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Climate justice in the intersection between the CBDR&RC principle and intellectual property rights: a critical reading of international cooperation

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ABSTRACT

In this paper, I explore the intersection of climate justice and international cooperation, focussing on the compulsory licensing of climate-related technologies. I aim to contribute to a critical analysis of the role of intellectual property rights (IPRs) and global development in the twenty-first century, particularly within the context of a climate crisis, by: (i) explaining the evolution of the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR&RC) in the international governance on climate change, and (ii) analysing discussions around compulsory licensing of climate-related technologies within the international system of IPRs' protection. For this, I use qualitative research methods, including critical discourse analysis and a preliminary literature review, to understand the interactions between delegations and the narratives constructed for international cooperation to address climate change. I then argue that a 'climate justice' framework would improve discussions of the development and transfer of climate-related technologies and bring transformative possibilities for the understanding of global development.

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1. Introduction

In the wake of a significant public health crisis, such as the COVID-19 pandemic, there is a growing discourse on international cooperation for (global) development – in particular, collective efforts to reduce poverty and improve societal well-being. An effective response necessarily involves equitable access to recently developed or still-developing medicines and vaccines (see, e.g. Salomão Filho and Ido 2020; Thompson 2022). This, in turn, raises questions about well-established institutions rooted in the framework of racial capitalism,[1] notably intellectual property rights (IPRs). As Salomão Filho and Ido (2020) have argued, this prompts a discussion about the potential for compulsory licenses to increase the availability of essential medicines on the market, lower their prices, and expand access.

However, this debate is not a recent one. The magnitude of the HIV/AIDS crisis in the 1990s, particularly in sub-Saharan Africa, highlighted the lack of access for Global South

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countries to essential medicines already commercialised in the Global North ('t Hoen 2002, 27). This sparked intense discussions about the international system for the protection of IPRs established in the 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) within the World Trade Organisation (WTO). It also exposed the power imbalances between Global North and Global South countries.[2] As a result of this debate, members signed the Doha Declaration on the TRIPS Agreement and Public Health in 2001. This declaration confirmed the flexibilities within the international system and stated that 'the TRIPS Agreement does not and should not prevent members from taking measures to protect public health' (§ 4).

Inspired by this precedent, Global South countries advocate for compulsory licensing of patents also concerned with climate-related technologies. This approach holds promise for international cooperation in addressing climate change mitigation, adaptation, and concerns about climate justice. Global South countries focus on the Common but Differentiated Responsibilities and Respective Capabilities (CBDR&RC) principle, which implies that Global North countries should bear the primary costs of addressing the climate crisis and transfer the required financial and technological resources to Global South countries.

This premise has been a cornerstone of the international governance on climate change since the United National Framework Convention on Climate Change (UNFCCC) in 1992. However, the dominant interpretation of this principle has evolved, shifting from a top-down differentiation, as established in the annexes of both the UNFCCC and the 1997 Kyoto Protocol, to a legal architecture based on self-differentiation, with the submission of periodic Nationally Determined Contributions (NDCs), as outlined in the 2015 Paris Agreement. It is worth noting, however, that the practical outcomes of this shift, at least initially, deviate from the pathways outlined by the Intergovernmental Panel on Climate Change (IPCC) assessment report, deemed necessary to limit the increase in surface temperatures to 1.5°C above pre-industrial levels.

Simultaneously, discussions on climate justice are somewhat new in international negotiations. Drawing on the grassroots movements for environmental justice since the early 1980s (Schlosberg and Collins 2014), the Environmental Justice and Climate Change Initiative, founded during the 6th Conference of the Parties (COP6) at the Hague, defined the key principles of climate justice in 2002. However, it was not until the 2021 Glasgow Climate Pact, adopted at COP26, that climate justice was mentioned in an official document, where the preamble merely acknowledges 'the importance for some of the concept of climate justice when taking action to address climate change' (1). This suggests that not all countries equally prioritise climate justice. Although the language changed in the following year, with the 2022 Sharm el-Sheikh Implementation Plan, climate justice is still only noted in the preamble, leaving room for discussion and further development.

The objectives of this paper are twofold. First, I endeavour to contribute to a critical analysis of the role of IPRs in global development in the twenty-first century, particularly within the context of a climate crisis. As Cameron, Shine, and Bevins (2013) argue, 'the challenge facing developing countries, whether least developed or middle-income, is how to develop and lift people out of poverty while, at the same time, taking action on climate change' (8). I aim to achieve this by elucidating the historical evolution of the CBDR&RC principle within the international governance on climate change. Second, we delve into discussions on compulsory licensing of climate-related technologies to

understand how addressing inequalities embedded in the climate crisis presents a challenge to the hegemonic structure of IPRs. Like environmental justice, I argue that climate justice should focus on how injustice is constructed (Schlosberg and Collins 2014, 361), including concerns with recognition of differences and structural racism, distributional, and procedural aspects of justice. Subsequently, I argue that such a framework can enhance discussions related to the development and transfer of climate-related technologies and the role of IPRs in achieving a more equitable and sustainable development agenda.

2. Methodologies

The methods deployed in this study include a qualitative research approach centred on critical discourse analysis. The analysis explores the intersection of climate justice and international cooperation from three different perspectives: science-based evidence, the international regime on climate change, and the protection of IPRs. To undertake this analysis, I rely on primary sources, including scientific assessment reports by the IPCC over the last decade, minutes of climate negotiations and COPs decisions within the UNFCCC, and submitted proposals and minutes from meetings of the Council for TRIPS.

The document analysis focuses on the interactions between delegations in these various contexts, emphasising the narratives constructed for international cooperation between Global North and Global South countries to address climate change. By delving into these sources, I aim to uncover the underlying dynamics and conceptualisation of climate justice and the transfer of climate-related technologies from a critical perspective.

To complement and deepen our understanding of these dynamics, I conduct a literature review utilising the snowballing methodology. This approach enables us to trace the development of key ideas, concepts, and debates within the field of climate justice. By reviewing the interconnected references and gradually expanding our search, we gain insights into the evolving discourse around climate justice and its significance within the context of global development and climate crisis.

3. International cooperation in the science-based narrative

In its most recent assessment reports, the IPCC (2014; 2022a) underscores the unequivocal reality of climate change, emphasising that its impacts have already affected every inhabited region in the world. Furthermore, the IPCC (2022a) concludes that human influence on the climate system, chiefly driven by unprecedented greenhouse gas emissions, has led to the warming of the atmosphere, ocean, and land – a trend observed since the mid-twentieth century. Significantly, many of these changes are irreversible and poised to persist for centuries to millennia. This necessitates a global imperative: achieving net-zero anthropogenic GHG emissions to stabilise the human-induced temperature increase at any level. Yet, achieving specific temperature limits hinges on constraining cumulative GHG emissions within a carbon budget (IPCC 2022a).

Moreover, the IPCC (2014) hints at the notion that climate change poses a threat to equitable and sustainable development (90) and acknowledges intricate trade-offs and

interplay between mitigation and adaptation in the context of climate justice (see, e.g. IPCC 2022c, 40). These considerations are underpinned by scientific evidence that underscores the disparate historical, current, and future contributions of Global North and Global South countries to GHG emissions. Countries also deal with different challenges, capacities, and circumstances for addressing both mitigation and adaptation (IPCC 2014). This evidence led the IPCC to underscore the critical importance of international cooperation in the realm of climate change and to advocate for a science based CBDR&RC principle.

Crucially, the most vulnerable communities and systems across the world bear a disproportionate brunt of climate change impacts (IPCC 2022b; see also Cameron, Shine, and Bevins 2013), especially small islands and other regions with considerable development constraints, where climate change has generated and exacerbated vulnerabilities (IPCC 2022b). As such, climate change is a matter of justice (see, e.g. Heyward and Roser 2016; Sultana 2022a).

In 2018, the IPCC published a special report centred on the 1.5°C limit, further reinforcing these ideas. It underscored that the potential for pursuing such pathways differs between and within nations and regions, due to different development trajectories, opportunities, and challenges. As a result, limiting warming to 1.5°C demands a concerted global effort, including more ambitious and committed international cooperation, with support extended to those with limited capacity for mitigation, adaptation, and transformational changes (IPCC 2018, 448). However, in another report, the IPCC (2022c) also highlights the absence of enabling conditions for innovation and the transfer of climate-related technologies in the Global South.

Conversely, in its most recent assessment report, the IPCC (2022b) introduces the concept of climate justice within scientific discourse, encompassing both distributive and procedural justice, as well as the 'fair consideration of diverse cultures and perspectives' (7). Notably in the realm of climate change adaptation, the IPCC develops a risk framework that encompasses the notions of exposure and vulnerabilities. It asserts, with a high degree of confidence, that such development challenges are 'influenced by historical and ongoing patterns of inequity such as colonialism, especially for many indigenous peoples and local communities' (IPCC 2022b, 12). Moreover, it characterises the harmful impacts of climate change as 'incremental violence, structurally over-determined by international relations of power and control' (IPCC 2022b, 1498).

The report assessment echoes the critical literature. However, the IPCC refrains from conducting a more in-depth critical analysis of the interconnection between racial capitalism and climate change, the disruptive transformation needed in economic structures, or the role that climate responses play in perpetuating ongoing patterns of colonialism. In this sense, Sultana (2023) argued that 'climate and ecological breakdown results from extraction, overproduction, overconsumption and disposal that are very unequally distributed around the world, mainly because of historical factors that produced colonialist-capitalist systems of unjust economic growth and geopolitical control' (2).

Furthermore, the IPCC places substantial emphasis on inclusive governance within climate-resilient development. It perceives international cooperation as a mechanism that can promote global development, transfer of climate-related technologies, mobilisation of financial resources, and address climate justice concerns (IPCC 2022c). This development pathway promises 'disruptive changes in economic structures' (IPCC 2022c, 40),

with significant distributional implications within and between countries. However, once more, the IPCC does not delve into an extensive critical analysis.

4. International cooperation and the CBDR&RC Principle

Despite the compelling scientific evidence for climate change and international cooperation in the pathway for addressing it, scholars have repeatedly emphasised that 'science alone cannot help us with the answers we need' (Garvey 2008, 1). This is echoed by the disconcerting evidence that 'the world is clearly not yet on track' (Fishlin 2017, 15) to fulfil the objectives outlined in the 2015 Paris Agreement. This situation underscores the gap between scientific consensus, as documented in successive IPCC assessment reports, and tangible progress in international negotiations.

Although the Paris Agreement entered into force earlier than anticipated, heralded by some as 'a monumental achievement and a game changer' (Ivanova 2017, 18), the IPCC (2018) warns, with high confidence, that, given the emissions outlined in current NDCs, 'global warming is expected to surpass 1.5°C above pre-industrial levels, even if these pledges are supplemented with very challenging increases in the scale and ambition of mitigation after 2030' (95).

The crux of the matter lies in the disconnect between scientific consensus and political commitment. While the convergence of knowledge should ideally inform scientifically accurate NDCs, there is a need for these commitments to be materialised in a non-confrontational manner, thereby facilitating international cooperation (Rajamani and Guérin 2017, 76). On the other hand, Pulido (2018) argued that

> while the global community congratulates itself on achieving what is politically possible, we cannot overlook the anemic nature of the agreement considering the magnitude of the problem. It will not avoid the death of millions – because they simply do not matter (128).

Consequently, the CBDR&RC principle emerges as a 'major – perhaps the major – source of political contention' within the international climate narrative (Ivanova 2017, 31) and is embedded in racial capitalism.

The international governance on climate change is complex and consists of a continuous process of negotiations, with its foundations laid out in the UNFCCC. This foundational document introduced key concepts and terminologies that would continue to shape the agenda of further negotiations (Depledge 2017, 27). The legally binding instruments in this regime also comprise the 1997 Kyoto Protocol and the 2015 Paris Agreement.

From its inception, this regime has embodied a key feature – the differentiation between groups of countries, a significant departure from the conventional approach of setting common obligations for all parties in international treaties (Bodansky, Brunnée, and Rajamani 2017). This differentiation is anchored in the CBDR&RC principle and underscores the notion that countries' contributions to climate change differ markedly. However, the interpretation of this principle has evolved over time, with different elements gaining prominence. Consequently, 'contested interpretations of equity and CBDR&RC … have featured most prominently in debates throughout the years' (Depledge 2017, 28), gradually diluting the initial consensus on asymmetric commitments between Global North and Global South countries.

In practice, Global South countries often emphasise the term 'responsibilities' in the CBDR&RC principle, linking it to the historical contributions of Global North countries to GHG emissions during their industrial development (Rajamani 2012) and building on the well-known polluter pays principle within environmental governance (Schlosberg and Collins 2014; Shabalala 2016). In contrast, Global North countries tend to underscore the term 'capabilities', anticipating that Global South countries will enhance their international climate commitments as they progress and acquire greater technical and financial capabilities (Rajamani 2012). This perspective shifts the focus beyond historical responsibilities, implying deeper commitments to emerging countries within the Global South, like China, India, and Brazil.

Rajamani scrutinised the phrase 'common but differentiated' within the CBDR&RC principle, suggesting that the term 'but' introduces a difference between the rationale of 'common responsibility' and 'differentiated responsibilities'. The latter is linked to causal agencies in creating the problems, and the benefits, i.e. the 'respective capabilities' derived from those actions (Rajamani 2012). In essence, the common responsibility arises from recognising climate change as a shared concern for humanity, as the climate system affects all communities to varying degrees. In contrast, differentiated responsibilities imply that countries' contributions were and continue to be distinct.

Dasgupta (2012) argues that the inclusion of 'respective capabilities' as a basis for differentiation reinforces the historical responsibilities of Global North countries. Still according to Rajamani (2012), improved capabilities are a direct result of their industrial development, which, in turn, elevated GHG emissions – an issue she terms 'historical injustice' (121-122; see also discussions on 'climate coloniality' by Sultana 2022b and 'colonisation of the atmosphere' by Malm and Warlenius 2019). Global North countries, which possess the highest GHG emissions per capita, are primary contributors to climate change. Therefore, they should bear a corresponding responsibility for corrective action. Simultaneously, they also possess technical and financial capabilities to shoulder this burden, further underlining their obligations (Dasgupta 2012, 89).

However, the legal and operational aspects of this approach have sparked controversy. Both the 1992 UNFCCC and the 1997 Kyoto Protocol established a clear distinction between the specific obligations of Annex I parties, the so-called 'developed' countries, and general commitments for all parties – a separation often referred to as a 'firewall' (Bodansky, Brunnée, and Rajamani 2017; Depledge 2017). This approach associated the CBDR&RC principle predominantly with the clearly defined distinction between 'developed' and 'developing' countries, despite the diverse circumstances within each group. Thus, the 1997 Kyoto Protocol marked a political commitment, with the success of the Global South in securing this differentiation in the negotiations with the Global North (Bodansky, Brunnée, and Rajamani 2017). Nevertheless, this approach proved insufficient, as the largest GHG emitters, including the US and China, have not ratified or been considered in the commitments.

In the 2009 Copenhagen Agreement, the CBDR&RC principle was regarded as a 'political necessity' (Bodansky, Brunnée, and Rajamani 2017, 111). However, this document marked a turning point, as these negotiations eroded the asymmetry between Global North and Global South countries, leading to voluntary submission of mitigation commitment by non-Annex I Parties to be implemented domestically, provided they were financially supported through international cooperation and subject to UNFCCC monitoring.

This shift signalled the 'breakdown [of] the firewall' (Houser 2010, 13). In the following year, the 2010 Cancun Agreement merely reiterated the main ideas negotiated in Copenhagen.

The 2015 Paris Agreement, although explicitly mentioning the CBDR&RC principle with the addition of 'in light of different national circumstances', committed all signatory countries to peak their GHG emissions as soon as possible and to periodically communicate their NDCs. Yet, it places the onus on Global North countries to lead this process and assist Global South countries in meeting their commitments. With this new legal architecture, the Paris Agreement represents a significant departure from the 1997 Kyoto Protocol, prioritising national sovereignty and adopting a more nuanced operationalisation of the CBDR&RC principle based on self-differentiation. Strikingly, it refrains from delineating which countries are considered 'developed' or 'developing', abandoning the annexes of the UNFCCC. However, this flexibility in application is not synonymous with uniformity. Self-differentiation enables countries to prepare NDCs reflecting their utmost ambitions within the realm of what they understand to be their possibilities (Bodansky, Brunnée, and Rajamani 2017).

As emphasised by Rajamani and Guérin (2017), 'it is nevertheless clear that the extent to which many developing countries will meet the mitigation ambition in the Paris Agreement will be linked to the extent of support available' (134). Hence, in their NDCs, Global South countries attach great importance to financial assistance and the international transfer of climate-related technologies, with their contributions often conditioned to access to such support (Rajamani and Guérin 2017). Regrettably, Global North countries have yet to elucidate in their NDCs how international cooperation would be realised.

The practical consequence of the self-differentiation approach to the CBDR&RC principle is a palpable gap between NDCs and the needed GHG reductions to achieve the goal of limiting global warming to 1.5°C above pre-industrial levels. The IPCC emphasised this discrepancy in its 2018 special report and its latest assessment report, affirming that, even if supplemented with ambitious post-2030 mitigation efforts, the current NDCs point to global warming surpassing 1.5°C above pre-industrial levels (IPCC 2018, 2022c).

While the self-differentiation approach might seem promising in terms of political willingness, it does not effectively address the issue of historical injustice, and the inherent dilemma of historical responsibilities and current technical and financial capabilities as two sides of the same coin. This approach does not place the world on a trajectory to limit global warming to 1.5°C above pre-industrial levels, as previously mentioned. Consequently, there is an imperative to explore how to enhance the operationalisation of the CBDR&RC principle, particularly in terms of transfer of climate-related technologies, interpreting it in a way that advances the discussions on climate justice – two concepts that should progress in tandem to properly address climate change.

5. Intersection with IPRs: compulsory license of climate-related technologies

In tandem with the CBDR&RC principle, the UN General Assembly Resolution n. 45/2012, which initiated the negotiation process for the UNFCCC, has encapsulated other principles laid out in the UN General Assembly Resolution n. 44/207 concerning the *protection of global climate for present and future generations of mankind*. Notably, it emphasised

'assured access for developing countries to environmentally sound technologies' and 'assured transfer of those technologies to developing countries on favourable terms' and brought this linkage with IPRs to be explored within the international governance on climate change. The international transfer of climate-related technologies has emerged as a pivotal mechanism for the operationalisation of international cooperation in light of the CBDR&RC principle.

However, it was not until 2001, with the adoption of the Marrakesh Accords at COP7, that the issue of technology development and transfer received attention within the international governance on climate change. These accords paved the way for the Kyoto Protocol to come into force and established the international framework for monitoring and compliance with mitigation targets. In this context, the decisions made under the Marrakesh Accords pertained to the development and transfer of technologies, featuring a framework for meaningful and effective actions to enhance the implementation of Article 4.5 of the UNFCCC. In addition to technology needs assessment and increased flow of technology information, the framework included as a key theme to create 'enabling environments', that is, an environment in which countries 'are urged to improve, as appropriate, the enabling environment for the transfer of environmentally sound technologies through the identification and removal of barriers'. Notably, the protection of IPRs was among the barriers addressed (Phelan 2018; Shabalala 2016).

During the period covered by the Kyoto Protocol, and under accusations that the Global North 'had failed in delivering effective, measurable, and verifiable transfer of ESTs' (Phelan 2018, 128), documents signed at COPs, such as the 2007 Bali Action Plan, 2009 Copenhagen Accord and 2010 Cancun Agreements, called for enhanced actions on development and transfer of climate-related technologies. In 2012, there was a contentious debate over IPRs, but no consensus was achieved within the Doha Climate Gateway – then labelled as a Qatar-strophe (Rimmer 2015). The question of IPRs and their intersection with the development and transfer of climate-related technologies only resurfaced in the context of the 2014 Lima Call for Climate Action, signed at the COP20.

This document, which set the stage for the signature of the Paris Agreement in the following year, included a draft text in its annex. The draft text outlined several options for discussion, for example, with divergent perspectives on the nomenclature of the CBDR&RC principle and the role of IPRs in the context of climate-related technologies. Two different options were presented for discussion as a commitment to countries, either for Global North countries to provide financial resources and international mechanisms to address IPR-related barriers in the Global South or to acknowledge that IPRs, in themselves, create an enabling environment. However, in the final text of the 2015 Paris Agreement, influenced by the European Union (Rimmer 2019), the negotiations led to a conspicuous omission regarding the protection of IPRs – neither positively nor negatively. Instead, despite the efforts of Global South countries, they have conceded for a generic commitment to strengthen cooperative action on the development and transfer of technologies (Rimmer 2019; Shabalala 2016), without specifying the means of implementation.

Concurrently, Ecuador introduced the matter of the transfer of climate-related technologies as a mechanism of international cooperation within the framework of the WTO, more specifically within the Council for TRIPS. Through the presentation of the

Contribución de la Propiedad Intelectual a la Facilitación de la Transferencia de Tecnologías Ecológicamente Racionales on 27th February 2013,[3] Ecuador argued that, given the fundamental role of the international transfer of climate-related technologies in addressing climate change – a pressing environmental and developmental concern –, IPRs should be a subject of debate. They contended that the lack of information and excessive protection or inadequate application and abuse of IPRs may constitute a 'certain kind of barrier' to access to this kind of technologies. Drawing inspiration from the successful experience of universal access to essential medicines, Ecuador proposed a declaration in which countries would reaffirm the existing flexibilities in the TRIPS Agreement, including provisions for compulsory licensing of patents, and that 'the TRIPS Agreement does not and should not prevent members from taking measures to protect their population from the harmful effects of climate change'.

This matter consistently featured on the political agenda of the Council for TRIPS between June 2013 and June 2014. From an initial division of the meetings, the discussion seems to be, once more, between Global North and Global South countries (see also, e.g. Brown 2017). However, notably, the countries in favour of the proposal within the Global South are classified as upper-middle income countries – except for India, classified as lower-middle income,[4] although recognised as an *emerging* economy. Despite being the most vulnerable to climate change, low-income and lower-middle-income countries welcomed the discussion in this international forum, albeit without further elaboration.

This finding aligns with empirical analyses (e.g. Lee, Iliev, and Preston 2009; UNEP et al. 2010) on the potential impact of IPRs on the dissemination of environmentally sound technologies to Global South countries, including research on the 'geography of innovation' for climate change (Dechezleprêtre et al. 2011, 11). These analyses indicate that the debate often centres around a clash between Global North countries and emerging economies within the Global South. This is mainly because these 'emerging' economies 'have a greater degree of protection for such rights in their respective domestic legislation and have, in recent years, experienced remarkable growth in patent granting by their offices' (Batista 2017, 104), although in favour of companies based in the Global North. They also indicate that 'the transfer of ESTs to developing countries is far from being adequate to respond to the need for mitigating climate change' (Zhuang 2017, 42). This polarization becomes significant when discussing climate justice and international cooperation to tackle climate change, as the most vulnerable communities to its harmful effects often find themselves marginalized in these negotiations.

Moreover, Ecuador noted that, in general, countries did not dispute the necessity of addressing the harmful effects of climate change, or the fundamental role of IPRs in the transfer of climate-related technologies and, by extension, in climate change mitigation. In contrast, arguments from the Global North predominantly underscore that IPRs function as catalysts rather than barriers to innovation and transfer of climate-related technologies, while also emphasizing that Global South countries lack favourable conditions to enable access to such technologies. In their submissions, Global North countries asserted that loosening restrictions on IPRs would slow innovation down and, consequently, prove detrimental to the overarching goal of addressing climate change.

On the other hand, Global South countries highlighted the existing flexibilities of the TRIPS Agreement, stressing their interest in using them to facilitate access to technologies. These delegations' narrative also emphasised the historical responsibilities within

the CBDR&RC principle and the objectives and principles of IPR protection articulated in Articles 7 and 8 of the TRIPS Agreement. These articles encompass not only the promotion of technological innovation but also the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.

Analyses of the minutes from the Council for TRIPS meetings reveal that the Ecuadorian delegation, along with other Global South countries, acknowledges that IPRs are essential for the international transfer of climate-related technologies. Their concern lies primarily in the abuse of these rights. In this context, a strong and monopolistic-focussed approach to IPRs' protection would hinder the achievement of a wider dissemination of technologies – a goal explicitly sought by the TRIPS Agreement itself. Despite the existence of voluntary licensing, this process has proven insufficient in addressing the urgency of the climate crisis. Consequently, consensus on the use of the available flexibilities to enable access to climate-related technologies is deemed desirable. According to Global South countries, there is no need to modify the current system – a climate-friendly interpretation of TRIPS Agreement provisions would suffice.

A noteworthy instance arose when the New Zealand delegation, which opposes the contribution of the Ecuadorian delegation, argued that 'existing mechanisms consistent with the TRIPS Agreement are likely to be sufficient to deal with any problems arising from the abuse of patent rights', citing the example of compulsory licensing as permitted under Article 31.

That said, a comprehensive dialogue between the Global North and the Global South on this issue within the Council for TRIPS remains elusive. The contribution was soon removed from the political agenda in June 2016, and no recent updates about either contributions or declarations on climate-related technologies have emerged within this forum.

6. Discussion and concluding thoughts

The international governance on climate change and the international system of IPRs' protection have evolved in parallel since the early 1990s. However, despite the common theme of development and transfer of technologies, 'they functioned as two solitudes' (Klein 2014, 75). The UNFCCC and subsequent documents emphasise international transfer of climate-related technologies as a mechanism to implement the CBDR&RC principle, but do not address IPRs' protection. In contrast, the TRIPS Agreement signed in 1994, established within the domain of international trade, does not mention climate-related technologies. Furthermore, it is noteworthy that IPRs have enforcement mechanisms within the WTO and, 'if protecting IPRs and action against climate change clash, therefore […] IP laws are likely to have more practical effect' (Brown 2017, 962).

Bridging the gap between these two fields is essential for effective international cooperation to address climate change (Rimmer 2019) and development constraints that perpetuate climate vulnerabilities. As Rimmer (2019) argued, in what he calls 'the nexus between the philosophical debate over climate justice and the pragmatic discussion over intellectual property rights, technology transfer, and climate change' (17), there is a need for 'fair and equitable access to clean technologies' (ibid.) to effectively address climate change.

Influenced by previous experiences, such as the Doha Declaration on the TRIPS Agreement and Public Health, the international transfer of climate-related technologies was discussed in the context of the Council for TRIPS. These discussions aim to clarify how the international system of IPRs' protection should contribute to, or at least not prevent, addressing climate change through a wider dissemination of those technologies. However, a critical discourse analysis of the minutes shows that there was no proper dialogue between countries from the Global North and the Global South, particularly regarding compulsory licenses. Furthermore, several unique aspects of climate-related technologies were not considered in this endeavour.

Unlike the urgency of crises like HIV/AIDS and the COVID-19 pandemic, where millions of lives were directly at stake due to the lack of access to essential medicines and vaccines, discussions on climate change often lack a similar sense of immediacy. That is: despite the scientific consensus, these discussions are still characterised by a certain level of uncertainty (mostly in terms of *where* and *when*). This particularity was also noted by Veiga (2013) early in the international governance on climate change, emphasising its failed 'attempt to emulate the Montreal Protocol' signed in 1987 (63). This is because, although climate events can be predictable, these 'are nothing like the alarming news about skin cancer' (Veiga 2013, 64). Likewise, they have not evoked the same sense of urgency as HIV/AIDS or COVID-19 so far.

These discussions also often fail to consider issues of climate injustices and environmental racism, as they overlook the fact that, while the climate system is a sole process, the adverse effects of climate change are unevenly distributed, in a way that some countries and communities therewithin are more vulnerable than others (Robinson 2019). Despite some recognition of inequality patterns and colonialism, the most recent IPCC assessment reports lack a comprehensive analysis of these concerns. Furthermore, the scientific evidence has not been effectively translated into international negotiations, nor to the interpretation of the CBDR&RC principle, leading to a gap between the NDCs and the necessary GHG emission reductions required to limit global warming to 1.5°C above pre-industrial levels.

Moreover, there is a considerable level of abstraction in the concepts of climate-related technologies and technology transfer, despite their broad inclusion as a mechanism for international cooperation within the context of the CBDR&RC principle. Similarly, Dechezleprêtre et al. (2011) have argued that 'there is neither a clear and widely accepted definition of what constitutes a 'climate change-mitigation technology' nor a widespread understanding of how such technologies are diffused globally' (11). Previous studies have considered, e.g. renewable energy (e.g. wind, solar, geothermal, marine, hydropower, biomass, and waste to energy), methane destruction, climate-friendly cement, thermal insulations in buildings (Dechezleprêtre et al. 2011), climate-ready crops (Rimmer 2012), and hybrid and electric vehicles (Batista 2017). This opens the possibility of a counterargument, in the sense that no patented technologies alone will suffice to address climate change, in contrast to the realm of public health, where the goal is the access to specific medicines and/or vaccines.

Notably, the CBDR&RC principle, unlike the 'human rights' rhetoric employed in the context of the HIV/AIDS and COVID-19 crises, is not widely accepted as a clear code of conduct for governments and businesses. Rather, although being one of the main arguments of Global South countries within the Council for TRIPS, the evolution of the CBDR&RC principle, which is considered the foundation of the international governance

on climate change, remains marked by a clash between Global North and Global South countries. This challenge hinders international cooperation to address climate change. Despite an overall agreement towards Global North countries' leading role in taking measures to mitigate and adapt to climate change, those emphasise differentiation based on their current technical and financial capabilities. On the other hand, Global South countries advocate for differentiation based on historical responsibilities for GHG emissions. Legally, the CBDR&RC principle has evolved from a top-down approach in the UNFCCC and the 1997 Kyoto Protocol to a more nuanced self-differentiation approach in the 2015 Paris Agreement. Notably, Global South countries explicitly mention the need for financial assistance and the transfer of climate-related technologies in their NDCs, while the Global North does not propose mechanisms to promote international cooperation. These divergent interpretations have shaped the discussions within the Council for TRIPS, resulting in a lack of dialogue between delegations and ultimately contributing to its failure. This is also coupled with a lack of in-depth discussions about its connection to climate justice (Cameron, Shine, and Bevins 2013).

It is noteworthy that, beyond the compulsory license of patents, discussed within the Council for TRIPS, this paper has not focussed on existing initiatives for transfer of climate-related technologies, e.g. patent pools, such as GreenXChange, Eco-Patent Commons, or Global Innovation Commons, national fast-track IPR programmes, and WIPO GREEN. First, because of their voluntary nature, rather than a legal approach within the international governance mechanism. Second, because these initiatives would need to scale up further in order to achieve their goals and induce transformational changes towards climate justice (see, e.g. Batista 2017; Brown 2017; Rimmer 2019).

On the other hand, the relationship between human rights and climate change, particularly in informing the discussions on the CBRC&RC principle and climate justice, is a growing area of concern and research (see, e.g. Brown 2017). It is acknowledged that climate change poses a threat to a range of internationally agreed-upon human rights, including the rights to life, health, food, water, and shelter (Phelan 2018), further increasing disparities in development constraints between Global North and Global South countries. Additionally, the United Nations Human Rights Council has also been advocating for a rights-based approach to addressing the climate crisis.[5] However, despite also being embedded in equity, the CBDR&RC principle, and climate justice discussions, the language of human rights was not used by Global South delegations within the Council for TRIPS. Already recognised, though, is the 'right to enjoy benefits from scientific progress and its applications', which Phelan (2018) argues to be a 'specifically identifiable human right to technology transfer itself' (134). As such, human rights should inform a broader multi-sectoral and holistic framework to climate action and policies (Phelan 2018), both internationally and domestically.

In conclusion, appropriate responses to climate change provide a challenge to the current structure of IPRs' protection, as well as other institutions embedded in racial capitalism in a broader sense. This challenge can be tackled through a critical understanding of the role of IPRs in addressing development constraints, as well as by interpreting the provisions of the TRIPS Agreement in a climate-friendly manner (see, e.g. Batista 2017; Zhuang 2017) to improve access to climate-related technologies in the Global South. A critical (Sultana 2022a), intersectional (Mikulewicz et al. 2023), and transformative (Newell et al. 2021) approach to climate justice should be employed to establish a shared baseline understanding of the CBDR&RC principle, recognising historical

responsibilities and technical and financial capabilities as two sides of the same coin. That is, a vicious circle, in which Global North countries have emitted more GHG in the atmosphere because of their process of industrial development – which, in turn, has enhanced their better capabilities to deal with the climate crisis. Hence, as Sultana (2022a) has previously argued, climate justice can be 'an explanatory tool that helps better explain the relationships at different scales that co-create and maintain injustices' (118–119). This understanding can guide the role of IPRs and global development in the twenty-first century, focussed on addressing inequalities within the climate crisis.

Notes

1. Racial capitalism is a concept that emphasises the interconnectedness of race and capitalism and highlights how racial hierarchies were integral to the development of capitalism, drawing upon Cedric J. Robinson's 'Black Marxism'. In the context of climate change, this concept informs a critique of the Anthropocene as an "easy story. Easy, because it does not challenge the naturalised inequalities, alienation, and violence inscribed in modernity's strategic relations of power and production" (Moore 2016, 81–82). Drawing upon this, Vergès (2017) proposes to write a "history of environment that takes into account the history of racial capitalism", framing it as the racial Capitalocene era (p. 61; see also Pulido 2018 about racism, racial capitalism, and the Anthropocene).
2. The author chose to use the language of Global North and Global South, instead of 'developed' and 'developing' countries, driven by the recognition that framing countries in a continuous and ideal process of development and economic growth can be problematic. It implies that so-called 'developing' countries should strive to achieve a 'developed' status without questioning the underlying assumptions and long-term goals of such development paths. While the nuanced discussion is beyond the scope of this paper, it is worth acknowledging the rationale (see, e.g., Cameron, Shine, and Bevins 2013, 8). As Sultana (2023) has argued, "the heuristic device of Global North and Global South, while contested, remains a useful socio-spatial demarcation of historical difference and unequal geopolitical power relations, even though it does not fully account for the diverse contexts, needs, and capacities of different communities, particularly those across the Global South" (p. 7), or the "minoritized communities in the Global-North" (Sultana 2022a, 120; see also Francis 2021).
3. The contribution and all the minutes from the meetings of Council for TRIPS are available on: https://docs.wto.org (accessed 09 November 2021).
4. The classification used in this division is based on the database of the World Bank, available on: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups (accessed on 31st October 2023).
5. The United Nations Human Rights Council has adopted several resolutions that highlight the importance of a rights-based approach to addressing the climate crisis, e.g., Resolution n. 43/11 – "Human Rights and the Environment" (2021), that calls for the promotion and protection of human rights in the context of the environment, including the effects of climate change; and Resolution n. 41/14 – "Climate Change and the Enjoyment of Human Rights" (2020), that highlights the impact of climate change on the enjoyment of human rights and the need for a rights-based approach. These resolutions can be found on the official website of the United Nations Human Rights Council: https://www.ohchr.org/EN/HRBodies/HRC/Pages/HRCIndex.aspx.

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