicated to advancing the gender agenda.

Conclusion

Various studies show that multiple vulnerabilities intensify the impacts of climate change, creating a scenario in which the most vulnerable population, despite bearing less responsibility for causing climate change, is the most affected by its consequences. Power dynamics that influence interactions between men and

³⁵Article in *European Journal of Political Economy* · August 2018, p. 01. Available at <https://www.researchgate.net/publication/326833301_Gender_and_climate_change_Do_female_parliamentarians_make_difference/link/5bc6eca7299bf17a1c561af3/download>. Accessed on April, 22, 2023.

³⁶In the authors' words: “Our results confirm that this is the case: female representation in national parliaments leads to more stringent climate change policies across countries, and by doing so, it results in lower carbon dioxide emissions” (MAVISAKALYAN and TARVERDI, 2018, p. 16. Available at <https://www.researchgate.net/publication/326833301_Gender_and_climate_change_Do_female_parliamentarians_make_difference/link/5bc6eca7299bf17a1c561af3/download>. Accessed on April, 22, 2023.

women contribute to vulnerability by affecting factors such as labor market access, wage equality, caregiving responsibilities, and participation in climate change forums.

The study emphasized that women face higher vulnerability to climate change risks, primarily due to deeply rooted political, historical, and cultural factors ingrained in the social fabric. These factors have historically relegated women to secondary roles, often within the domestic sphere, with expectations of obedience and significantly lower wages compared to men. This situation hinders women's access to spaces of power where these issues are formulated, discussed, and their guidelines are outlined. So, while women face more climate vulnerabilities than men, it is mostly men who continue to devise solutions for climate risks without considering gender-specific needs.

This study found that, even though 85% of Brazilian states have enacted climate change laws, most of these laws do not take gender vulnerability into account. In essence, these laws do not comply with the Paris Agreement's guidelines and do not recognize women's vulnerability to climate issues, ultimately perpetuating climate injustice.

Pará stands out as the sole state with climate change legislation that incorporates gender policies. The distinctiveness of Pará's legislation may be attributed to more recent discussions, as this legislation remains up to date. Furthermore, the makeup of Pará's legislature distinguishes itself from other surveyed states, with approximately 25% of elected positions being held by women.

The fact that only one Brazilian state explicitly aligns with the guidelines of the most important international climate instrument has several negative consequences. It suggests the failure to incorporate crucial directives from the Paris Agreement and underscores the weakness in constructing a united and resilient approach to addressing climate change. Moreover, this situation further exposes women to vulnerability and makes them subject to decisions primarily shaped by individuals who do not experience the same challenges and do not have the same concerns. This pattern is also mirrored in municipal laws.

These positions need to be occupied by women who bring non-androcentric perspectives and a strong commitment to advancing gender policies that extend

beyond mere legislative text and have a comprehensive influence on public policies. Ultimately, a law remains ineffective without effective implementation.

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