

# Sociopolitical categories of climate ethics: the Municipal Plan for Urban Afforestation (São Paulo)

Categorias sociopolíticas da ética climática:  
Plano Municipal de Arborização Urbana (São Paulo)

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## Abstract

This article aims to understand the dispute between different worldviews through the analysis of proposals for the socioenvironmental reordering of a mega-metropolis. Ecocentric and anthropocentric moralities coexist in the structure of the political instrument developed to face the climate crisis: the Municipal Plan for the Urban Afforestation of the City of São Paulo – PMAU (2019-2020). The theory of contemporary convivialism was used to polish categories emerging from the field of climate ethics: decision-making pluralism, planned naturalness, and temporal benefit. The result indicates that the structural content of the PMAU is still fragile to face the climate crisis. However, we highlight the importance of including the climate ethics dimension for the evaluation and effective formulation of public instruments to mitigate climate change in cosmopolitan regions.

**Keywords:** PMAU; climate ethics; political ecology; sociological categories; climate crisis.

## Resumo

*Este artigo busca compreender a disputa entre diferentes visões de mundo por meio da análise das propostas de reordenamento socioambiental formulado para uma megametrópole. Moralidades ecocêntricas e antropocêntricas coexistem na estrutura do instrumento político de enfrentamento da emergência climática: Plano Municipal de Arborização Urbana da Cidade de São Paulo – Pmau (2019-2020). A perspectiva da teoria do convívio contemporâneo foi utilizada para lapidar as emergentes categorias do campo da ética climática: pluralidade decisória, naturalidade planejada e benefício temporal. O resultado demonstra que o conteúdo estrutural do Pmau ainda é frágil para o enfrentamento da emergência climática. Todavia, ressalta-se a relevância da inclusão da dimensão ética climática na avaliação e formulação eficaz de instrumentos públicos de mitigação das mudanças climáticas para regiões cosmopolitas.*

**Palavras-chave:** Pmau; ética climática; ecologia política; categorias sociológicas; emergência climática.



## Introduction

In the age of the Capitalocene (Haraway, 2016), addressing the climate emergency demands pragmatic and emergent actions (Stengers, 2015; Caillé, Vandenbergh, and Véran, 2016; Ferreira, Panazzolo, and Köhler, 2020) that include other non-human agents (Haraway, 2016; Latour, 2020) and vulnerable communities in decision-making processes. The empirical-theoretical focus of this article is on the intersection between political instruments addressing the climate emergency in São Paulo City and the ethical dimension in its climatic facet.<sup>1</sup> This dimension encompasses socio-environmental moralities that are observable in praxis. The empirical object of this study is the Municipal Urban Forest Plan (Plano Municipal de Arborização Urbana- Pmau), a framework designed to structure the planning and management of urban afforestation in the city of São Paulo, with the aim of enhancing the city's resilience to the effects of climate change (SVMA, 2019).

The article is organized into two main sections, in addition to the introduction and conclusion. The first section discusses the conceptual differences between climate ethics and socio-environmental moralities from the perspective of convivialism.<sup>2</sup> The second section presents the analytical categories related to socio-ecological moralities, especially those related to climate moralities, within this emerging socio-climatic ethics. Subsequently, an analysis is conducted to examine the relationship between such moral practices and the structures employed by the creators of this public policy. The findings are part of the

research project stage<sup>3</sup> on policy instruments for decarbonization<sup>4</sup> formulated, in Brazil, as of 2019, following the publication of the IPCC SR1.5 report (2018).<sup>5</sup>

## Methodology and justification

The analytical categories were thought based on the concept of climate ethics. The research methodology involved systematic review,<sup>6</sup> category modeling, and content analysis (Bardin, 2008). The data collection process focused on the documents pertaining to São Paulo's Municipal Urban Forest Plan (SVMA, 2019) produced between 2019 and 2020. The content analysis aimed to capture the tension between conflicting and cooperative dynamics of worldviews, which were conceptualized as competing ethical frameworks. Another analytical dimension focused on identifying units of analysis associated with mediation and negotiation processes and relations which have the potential to mitigate socio-ecological inequities. Despite the tensions and conflicts identified within the decarbonization instruments, Pmau *Final Report* (ibid., 2019), reveals the outcome of such an ethical-political dispute. The analysis seeks to observe and identify seemingly contradictory notions such as territory appropriation and the freedom of decision-making for communities impacted by the contents of these decarbonization instruments (e.g. Pmau). In order to assess the analysis, the robustness level was examined, indicating the extent to which each category aligns with the content of the analyzed instrument (Chart 1).

Chart 1 – Level of the analytical categories (socio-climatic moralities)

Analytical category	Level	Criterion
Decision-making plurality	Weak	One or two entities in the composition of the teams, or members formulating the decarbonization instruments
	Medium	Three to five participating entities from different interest groups
	High	> Five participants
Naturalidade planejada	Weak	A reclaimed and/or expanded natural area. Focus on fauna or flora
	Medium	More than two areas recovered or expanded and interconnected as new urban ecological corridors
	High	Systemic (Re)planning between humans and non-humans, with integration between peripheral areas and native forests
Benefício temporal	Weak	< One year for generating socio-environmental benefits
	Medium	One to two years
	High	> Four years

Source: author.

This study is grounded in the acknowledgment made by Di Giulio et al. (2018) that the discourse surrounding climate change, particularly in the context of São Paulo city, often remains obscured beneath terms such as "sustainable development" and "green economy" (Torres et al., 2020). Therefore, this research seeks to unveil ethical contents from a sociological perspective, which are embedded within the layers of narrative and symbolism that are interpretive. To achieve this, critical interpretive methods are employed due to its capacity to expose empirical materialities.

There is still an emerging demand for studies addressing urban territorial order and climate changes. A recent study analyzed 27 Municipal Master Plans and concluded that "cities need to face this current environmental problem [...] and the master plans" planning issues (Espíndola e Ribeiro, 2020, p. 369).

Brandão (2019, p.45), examining climate change from a sociological perspective, concludes that it "still occupies a small space in the broader climate change research agenda." Other Brazilian researchers, "citing a study conducted by Dunlap and Brulle (2015, p. 7), point[s] out that estimates indicate that only 3% of publications dealing with global environmental change have had the participation of sociologists" (Fleury, Miguel and Taddei, 2019, p. 24).

This study aims to contribute to addressing this gap in research by incorporating a social science approach, particularly moral sociology, political philosophy and its intersection with political science, and the sociology of climate issue, in the debate surrounding climate change policies.

More than employing a sociological analysis based on theoretical frameworks from environmental and climate sociology,

the present work has an interdisciplinary approach that establishes connections with the Humanities. It aims to present an original theoretical and methodological instrument, capable of materializing the inseparable nexus between the ethical and political dimensions and of evaluating climate instruments in the Brazilian political context. Some categories of the *Planb Index* (Salmi, 2023) analytical tool are employed here in order to evaluate the Pmau in the context of formulating policies addressing the climate emergency, with a specific focus on urban environments that hold mega diversity, such as the megacity of São Paulo, the empirical object of this work.

## Climate ethics, social and environmental justice, and distributive egalitarianism

We need to decide how to distribute the costs of climate change in a way that recognises a host of issues about the fairness, efficiency and effectiveness of different courses of action. (Moss, 2009, p. 11)

In this section, an examination of the theoretical landscape is presented, exploring the intersection between emerging climate ethics (Brooks, 2020; Felt et al., 2017; Gardiner, 2017; Grosz, 2017) and policy formulation processes aimed at addressing the crisis, with a specific focus on components that contribute to mitigating socio-environmental inequalities. The emerging climate ethics is based on principles of socio-environmental justice and equity (Heath, 2016; Brooks, 2020).

Such principles seek to mitigate and/or adapt to socio-environmental impacts resulting from anthropogenic activities (IPCC, 2018).

Some authors point out that “the development of science with the lack of ethical reflections ends in barbarized, brutal forms of knowledge technologies” (Chargaff apud Bruckmeier, 2019, p. 81). Without including the ethical dimension and its pragmatic moralities, the phenomenon of climate emergence will continue to be approached through moral practices grounded in an ‘anthropocentric urban-industrial-capitalist ethics’ (Bringel and Pleyers, 2020; Florit, 2017; Haraway, 2016; Moss, 2009). A new global ethics is one of the emerging demands within the context of climate change, which include principles such as equitable distribution. This implies, for example, the formulation of such mechanisms guided by moral rules of compensation from the wealthiest to the most vulnerable (Singer, 2010).

Since ethics is an abstract concept, as are justice and equity (Ricoeur, 1992), before entering the discussion of climate ethics, it is important to point out a conceptual difference regarding the notions of ethics and morals. Ethics is to the philosophical field, just as morality is to lived praxis (Boltanski and Thévenot, 2006; Florit, 2019; Ricoeur, 1992). From this standpoint, ethics is understood as a set of principles, axioms, or horizons, and can also be regarded as a worldview. Morality, on the other hand, can be comprehended as the application of ethics, possessing a normative character, operationalized by rules, norms, or laws. These authors present ethics as a field that endeavors to reflect upon equitable social relations within just institutions.<sup>7</sup>

Thus, climate ethics is directly associated with just institutions, which operationalize practices and formulate policies and, consequently, contribute to social and environmental justice. However, the conceptualization of just institution (Ricoeur, 1992; Boltanski and Thévenot, 2006; Pettit, 2014; Forst, 2016; Brooks, 2020) encompasses broad interpretations and is addressed by various areas of the human sciences, from political philosophy to moral sociology (Vandenberghe, 2018). For neoliberal ethics, justice is realized through the freedom of the free market, whereas in decolonial ethics, justice is directly associated with distributive equity (Brooks, 2020; Forst, 2016; Kothari et al., 2019). When expanding the category of socio-environmental equity to the climate realm, the notion of distributional equity emerges, highlighting how a global phenomenon generates unequal social effects. Consequently, Kis (2020) shows that equitable distribution is related to the type of ethics, or worldview, in which the moral dispute is situated. Distributive egalitarianism can be conceptualized as equal access to energy generation opportunities, spaces for political decision-making, a just distribution of resources (material, educational, among others), and fair sharing of benefits (e.g. saving the costs to the most vulnerable communities).

Organizations, whether public or private, are the planned institutions or planned structures that mediate relations between the social and the natural. Such mediation is materialized through normativities, here understood as socio-ecological moralities, that emerge at several stages, such as the formulation of public policies, as public

entities that formulate, design and plan the mechanisms of climate and socio-environmental justice in a given territory.

Moral practices, when associated with institutions, are called “institutional morality” that is, “a set of very specific rules that are to be legally imposed” (Heath, 2016, p. 27). This helps us, not only to establish the connection between climate ethics and its social-environmental moralities, but also to situate the agents of action. From this perspective, institutions generate moral rules that must be experienced by individuals who inhabit the environment in which such structures are present and are accepted by individuals who share such spatialities (Boltanski and Thévenot, 2006; Heath, 2016; Kis, 2020).

Some authors mention “anthropocentric ethics” (Ferreira, Panazzolo and Köhler, 2020) as a structure and as a structuring element in shaping the interactions between humans and non-humans. When analyzing the rights of nature through a decolonial lens, and the right to a dignified urban life, from an anthropocentric perspective, these authors identify the issue of ethics as a central dimension in the relations between humans and non-humans relationships. The critical viewpoint emerges when there is only one type of ethics, purely urban-anthropocentric, disregarding the agency of nature, and they contend that “[t]hese differences make us believe that we are the masters of nature, which leads us to have an *objectified relationship*” (p. 54323; emphasis added). Anthropocentric ethics operate within *objectification moralities* so that interest groups instrumentalize nature and thus exploit natural resources non-reciprocally in order to sustain

contemporary society's way of life, which is deeply entrenched in urban-anthropocentric ethic, that is, disregarding nature's entities as worthy of moral value (Florit, 2019).

Socio-environmental justice is one of the elements within the array of moralities, which can inform policy formulation, as presented by Meira (2017, p. 161):

This questioning has as its starting point the idea that justice, from a pragmatic point of view, is related to the way human individuals live, relate to each other and to non-human devices, adding nature, and to the ability of these individuals to construct and promote the generalization of an idea of common good, which will unify humanity in an idea of justice, good or good, thus allowing an agreement.

The agreement that Meira postulates here finds expression and realization through political mechanisms centered on decarbonization. These agreements are intrinsically linked to the political dimension, encompassing elements of mediation and negotiation. Socially and environmentally just agreements can be observed within the types of moralities that underpin and guide the development of political instruments aimed at climate emergency adaptation or mitigation. These are the policy mechanisms that result in overcoming the society/nature dichotomy and reducing socio-environmental inequalities simultaneously (Florit, 2019; Kothari et al., 2019).

The integration of just institutions and equitable distribution into the debate is comprehensible when considering their incorporation to the framework of this

emerging climate ethics. The concept of just institutions stems from structural moral practices aimed at reducing inequality, while equitable distribution entails structuring moralities, which normatively distributes equitably both costs and socio-environmental benefits. A recent illustration of this integration can be observed in the introduction of the political-economic,<sup>8</sup> social and ecological instrument called Next Generation EU, which addresses health and climate crisis. It states the commitment to accomplish a “double transition, ecological and digital”, with a “fair and inclusive recovery”, in which “social equity is at the heart of the recovery” (EC, 2020, p. 12; emphasis added). In this sense, politics and ethics are intertwined, rendering the challenge of addressing these issues more complex and taking us to the level of an analysis of moralities (Otto et al., 2020), as structural and structuring elements that constitute each other.

The complexity of the relationships between the social and natural worlds lies in the interrelationships among political, social, economic, ecological and ethical dimensions, and even spiritual dimensions.<sup>9</sup> The notion of an emerging ethics based on the interactions of the material base of human and non-human coexistence, within the conditions of continuity of life on such territory, confronts the strategies of economic interest groups of territorial domination, presenting a contemporary challenge (Acselrad, Barros and Giffoni Pinto, 2015).

The field of climate ethics is predominantly discussed by international authors from a philosophical perspective, often detached from the field of sociology, here in emphasis. Brazilian researchers, on the other

hand, tend to concentrate on environmental governance or policy perspectives, neglecting the ethical dimension. In this regard, this paper proposes an interdisciplinary approach that combines moral sociology and political philosophy, particularly focusing on climate ethics, and the sociology of the climate issue, specifically employing a critical social post-structuralist approach. This intersection results in a theoretical-methodological framework known as *Planb Index*, which is partially utilized in the present analysis through three out of five analytical categories.

In this section, climate ethics is positioned both in an abstract and reflective dimension, as a set of principles based on concepts such as socio-environmental justice and distributive equity, among others; however, it is also fundamentally situated in the empirical-political dimension. This set of ethical principles finds expression in lived experiences, in and for social praxis, through the establishment of moral rules and norms, referred to as a set of socio-environmental moralities. This set of moral values, which structure social praxis and can promote the (re)production of the social and the environmental, can guide the formulation of public policies.

As a result of this analysis, a crucial question arises regarding whether policy instruments formulated for climate emergency adaptation and mitigation contribute to the perpetuation of the existing social and ecological order, and thus maintain urban-anthropocentric priorities, or whether they are designed to enable a “double transition”, that encompasses social and ecological dimensions, in a just and equitable way.

## Social and environmental moralities from the perspective of climate ethics

What is the most important social tipping element that could initiate a socially and economically disruptive transformation leading to a complete decarbonization by 2050? (Otto et al., 2020, p. SI2)

In this subsection, the theoretical perspectives of socio-environmental moralities within the framework of emerging climate ethics are expounded. Moralities are regarded, also, as analytical categories, and are employed in the context of the decarbonization instrument, in this case, the Municipal Plan of Urban Arborization of the City of São Paulo (SVMA, 2019). The analytical categories of this emerging climate ethics (*Planb Index*)<sup>10</sup> are outlined below: decision plurality, planned naturalness, and temporal benefit.<sup>11</sup>

### *Morality #1: between authoritarian spaces and plurality of decision-making*

An ecocentric economics must, of necessity, overlap with much broader questions of ethics, politics and governance. Most crucially, it must tackle the profoundly difficult problem of how the intrinsic moral value of other-than-human nature can be embedded within economic decision making and governance. (Dickerson, 2020, p. 8)

The category of decision-making plurality in the context of climate ethics pertains to the recognition of the agency held by local communities in preserving their ways of life, achieved through their meaningful inclusion in

territorial decision-making processes<sup>12</sup> (Acselrad, 2010; Florit, 2019). On the same perspective, Latour (2020) highlights the significance of involving non-human agents in political decision-making processes, challenging the prevailing anthropocentric decision-making model that marginalizes the agency of other beings.<sup>13</sup>

Plurality is linked to the concept of contemporary conviviality within the cosmopolitan context. In the climate context, plural conviviality encompasses coexistence with differences through the acknowledgment of both human and non-human others. This kind of conviviality has become increasingly relevant in studies of the processes of conviviality with the different (Hemer, Povrzanović Frykman and Ristilammi, 2019). For these scholars, who research conviviality from the perspective of cultural (super)diversity in shared spaces, mainly related to large flows of cultural diversity across geopolitical borders, the term conviviality focuses on the analysis of the inclusion/exclusion of difference, (in)visibility of the other, (dis)integration, disruption/cohesion, inter-relational mediation (Alba and Duyvendak, 2019; Klarenbeek, 2019; Domingo, Pinyol-Jiménez and Zapata-Barrero, 2020). Coexistence, in this climate context, is not about tolerating the other, but recognizing the inherent dignity of the other.

Conviviality within the context of difference and cosmopolitanism, introduces a key analytical dimension characterized by the inherent tension arising from heterogeneity and diversity (Hemer, Povrzanović Frykman, and Ristilammi, 2019). This analytical perspective enables the observation of processes that facilitate the convergence of cultural and symbolic differences, challenging the notion put forth by Klarenbeek (2019), who argues that

conviviality is merely a homogenizing project driven by neoliberalism and neocolonialism. Klarenbeek (ibid.) contends that integration offers a valuable lens to examine and analyze the coexistence of differences in contexts of diversity, although they partly agree with Schinkel's argument that conviviality, when co-opted by governing bodies, can become a political project that reinforces the exclusion of those deemed different, such as immigrants who are expected to conform to local norms and submit to cultural rules, relegating their own cultures to private domain (ibid.). Nevertheless, it remains undeniable that conviviality encompasses both the potential for tension between diverse individuals and the risk of generalized assimilation. It is through the ethical dimension within its sociological-political framework that such distinctions can be discerned and evaluated.

The element of difference, when apprehended as an analytical axis, offers an opportunity to emphasize the ethical dimension and the affective planes inherent in human-technology relationships (Latimer, 2017). Through this lens, an examination of living entities and objects on equal footing becomes possible, exploring how they relate to and reshape each other. Beyond the traditional analysis of the human-other self dynamic, contemporary conviviality undergoes an ontological shift, enabling an investigation not only into the processes stemming from new agencies but also the conditions that foster conviviality amidst difference. The question of "who gets to define difference and how and why" (Meissner and Heil, 2021, p. 9) finds an answer within the ethical perspective presented herein. By understanding why and for whom it matters to generate and to maintain states of difference, including social (re)

orderings, it becomes possible to identify power asymmetries, dominant structures of socio-climatic inequalities, processes of de(integration), forces driving homogenization, and dynamics of social cohesion in contexts characterized by (super)diversity, such as megacities.

From the standpoint of emerging climate ethics, *decision-making plurality* is also closely linked to the concept of “co-determine rights” (Forst, 2016, p. 8). This notion parallels the idea of freedom of action in *just institutions* with collective decision-making spaces, where power (*kratos* or control) is equally shared between citizens (*demos*) and institutions (structures), either regarding government/state (*dominium* or public power) or regarding a corporation (imperium or private power) (Pettit, 2014).

Building upon the argument that “the symbolic dispute between environmental moralities is inseparable from the materiality of territorial disputes” (Florit, 2019, p. 7), territoriality emerges as an environmental morality worth examining within climate instruments. This category also encompasses the shift from broad, global public policies to regional or local policies, meaning the perspective of *decision-making autonomy* (Ricoeur, 1992) within the context of *governance of territory* by peoples or communities, be they urban or traditional (Dunlap, 2018; Floriani and Floriani, 2020). Rather than solely emphasizing *autonomy* – which can refer to the hegemonic notion of unilateral power by any of the parties involved – participation brings morals into focus and is generally associated with moral or desired ends to achieve certain results (Sachs, 1996). Hence, Hence, the emphasis extends beyond mere participation and lies in the realm of decision-making processes.

Thus, it can be concluded that the morality of development is based on the deterritorialization of peoples and communities spaces, regardless of whether they are traditional communities or residents of areas with economic significance. The concept of plural decision-making is intertwined with the principle of reciprocity, fostering reflective engagement with others, including non-human others (Haraway, 2016; Tsing, Mathews, Bubandt, 2019). This kind of morality, centered around the appropriation of plural decision-making spaces, might be observed as an outcome of inclusive/exclusive action, shedding light on the power dynamics that shape policy formulations related to decarbonization in the public, private, and third sectors.

#### *Morality #2: between planetary objectification and planned naturalness*

Trantor. Thirteenth millennium. Center of the imperial government. Its urbanization, which had progressed steadily, had finally reached its final shape. The entire land surface of Trantor, 194 million kilometers<sup>2</sup> in length, was a single city. The population, at its peak, passed 40 billion. From outer space the planet was just a large uniform metallic sphere.<sup>14</sup> (Asimov, 2009 [1951], p. 1761)

To formulate public policies is to design future trajectories. The category of *planned naturalness* encompasses the intentional and systematic transformation of spaces through human agency, unfolding over a defined time horizon (Hemer, Povrzanović Frykman, and Ristilammi, 2019; Udoh, Essien, and Etteh, 2020). This concept revolves around the reconfiguration of territories into planned and organized natural environments, while adhering

to the principles of social and ecological megadiversity (Caillé, Vandenberghe, and Véran, 2016; Florit, Souza, and Bolda, 2017).

The category of planned naturalness emerged as a response to the concept of *objectification* (Florit; Souza and Bolda, 2017; Florit, 2019). Florit (2019) introduces objectification as an analytical category, which is here expanded upon, specifically emphasizing its relevance within the context of climate issues. Thus, by expanding the category of *thingification*, not only to humans, but to the entire planet, the concept of planetary "thingification" comes into play.<sup>15</sup> The metaphor that Asimov (2009 [1951]) brings, through the planet "Trantor", is an image of this *planned objectification* at the planetary level, which can already be observed in contemporary mega megacity, such as the megacity of São Paulo and other Brazilian megacities.

From this perspective, the concept of *planned naturalization* denotes the planned and ordered transformation of spaces in contexts of social and ecological megadiversity (Hemer, Povrzanović Frykman, and Ristilammi, 2019). In the context of megacities, the natural state of territory is not in symbiosis with non-human elements, but in a constant state of tension due to the expansion of urban areas encroaching upon natural spaces. Territories that were once part of nature are now predominantly shaped and dominated by human entities and technological elements (Caillé, Vandenberghe and Véran, 2016; Kothari et al., 2019), creating historical hybrids.

This category, referred to as *planned naturalness*, finds expression in decarbonization policy instruments through various means, such as the strategic planning of increased forested areas, the expansion of

green zones, the preservation of recognized carbon stock areas, and the rehabilitation of degraded areas capable of buffering or absorbing greenhouse gasses. Such category makes the apprehension of the empirical dimension possible at different spatial and temporal scales. It encompasses initiatives ranging from the maintenance of boundaries for native rainforests to urban arborization plans and the creation of parks that hybridize society and nature (Kothari et al., 2019). The inclusion of projects aimed at fostering forested environments within cities, with objectives such as climate change mitigation, watershed and biodiversity protection, and improvement of human well-being (WRI, 2020), exemplify the broader possibilities that can be observed within this category.

### *Morality #3: Between illusion and temporal benefit*

When it comes to the moral assessment of certain actions, it would seem to be not the timing of the act that matters, but rather the timing of its effects. (Heath, 2016, p. 12, italic in the original)

Time is an element that has the potential to spur action, as it can either lead to harmonization and normalization or trigger crises and catastrophes (Stengers, 2015). When the emphasis is, exclusively, on the economic dimension, a particular morality emerges, where capital serves as the guiding principle in policy formulations within the Anthropocene era, and where *technosalvation* and economic growth are the structuring axes of social ordering (Boltanski and Thévenot, 2006; Caillé, Vandenberghe, and Véran, 2016; Kothari et al., 2019). *Temporal benefit* refers to generational benefit in the climate ethical horizon, which ensures that redistribution of benefits happens

in a reasonable timeframe to local and most vulnerable communities. It involves considering the equitable distribution of the burdens associated with the transition to decarbonization for the community and its territory (Costa, 2019; Kothari et al., 2019; among others).

The type of ethics that is based on a just institution determines which resources will be mobilized to generate benefits in time, and for whom these benefits will be allocated. Consequently, there is the disruption of conviviality through the (de)mobilization of time. Thus, an additional aspect that can be examined within the framework of conviviality is the point at which conviviality is disrupted, manifesting as violent conflicts, whether physical or symbolic. The question arises as to how we can identify the breaking point of conviviality. Analytically, this boundary is relevant for observing the rupture of a type of climate ethics concerning the principles of public policies aimed at adapting to or mitigating climate emergency.

Fair benefit is deemed to exist when it is within the realm of enjoyment for individuals, as well as human and non-human entities, resulting from the outcomes of projected actions. It is a generational benefit within the temporal perspective of socio-environmental and climatic ethical considerations. In other words, this category enables the analysis of how the redistribution of benefits currently takes place in a timely manner to ensure the well-being of affected and vulnerable communities. There is a direct association to the benefit for the production or not of (b)urdens of the transition to decarbonization for the community and its territory (Costa, 2019; Kothari et al., 2019; Moss, 2009). This encompasses access to goods and services as a consequence of

the transition. The analytical counterpoint lies in the displacement of social costs associated with the livelihood transition, which perpetuates the marginalization of the most vulnerable communities within the industrial-capitalist system, thereby perpetuating social reproduction of livelihoods regardless of access to fossil-based or renewable energies. Additionally, this category encompasses the analysis of "access to financial and technological resources" for vulnerable communities without the burden of undertaking the energy transition. It refers to the availability of financial, institutional, and technological resources to address the occurrence of adverse events resulting from climate change (Teixeira, Pessoa, and Di Giulio, 2020, p. 101).

The category of equity is countered by social inequality within the context under examination. The analysis focuses on decarbonization instruments to ascertain how equitable access to political decision-making is ensured, particularly in terms of including communities and their territories in the decision-making process because, "when socioeconomic inequalities are "long-lasting" and high, it is quite plausible that they are replicated within associative life, as well as between organized and unorganized groups, weakening the political inclusion ability of associative participation" (Kerstenetzky, 2003, p. 132).

This analytical category also applies to the examination of environmental and social inequality in the South American context. As long as inequalities persist in Latin America and Global South territories, the call to action against climate change must be, above all, against environmental inequalities (Torres et al., 2020). Indicators include green taxes and fees, taxation on fossil-based production chains

or products, increased or reduced energy costs for the local community in transition, economic benefit for local communities without accompanying burdens of energy transition, as well as recognition of rights of affected communities. The temporal dimension is closely associated with the concept of social and environmental justice, as justice entails the prompt realization of the results predicted or expected by the parties involved.

In this case, temporality relates to the direct impact on the social and environmental dimensions, since the benefits of decarbonization instruments are situated both spatially and temporally. The time of emergence (Stengers, 2015), which operates within a material horizon before the point of no return, refers to the allocation of resources, in which financial capital and action are aligned within feasible future horizons that materialize within the affected social sphere (RBJA, 2020). The envisioned future must be actualized from the ontological perspective of the present, ensuring the timely fulfillment of collective well-being for individuals.

## Municipal Urban Arborization Plan of the city of São Paulo (Pmau) and its socio-environmental moralities

In this section, the analysis and discussion of the empirical object are presented, specifically the political instrument of decarbonization in the megacity of São Paulo, formulated in 2019, known as the Municipal Urban Arborization Plan (Pmau, 2019) of the city of São Paulo. The selection of this political instrument of

decarbonization was based on the criteria of temporality, namely that it had been developed and officially published after 2019, a period following the IPCC report (2018). This case, relevant in the territory under analysis, aims to examine its socio-environmental intervention actions within the context of political formulation for social and environmental reordering in the megacity of São Paulo. It is a political instrument of decarbonization directly associated with the theme of climate collapse, and specifically linked to the climate emergency. One of the stated goals of Pmau is that it is an “action against global climate change” (SVMA, 2019, p. 27). The main document<sup>16</sup> analyzed for this decarbonization instrument was the Final Report, which includes the base document, the Work Plan, and the Schedule of the Municipal Urban Arborization Plan (RFPmau, 2019)<sup>17</sup> of the city of São Paulo, as outlined in the 2019-2020 Target Program.

### Pmau analysis and discussion

#### *On decision-making plurality*

Upon analyzing the Pmau Summary, it became evident that the analytical framework of decision plurality can effectively capture social inclusion through the presence of collective participation mechanisms involving diverse actors. This type of social inclusion morality was confirmed in the final minutes of October 2019.

By analyzing the base document and scrutinizing the composition of the Working Group, the level of participation diversity can be identified, according to the lens of decision-making plurality. According to the document,

[...] entitled Base Document for the preparation of the Municipal Urban Arborization Plan (PMAU), coordinated by the Division of Urban

Arborization (DAU) of the Coordination of Management of Parks and Municipal Biodiversity (CGPABI), of the Secretariat of Green and Environment (SVMA), and developed by the interdepartmental Working Group (GTPMAU) responsible for the planning and organization of activities, presents basic guidelines for the formulation of the Plan, as determined by the Strategic Master Plan of the city of São Paulo (PDE). (RFPmau, 2019, p. 28; emphasis added)

Besides the five governmental coordination of the Secretary of Green and Environment (SVMA) and affiliated entities, other entities were identified in the composition of GT-Pmau: two civil society entities (Municipal Environment Council<sup>18</sup> of Vila Madalena and Instituto Ecobairro Brasil), two academic ones (Institute of Advanced Studies – IEA/USP and Luiz de Queiroz School of Agriculture -Esalq/USP, both from the University of São Paulo) and two inspection entities (Public Ministry and Technological Research Institute – IPT).

The level of participation among these entities was also evaluated, and it was considered high, according to the established criteria. Despite a good degree of decision-making plurality, from the institutional perspective, there is still potential for greater inclusion. The base document itself mentions the existence of 25 other councils that could potentially be involved in future phases of the PMAU instrument, as well as the possibility of extending invitations to other entities.

Photographs provide evidence of the social participation process through participatory workshops involving stakeholders who played a role in constructing the

foundational document (SVMA, 2019; Pmau, 2019). Furthermore, if the categorization of entities is approached from the perspective of human and non-human representatives, such as environmental activists or representatives of biodiversity, fauna and flora, even in its urban perspective, coupled with the diversity of interest groups in a megacity like São Paulo, such as financiers, international partners, among others, it can be argued that the level of participation is fragile, tending towards medium, since there was the identification of other actors, but these did not materialize in an effective composition of the participatory and decision-making processes.

#### *On planned naturalness*

Pmau outlines a trajectory for the conceptual understanding of urban arborization. According to this definition, “urban arborization can be defined as the set of natural or cultivated tree vegetation present in private areas, squares, parks, public roads” (RFPmau, 2019, p. 28). The authors “state that only a significant amount of trees would impact on the improvement of quality of life, [...] evolving to a more comprehensive concept that is *urban forests*” (Paiva and Gonçalves, 2002 apud RFPmau, 2019; emphasis added).

There is not enough evidence to argue that the decarbonization instrument, named Pmau, follows a consistent trajectory in promoting significant urban forests.. The proposed framework for green areas is based on landscape elements rather than ecosystem systems. From a landscape perspective, trees are framed as objects. They are considered for their aesthetic dimension and not for their ecological, social or even climatic dimension.

Despite looking at orderly urban arborization as a tool to generate "action against global climate change [...] and protect, restore and promote the sustainable use of terrestrial ecosystems" (ibid., p. 28), an analysis through the lens of climate ethics reveals the presence of objectification (Florit, 2019). The planned actions within the Pmau working group reflect this morality, demonstrating a lack of consideration for the territory of life (Kothari et al., 2019; Caillé, Vandenberghe, and Véran, 2016), where there is a harmonious coexistence between humans and non-humans. The morality of dominating (dominium) nature still persists..

It was observed that Pmau, in its designated area of coverage and territorial points, seeks to enable access to common nature to materialize the transition from an instrumental city to a "territory of life" (Kothari et al., 2019, p. 209). This kind of socio-environmental morality is not materialized in the content of Pmau, either in its base document or in its action plan.

This analysis also sought to identify a type of convivialist morality that normalizes "the need to revitalize territories and localities and therefore re-territorializes and re-localizes the elements with which globalization segregated from the original natural context" (Caillé, Vandenberghe, and Véran, 2016, p. 36). This, however, was not observed in Pmau's planned actions on re-territorialization of green areas in the São Paulo megacity. Thus, the logic of the territory of life or the convivialist horizon of "bringing territories to life" (Caillé, Vandenberghe and Véran, 2016) was not materialized. Therefore, the envisioned planned naturalness remains fragile, characterized by a reparative aesthetics on specific and already known areas, rather

than the promotion and construction of a cosmopolitan living territory between humans and non-humans.

#### *On temporal benefit*

It was observed that the legislation designating Pmau as a priority action<sup>19</sup> is from 2014 and its Final Report containing the base document was published in the Official Gazette in 2019. Additionally, the base document highlights the establishment of goals, which "should be established according to the term of Pmau, which initially is proposed 20 years, with review every 5 years" (RFPmau, 2019, p. 28). It is worth noting that it took five years to draft and publish the base document, which references a "work plan and preliminary schedule" (ibid., p. 29). Furthermore, Pmau has a defined term of validity, implying that there may no longer be a need for its implementation after 20 years:

The promotion of interconnections between open spaces and green areas of regional environmental importance, integrating them through greenways and urban arborization; – The control of invasive plant and animal species and the presence of stray domestic animals for the benefit of wildlife; – The conservation of permeable areas with significant vegetation on urban properties and landscape protection. (RFPmau, 2019, p. 28)

Just as regarding the term of validity, it can be assumed that it will no longer be necessary and strategic to implement the fundamentals of Pmau stated on the program's official website, which it aims to fulfill:

SDG 11 – Sustainable Cities and Communities: make cities and human settlements inclusive, safe, resilient and

sustainable; SDG 13 - Action against global climate change: take urgent action to combat climate change and its impacts; and SDG 15: Earth life: protect, restore and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss. (SVMA on Pmau, 2019)

It is noteworthy that the most recent recorded meeting minutes date back to October 2019, while this analysis consulted data that was published on September 21, 2020, which contradicts the notion of a prioritized strategic plan.

Such temporal considerations bring us back to what Ferguson (1990) calls anti-political machines, which employ strategies of promising capitalism and development as means to reduce social inequalities. However, such mechanisms operate within a productivity model rooted in an anthropocentric or capitalist ethics. Another aspect to examine is the absence of short-term horizons, which convivialists argue as a type of morality. In the case of Pmau, this not only confines its content within a limited time frame but also defines its termination within its own constitution.

The previous analysis regards the beginning of the process, which took place in 2014. As Pmau is supposed to be a priority action in the fight against climate emergency, it was found that it was not prioritized. This brings us back to the category of “unpostponable” time (Steinbrenner, Brito e Castro, 2020, p. 942). The Pmau of the city of São Paulo presents itself as a non-priority, just as its actions are postponable. The very concept of crisis is associated with the notion of priority and urgent action within a feasible time horizon. Climate emergency cannot be

postponed. Empirically, it is observed that the five-year timeframe for proposing Pmau, since its formalization in 2014, does not align with the notions of crisis or climate emergency. After six years, it remains in the planning stage without practical effects on social and ecological praxis.

## Concluding remarks

On one hand, the set of socio-environmental moralities related to Pmau, such as the category of socio-environmental morality temporal benefit, reveals the quasi-promises of the anthropocentric urban ethics and does not fulfill the reduction of action timeframes to effectively become a priority. This reveals socio-environmental injustice through the lens of the emerging climate ethic. On the other hand, there is objective evidence of an emerging inclusive participation of diverse actors, whether in the structure of the program itself (which drives the element of inclusion), or in the lived practices of the participatory workshops. This indicates that the plurality of entities (humans and non-humans) can move towards a greater integration in the planning and decision-making territories.

Therefore, the political mechanism of the Municipal Urban Arborization Plan of the city of São Paulo (Pmau), as an instrument of decarbonization and mitigation of the climate emergency, in its sociological-political perspective, is primarily rooted in moralities aligned with an anthropocentric ethic.

The incorporation of socially and environmentally just and equitable moral elements within the framework of emerging climate ethics is an ongoing process

that requires significant advancement. Integrating the ethical dimension within the realm of politics enables us to uncover the underlying structures that govern the transformation of perspectives, shifting from a world characterized by apparent power imbalances to one that strives for pragmatic mitigation of socio-environmental inequalities through policy formulations that are both fair and justified.

The challenge of this study was to present how moral practices, manifested through rules, norms and laws, are intrinsically associated with the politically hybridized ethical and socio-ecological world. This paper sought to capture socio-ecological moralities in a Brazilian megacity climate, drawing upon the emerging field of climate ethics. The pressing need for urban redevelopment, with pragmatic reduction of social and ecological inequalities, is a critical reality that is imposed by the climate emergency and demographic

growth, among other factors. One cannot formulate climate policies through a single type of dominant (anthropocentric) ethics. It is fundamental to carry out analyses that seek to reveal moralities extending beyond the realms of economics and technology to encompass political, ethical, and sociological dimensions that include non-humans and communities of vulnerable humans.

Ultimately, the task at hand is to establish connections between potential post-anthropocentric heterotopias and prevailing anthropocentric normative frameworks, which poses a challenge necessitating interdisciplinary methodologies, particularly those grounded in the social sciences. Sociology, with its ethical-political perspective, represents one subfield capable of shedding light on novel avenues for contemplating social and climatic inequities before humanity irrevocably descends into a world of permanent barbarities and catastrophes.

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## Notes

- (1) This study is part of Component 5 Socio-economic impacts of the AmazonFACE project. The project is guided by the principle that anticipating socioeconomic impacts can better prepare us, in terms of policies and concrete actions, to face future climate adversities. In this regard, this article seeks to investigate the climate instruments that mitigate the impacts of this degradation in various socio-economic sectors. More at <https://amazonface.unicamp.br/>.
- (2) Convivialism as a sociological-political theory was proposed in 2013 by 64 researchers, among them, Alain Caillé, Eve Chiappello, Serge Latouche, Frédéric Vandenberghe and Paulo Henrique Martins. The convivialists argue that “By convivialism we mean a mode of living together (con-vivere) that values human relationships and cooperation and enables us to challenge one another without resorting to mutual slaughter and in a way that ensures consideration for others and for nature.” (Caillé, Vandenberghe and Véran, 2016, p. 30). In fact, it is more than a theory, it is a praxis.
- (3) Research project Utopian horizons in dispute: socio-climatic ethics and socioecological practices in the context of Brazilian climate instruments, of my own authorship, initiated in 2019, by the Post-Graduate Program in Sociology (IFCH/UFRGS). This work constitutes partial findings from the research conducted as part of Component 5 – Sociopolitical and Economic Impacts of the AmazonFACE Program.
- (4) Decarbonization, in this context, refers to systems or processes that have the capacity to remove greenhouse gases (GHG), mainly carbon dioxide produced by human activities, from the environment. The Pmau is a decarbonization mechanism, by preserving and expanding the megacity's vegetation area.
- (5) This report from the Intergovernmental Panel on Climate Change (IPCC) is the first to state that climate change is the result of human activities.
- (6) This review was carried out on Google Scholar and Periódicos Capes databases, specifically targeting the subject of climate ethics within the sociological framework. The ensuing categories were analyzed using the NVivo 1.3 software, employing content analysis methodology (Bardin, 2008). This analysis focused on exploring the interconnectedness of socio-environmental moralities found in the Pmau documents generated during the period of 2019-2020.
- (7) Ricoeur (1992) understands institutions as organized structures that have a certain perenniality in time. Such crystallization is the result of the recognition of a type of ethic, and it is lived in the social praxis that feeds back on the way of life in the social arena, reinforcing both the ethics and the institution, or structure, in which individuals are inserted.
- (8) This instrument officially allocated “1.85 billion euros” through the European public policy Next-Generation EU (EC, 2020, p. 2).
- (9) In this section, the interaction between environmental ethics and religiosity is not in debate. However, the ethical content is also one of the elements discussed in the religious theme and the preservation of planetary life, from a more holistic view of life.
- (10) The Planb Index theoretical-methodological framework consists of five analytical categories: decision plurality, energy locality, epistemic and material access, planned naturalness, and generational benefit. More in Salmi (2023).
- (11) Temporal benefit is used here as a term similar to generational benefit.

- (12) Acselrad (2010, p. 112) points out, within the pragmatic definitions of what is meant by environmental justice, as being practices that “ensure [...] democratic and participatory processes in the definition of policies, plans, programs, and projects that concern them.”
- (13) Latour (2020, p. 51) brings his critique of anthropocentric neoliberalism: “The choice that needs to be made is therefore between a limited definition of the social ties that make up a society and a broad definition of the associations that shape what I have called “collectives”.
- (14) Drawing inspiration from Haraway (2006), who employs science fiction elements to articulate the critique of the Anthropocene and other societal issues, I also employ Haraway's metaphorical framework. Trantor, an imaginary planet, is one of Issac Asimov's references in his work *Foundation*. If the fictional planet Trantor symbolizes the height of technology, the centralized power, the economic, political and technological domination over humans and Nature, brought here to illuminate and metaphorically illustrate Illich's (1973) criticism of technological advancement and its indiscriminate use by an alienated society dominated and governed by interest groups of an oligarchic elite, I can allude to the fact that humanity is currently going through a process of trantorization.
- (15) The analytical cut about maximized objectification, here metaphorically elevated to trantorization, is understood as a direct allusion to the concept of ecological modernization, in which salvation is both through technology and economic growth; the latter forged by oligarchic interest groups. Naturalness is translated as the plural participation of diverse entities, including non-human entities, a concept dear to decolonial theorists. Therefore, the actions proposed in decarbonization political mechanisms, such as Pmau, can shed light on the underlying structures being mobilized and the projected social, ecological, and other consequences emanating from these utopian transitional frameworks. If ethics can be understood as a utopia, a political worldview, it becomes possible to uncover the moralities operating within social praxis.
- (16) The analysis of the primary Pmau document was supplemented by the utilization of the following additional documents, serving as supportive sources to enhance the examination of its contents: 1) the official website of the city of São Paulo's environment program – Pmau#: latest communiqué about Pmau and complementary documents made available; 2) Municipal Law n. 16.050/2014 – Strategic Master Plan of the city of São Paulo.
- (17) Documents and supplementary data available at: <[https://www.prefeitura.sp.gov.br/cidade/secretarias/meio\\_ambiente/projetos\\_e\\_programas/index.php?p=284680](https://www.prefeitura.sp.gov.br/cidade/secretarias/meio_ambiente/projetos_e_programas/index.php?p=284680)>. Primary official Pmau document available in the Official Gazette of the City of São Paulo, September 3, 2019, pp. 27-29.
- (18) "It was verified that there are twenty-six active Cades, of which four are in the election process and two others are in the process of reactivation. However, no data were obtained regarding the Parks Management Councils, nor regarding the environmentally active collectives in the city." (RFPmau, 2019, p. 27). It is evident that only one of the twenty-six municipal environmental councils of the city of São Paulo participated in Pmau construction process. The Municipal Council for Environment and Sustainable Development (Cades) is a dual function, consultative and deliberative body, which should (would) act on issues concerning the preservation, conservation, defense, and recovery of the environment in the city of São Paulo.
- (19) Art. 288 establishes Pmau as a priority: "Art. 288. The priority actions of the Municipal System of Protected Areas, Green Areas and Open Spaces are: [...] IV - to elaborate the Municipal Plan of Urban Arborization". Cfe. Law 16.050/2014.

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