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Can Global Environmental Governance be the Remedy of the Problems That Globalization Has Caused?

Dapatkah Tata Kelola Lingkungan Global menjadi Solusi bagi Masalah yang Ditimbulkan oleh Globalisasi?

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Abstrak:
Peningkatan intensitas kerusakan lingkungan and perubahan iklim menunjukkan sinyal bahaya yang dapat terjadi di masa depan. Globalisasi dipandang memainkan peran penting dalam menyebabkan masalah lingkungan dan iklim yang diakibatkan oleh peningkatan perdagangan dan rantai pasok global. Di sisi lain, beberapa akademisi juga berpandangan bahwa globalisasi dapat menjadi wahana untuk memfasilitasi tata kelola lingkungan global yang diharapkan mampu mengatasi masalah lingkungan dan iklim. Berangkat dari permasalahan tersebut, tulisan ini bertujuan untuk menginvestigasi apakah tata kelola lingkungan global dapat mengatasi masalah lingkungan dan iklim yang telah ditimbulkan oleh globalisasi. Menggunakan metode studi literatur, tulisan ini membedah upaya tata kelola lingkungan global dalam mengatasi masalah lingkungan dan iklim. Dengan berfokus pada UNFCCC dan Perjanjian Paris, tulisan ini menunjukkan bahwa tata kelola lingkungan global saat ini masih belum dapat secara efektif mengatasi masalah lingkungan dan iklim yang diakibatkan oleh globalisasi.

Kata-Kata Kunci: **Globalisasi, Kerusakan Lingkungan, Perubahan Iklim, Tata Kelola Lingkungan Global**

Abstract:
The accelerating pace of environmental degradation and climate change demonstrates the mounting threats in the near future. Globalization arguably plays crucial part in causing the environmental and climate problems due to the intensification of global trade and global supply chain. However, some scholars also argue that globalization serves as the avenue to facilitate global environmental governance which are expected to mitigate the impact of environmental problems and climate change. Against these backdrops, this paper aims to investigate whether global environmental governance could be the remedy of the problems that globalization has caused. Using literature study, this paper examines current global environmental governance as global efforts in mitigating the impact of environmental and climate problems. By focusing on the UNFCCC and Paris Agreement, the findings suggest that current global environmental governance still could not effectively address and mitigate the environmental and climate problems that globalization has caused.

Keywords: **Globalization, Environmental Degradation, Climate Change, Global Environmental Governance**

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Introduction

During the 2024 year-end statement, UN Secretary General addressed that the world had just endured the warmest, if not hottest, decade ever recorded during 2015-2024. (United Nations, 2024). The World Meteorological Organization (WMO) has also confirmed that 2024 broke the record of the highest average temperature within a year, hitting 1.55°C above pre-industrial level (WMO, 2025a). The record continues to break in the early 2025 as WMO confirmed that January 2025 was recorded as the hottest 'January' (WMO, 2025b). These phenomena only confirm that global warming and climate change continue to loom over the near future. However, despite the urgency to reduce emissions for limiting the warming below 1.5°C, current national policies of most countries only set the world on track for warming of 3°C (United Nations, 2025).

The intensifying environmental and climate problems, which are characterized by rising greenhouse gas emissions in addition to biodiversity loss and natural resources depletion, cannot be separated from the globalization that has shaped the late twentieth and early twenty-first centuries (Chew and Sarabia, 2016; Zhang et al., 2022). Like a double-edged sword, globalization—generally defined as the intensification of cross-border flows of goods, capital, information, and technology—has driven unprecedented interdependence and economic growth while also establishing production and consumption pattern that destabilize the ecological systems of the Earth (Peters, 2011; Figge et al., 2017; Wen et al., 2021). On the other hand, globalization also contribute to promote and facilitate collective efforts to mitigate the risks of climate change, mainly through global environmental governance (Sachs, 2015).

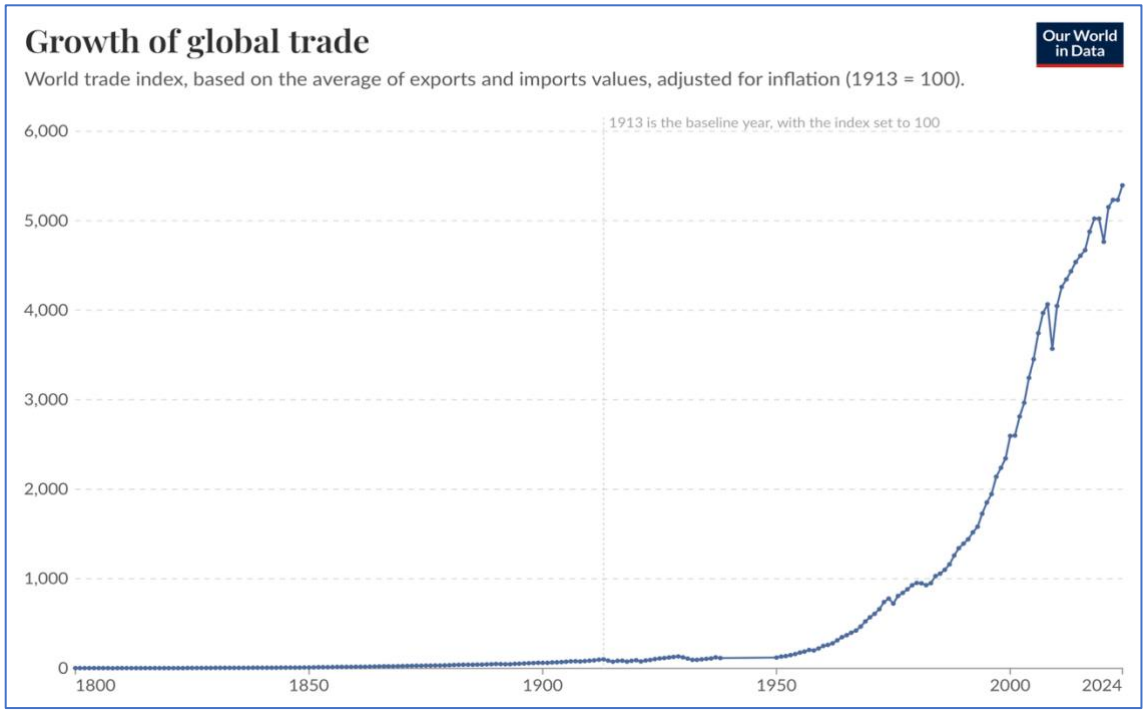
Against these backdrops, this paper aims to investigate whether global environmental governance could remedy the problems that globalization has caused. This paper begins with discussing how globalization has significantly caused environmental degradation and climate change. The next section investigates how global environmental governance, particularly the United Nations Framework Convention on Climate Change (UNFCCC) and its Paris Agreement as the feature of globalization, strives to mitigate the impact of climate change and environmental degradation. The following section elaborates the challenges faced by the UNFCCC and its Paris Agreement in mitigating the climate change. Using literature study, this paper argues that current globalization, represented global environmental governance, still could not

effectively mitigate the environmental problems that it has caused, despite its potential remedy.

Environmental Degradation and Climate Change as the Consequences of Globalization

Global warming and climate change are mostly caused by the emissions from fossil fuels which have become the primary energy sources to power industrialization and global economic growth (Ritchie and Rosado, 2017; Hussein and Abdullahi, 2024). Industrialization and economic growth have arguably been intensified by the globalization. There are indeed debates on defining globalization. Some scholars argue that globalization is characterized by the increased and borderless trade and investments across countries as the consequence of reduced trade barriers which allow vast movement of goods, services, and capital across countries and create economic interconnectedness, which then contribute to both global and local/domestic economic development (Ohmae, 1990; Irwin, 2022). Other scholars, such as Hirst, Bromley, and Thompson (2009) argue that globalization is not actually global as the trade are geographically concentrated in some regions rather than global and the economic interconnectedness has already happened since the British and the other empires.

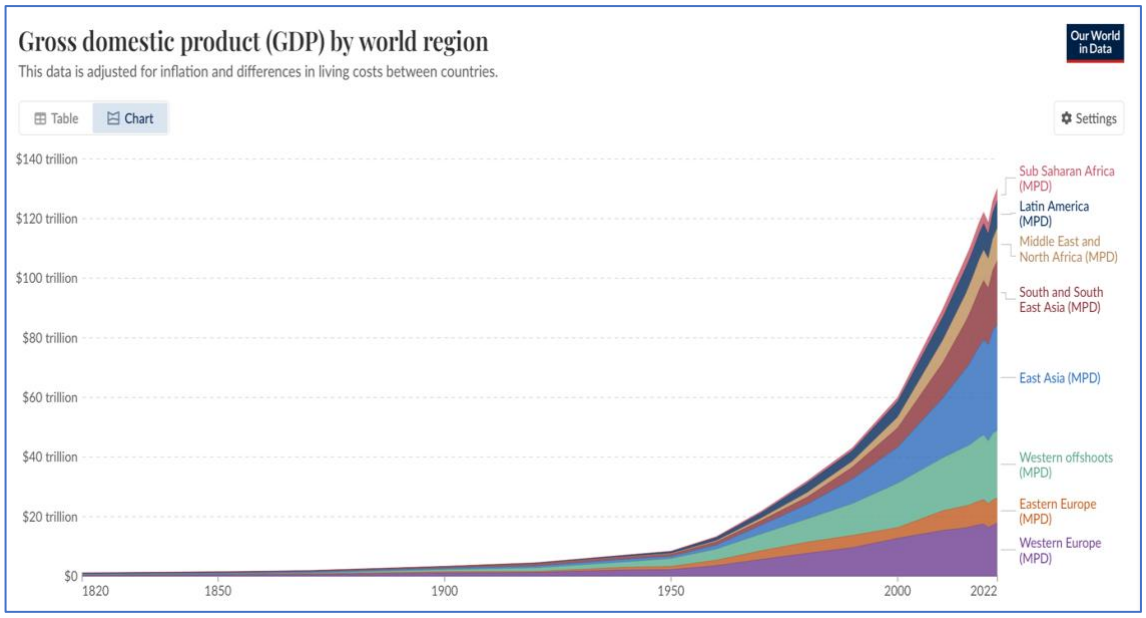
Figure 1. Growth of GDP by World Region



Source: Our World in Data, 2024a

However, despite the debate on the scale of region and the exact period of the so-called 'globalization', statistics suggest that international trade indicated by export and import of goods across border has happened since 1800 and continue to significantly intensify during the period of after 1950 until today as being shown in figure 1 (Our World in Data, 2024a). The increasing volume of international trade also indicates that national economies have been increasingly integrated to a global economic system over time since 1800 to today.

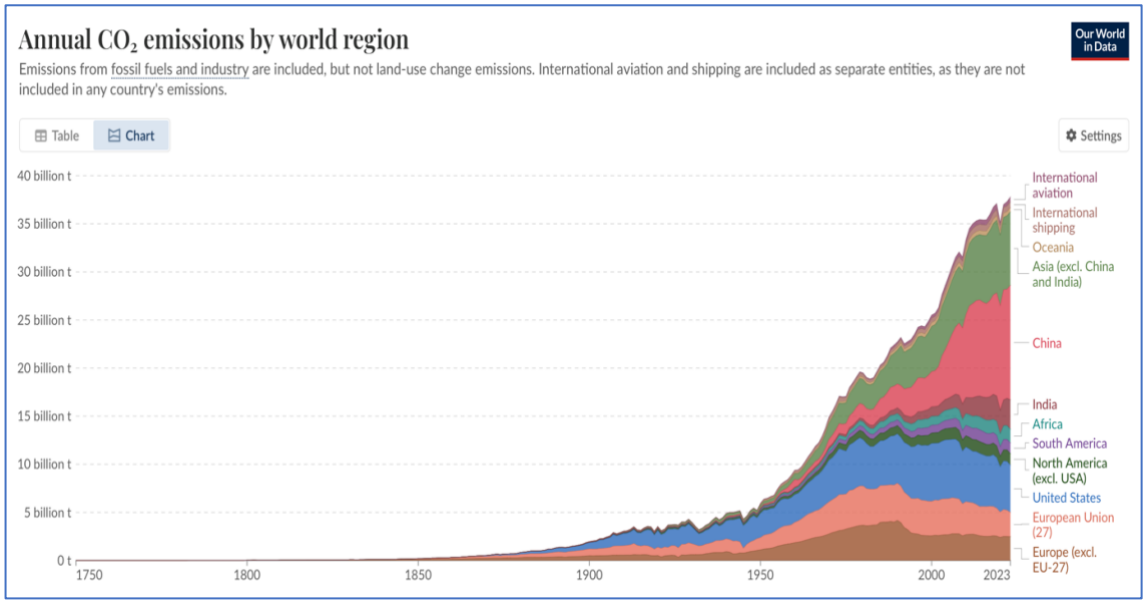
Figure 2. Growth of GDP by world region



Source: Our World in Data, 2024b

Likewise, statistics also suggest that countries have enjoyed economic growth during the same period from 1800 until today, with the exponential increase also happens in identical period of around 1950, as being demonstrated in figure 2. Such economic growth is indicated by the Gross Domestic Product (GDP) of each country in various regions. The figure also showcases that countries in East Asia region enjoy the significant growth, followed by countries of Western ofshoots among others the U.S., Australia, Canada, and New Zealand, as well as countries in Western Europe. These countries are known as developed countries or Global North which largely consist of wealthy and industrialized states with high levels of income and dominate global political and economic systems (Kowalski, 2021).

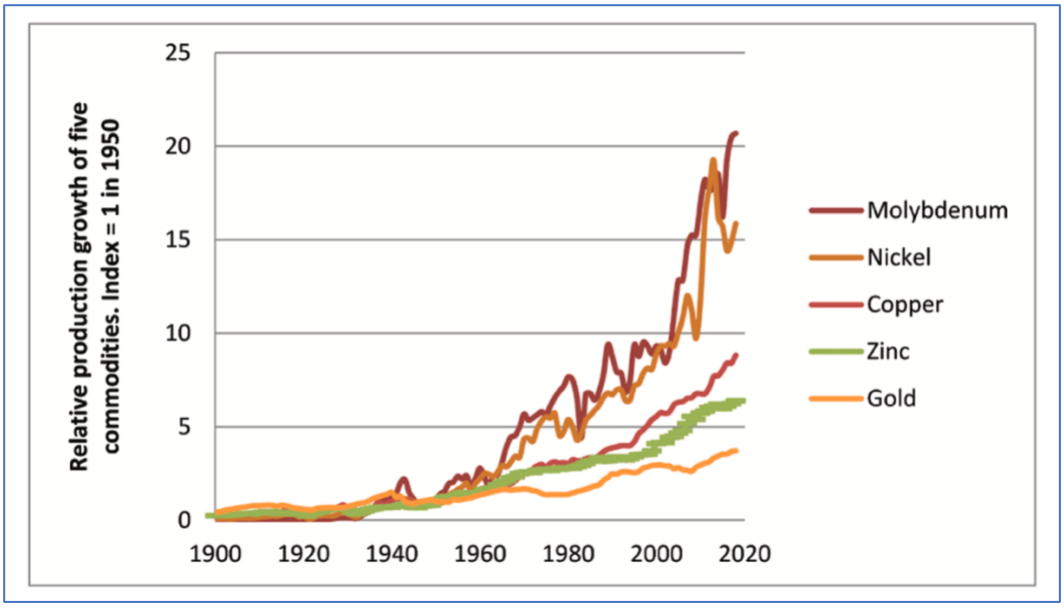
Figure 3. Annual CO2 Emissions by World Region



Source: Our World in Data, 2024c

On the other hand, the amount of annual carbon emissions have also experienced an identical surge during the same period. The exponential surge also started to happen from around 1950 until recent period. Countries in Asia region apparently contribute large share of both annual carbon emissions as well as emission growth with the uptick trend. China alone holds the most salient share of the increasing amount of annual carbon emissions in Asia region. In contrast, despite still holding noticeable share of carbon emissions, developed countries represented by the U.S. and European countries are seen to successfully manage in reducing their annual carbon emissions.

Figure 4. Global Extraction of Five Mineral Commodities per Annum



Source: Henckens, 2021

Another trend with identical surge within the similar period could also be observed in the global extraction and production on five mineral commodities namely molybdenum, nickel, copper, zinc, and gold. Such growing demand for essential industrial minerals since 1950 then accelerated after 2000 are mostly driven by industrialization, development of technology, massive electrification, and clean energy transition (Heckens, 2021). A more staggering growth appears in the global production of molybdenum and nickle to support the rising demands for high-strength alloys, steel production, and battery materials (Heckens, 2021).

Having learned those four trends, it is justifibale to argue that there are significant correlations which could be observed from the identical surge between volume of global trade, global economic growth (measured in GDP), and annual carbon emissions from the age of empires to recent period as well as global extraction of five mineral commodities per annum from 1900 to 2020. Such surges are the consequences of global industrialization which are intensified by globalization.

The expansion of global trade networks has relocated energy-intensive industries from developed to developing countries, where less stringent environmental regulations often allow cost-cutting practices which cause deforestation, pollution, and fossil fuel dependence (Dauvergne, 2018). Likewise, the integration of global supply chains also promotes a race to the bottom, where states compete to attract foreign investment by offering lenient environmental standards which consequently amplifying carbon emissions and resource extraction (Jorgenson and Clark, 2012). Such mechanisms demonstrate how economic development correlates with environmental degradation, with globalization acts as a structural driver of climate change. Therefore, it is fair to argue that globalization has contributed to environmental degradation, among others the increasing emissions and natural resources depletion, which led to climate changes even since the age of empires.

In this regard, climate change is not merely an environmental or technological problems but rather a systemic outcome of a global economic order which prioritizes profit and perpetual expansion over ecological capacities. Unfortunately, the consequences of this order are uneven. Extreme weather, rising sea levels, and resource depletions disproportionately threaten populations in the Global South, which generally contribute least to global

emissions yet face the most profound adaptation challenges (Roberts and Parks, 2006). Therefore, rather questioning whether globalization is to blame for environmental degradation, it is more critical to investigate whether global environmental governance, which also represents globalization, could remedy the environmental problems that it has long caused.

Global Environmental Governance for Addressing Climate Change

Concerns on mitigating climate change while advancing development started to gain attention from countries since the establishment of the UNFCCC in 1992 at the Rio Earth Summit. Countries acknowledged the common problems on the atmosphere which urged them to share responsibilities to collectively protect the atmosphere from worsening. Since then, the UNFCCC has become the conerstone of climate governance as countries institutionalized their commitments and global collaboration for addressing climate change and decelerating the global warming, with aim to 'stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate' (UNFCCC, 1992; Hermwille et al, 2017). To achieve common goals for addressing climate change, the UNFCCC introduced 'Common But Differentiated Responsibilities and Respective Capabilities' (CBDR-RC) as their guiding principle in navigating the different circumstances between developed and developing countries as stipulated in Article 3 Paragraph 1. This principle not only acknowledges historical inequalities of emissions between developed and developing countries, but also urges developed countries that have better capabilities than the developing countries to take the lead in implementing mandates under the UNFCCC (Rajamani, 2000).

Comprising of almost all countries, the UNFCCC is considered as a representation of global environmental governance which organizes multilateral cooperation for addressing common environmental challenges (Youg, 2002; Biermann, 2014). It does not only provide a venue for norm-setting, but also create a negotiation system which focus on process-oriented, exchange of information, and policy coordination. The annual Conference of the Parties (COPs) of the UNFCCC serves as the institutionalized arena where global environmental diplomacy takes place. Thus, Biermann and Pattberg (2008) labeled the UNFCCC as 'earth system governance' which refers to a networked

and multi-level system of authority aiming at managing the planet's ecological stability.

Going forward, the UNFCCC continues to strengthened its architecture as global climate governance by producing Paris Agreement in 2015, replacing Kyoto Protocol which was previously agreed in 1997. Kyoto Protocol and Paris Agreement are considered as two major agreements in governing the global cooperation to address environmental problems, particularly climate change. Its significant transformation lies on the shifting from Kyoto Protocol's centralized model to a bottom-up approach with Nationally Determined Contributions (NDCs). With this approach, each country sets its own commitment on mitigation and adaptation targets which reflect respective national circumstances, capacities, and capabilities, while contributing to the global collective efforts in limiting the warming to below 2^{o}C above pre-industrial levels and achieving the limit of 1.5^{o}C (UNFCCC, 2015).

Paris Agreement remains the latest agreement which brings almost all countries into common ambitious efforts to mitigate climate change and adapt its effects, with enhanced commitment from developed countries to support the developing countries (UNFCCC, 2018). To date, the UNFCCC and Paris Agreement arguably remain the most global environmental platform and framework. The UNFCCC consists of 198 parties and the Paris Agreement has 195 signatories respectively. In addition, the annual COP has also become forum for civil society, businesses, and larger scientific communities to discuss the common environment problems and enabled increasing numbers of transnational governance initiatives (Hermwille et al, 2017). This nearly universal participation has arguably put the UNFCCC and the Paris Agreement to enjoy global legitimacy for navigating the climate issues (Thompson, 2024).

With such ramification which involves broad range of actors rather than solely relying on government-to-government negotiations, the UNFCCC with its Paris Agreement has been perceived to shift into a polycentric and networked governance (Ostrom, 2010; Hale, 2016). Distributed authorities across local, national, and global levels signify the rise of multi-level governance (Betsill and Bulkeley, 2006). Expanded architecture of the Paris Agreement beyond intergovernmental processes has also enabled the involvement and contributions of non-state and subnational actors. Their involvements have inspired several initiatives to implement the target set by Paris Agreement, such as C40 Cities Climate Leadership Group, RE100, and Race to Zero. Those initiatives demonstrate the utilization of global platforms by corporations and

municipalities to foster decarbonization and renewable energy commitment. Such initiatives also represent the orchestration in governance which allow international institutions to coordinate various actors without direct command authority (Abbott, 2012).

With all these features, the Paris Agreement model arguably demonstrates the logic of globalization which promotes flexibility, inclusivity, and interconnectedness. It promotes global communication networks, financial systems, and intergovernmental partnerships to facilitate collaboration. For instance, the Green Climate Fund (GCF) operationalizes the principle of climate justice by channeling financial support from developed to developing countries. If this mechanism could be equitably managed, it can accelerate technology transfer and sustainable investment in the Global South which could align economic globalization with ecological modernization (MoI, 2001; Clapp and Dauvergne, 2011; Stiglitz, 2019).

Gridlock of the UNFCCC and Paris Agreement

Apart from being the current global avenue for managing cooperation in addressing environmental problems and seemingly feasible governance, the UNFCCC and Paris Agreement are always under scrutiny for critics. Gridlock appears to be the main challenge of the UNFCCC and Paris Agreement. Gridlock could be defined as the condition where the global governance as the venue for global cooperation face difficulties or could not even function in addressing the growing and more complex global problems (Hale et al., 2013). According to Hale et al. (2013), there are four pathways for an institution/governance to arrive at the state of gridlock namely growing multipolarity, institutional inertia, harder problems, and fragmentation. These four pathways could be observed in the UNFCCC and Paris Agreement which lead into their gridlock.

Problem on multipolarity could be observed from the participation of 198 countries which have become the Parties to the UNFCCC. The UNFCCC categorizes these countries into developed and developing countries, also known as Global North and Global South, which have different circumstances and capabilities in implementing the climate policies. The UNFCCC, therefore, adopted the principle of CBDR-RC to cater these different economic circumstances between two groups. This idea seemed to initially work well, as it has also led the successful implementation of the Montreal Protocol which govern ozone problems by providing technical assistance and grace period for developing countries (Hale, 2017).

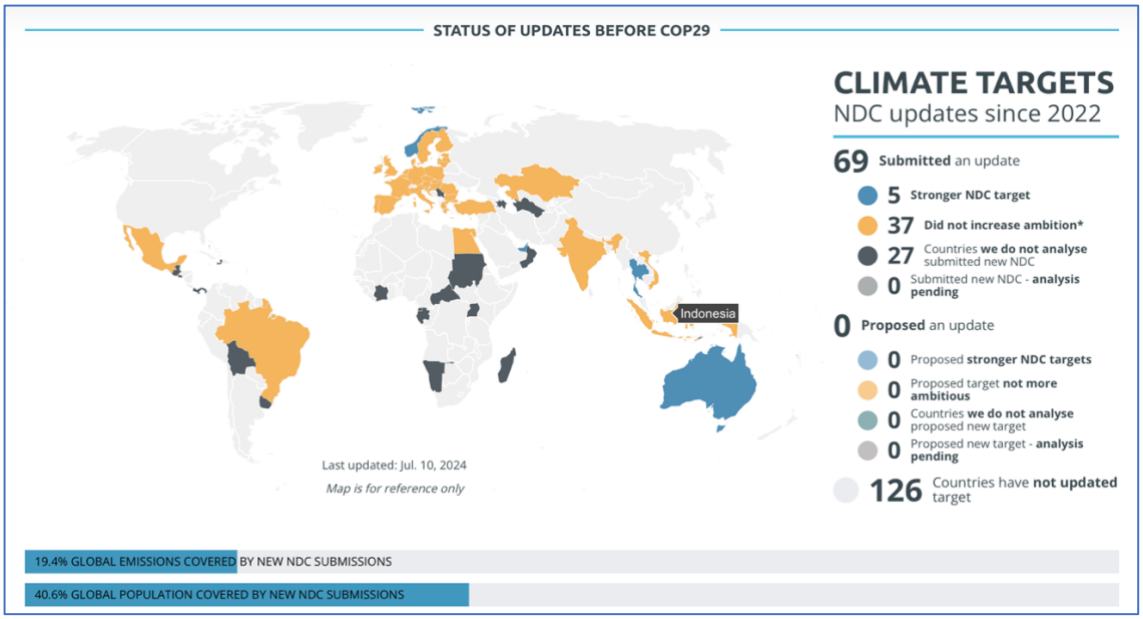
However, such principle apparently is not seamlessly applicable to the UNFCCC and Paris Agreement since this categorization also encompasses deep-rooted sentiment between the two groups. Developing countries demand the developed countries to be responsible for the current environmental deterioration due to their historical industrialization as well as demand for being compensated having less responsibility while doing their industrialization period (Ülgen, 2021). On the other hand, developed countries also demand the developing countries to take greater responsibility since their current industrialization largely contribute to the current surge of emissions (Ülgen, 2021).

The UNFCCC and Paris Agreement could not sufficiently accommodate the Global North-South divide and solve the deep-rooted tensions between North and South on the problems of historical environment problems and different capacity and capabilities (Okereke, 2010). Global South always perceived that environmental problems are mainly the responsibility of Global North or developed countries due their historical industrialization. Global North are also perceived as unable to fulfil its obligation particularly in providing climate finance and technology transfer to Global South or developing countries (Robert and Weikmans, 2017). Such dynamics has reduced the trust between North and South in the climate governance. Some developing countries such as China, India, Brazil, and Indonesia, have risen as new emerging economies as well as amongst the world's largest emitter (Hale, 2017). Therefore, their interests and concurrence need to be taken into consideration to enable the climate cooperation functions. This multipolarity has contributed to complicate the negotiation process in the UNFCCC meetings which consequently slow down its progress.

On institutional inertia, the dichotomy of developed and developing countries appears to be problematic, as such categorization is no longer relevant with current condition, where China and India have emerged as the new economic powers (Hale, 2017). China and India tend to defend its status of developing countries as they might be benefited from this categorization because of the lower responsibilities following the status as developing countries (Mizo, 2016). It further affects to the level of ambition and fulfillment of commitment from member countries. Lack of ambition from countries remains the major challenges (Clemencon, 2023). Level of ambition under Paris Agreement might seems ambitious compared to business-as-usual (Torstad, 2020). Nevertheles, the submitted NDCs under Paris Agreement demonstrates insufficient ambitions as

the current submitted NDCs still lead the temperature rise to 2.8°C, far away above 1.5°C as the goal of Paris Agreement (Clemencon, 2023).

Figure 5. Climate Targets since 2022



Source: Climate Action Tracker, 2024

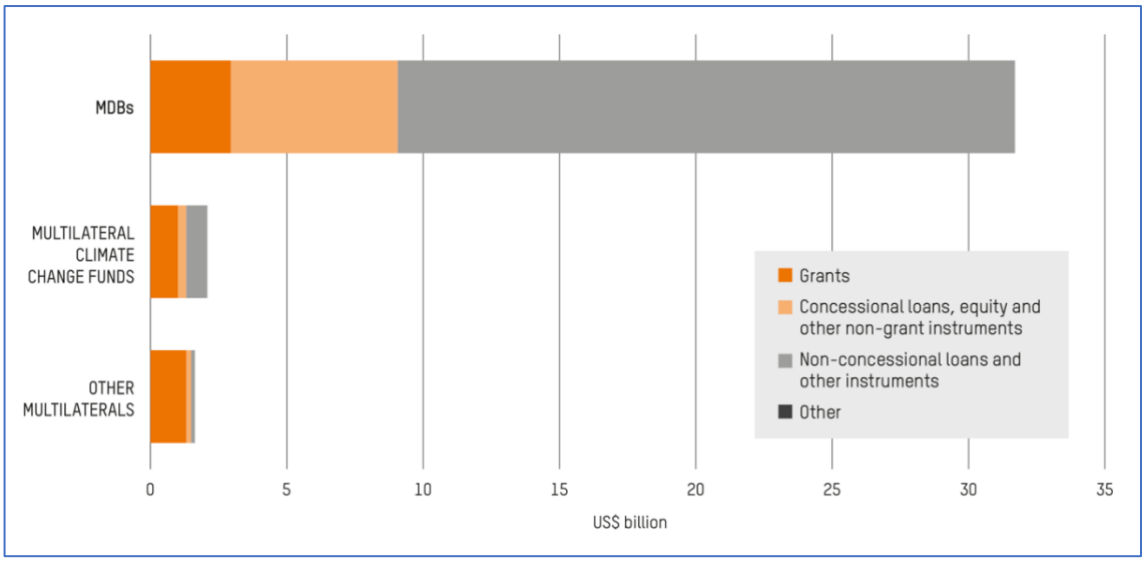
Lack of enforcement for the implementation of its commitments also remains a challenge. Both UNFCCC and Paris Agreement are legally binding documents but containing many voluntary clauses in its substances without any clear penalty mechanism if the parties are unable to meet their own targets (Bodansky, 2016). The UNFCCC and Paris Agreement have indeed a mechanism to stocktake countries' NDCs and their review. However, such mechanism is arguably weak to urge countries to give their most ambitious efforts in both setting their target as well as implementing their own commitment, as it merely relies on peer pressure rather than a binding target and enforcement (Rajamani, 2015; Keohane and Oppenheimer, 2016; Dimitrov, 2016).

Climate change could also be considered as harder problem to be tackled and contribute to the state of gridlock of the UNFCCC and Paris Agreement, as it correlates with social, economic, and political aspects of human life which requires fundamental changes of economic system that has been established since the Industrial Revolution (Hale, 2017). Climate change is also considered as wicked problem rather than tame one, as the target is unclear and even contested and the proposed solutions to limit the global temperature below 1.5-2°C above the industrial level whether by maintaining the certain amount of CO2 in the atmosphere or allowing the emission of specific amount CO2 are often debated (Rittel and Webber, 1973; Grundman, 2018). It is unlike the ozone depletion

problem which is considered as tame one since it has certain target to be pursued, -to restore the ozone layer to certain measurement through proposed solution as outlined in the Montreal Protocol by shifting to the alternative technologies (Grundman, 2018).

Climate finance could be seen as the true test case of global efforts in navigating the climate and environmental problems under the UNFCCC and Paris Agreement. Under the Paris Agreement, developed countries are obliged to provide financial assistance to developing countries to help mitigating and adapting the adverse impacts of climate change. An annual USD 100 billion has been agreed under the Paris Agreement to be achieved by 2020. However, such target could not be achieved in timely manner. Report form OECD and Oxfam have outlined that the actual, new, and additional finance is far below the promised even the reported amounts, which are only USD 83,3 billion in 2020 and USD 89,6 billion in 2021 (OECD, 2023). The finance in form of grant only consists of about 20%, amounting around USD 21 billion, from the reported figures, with the rest are mostly in form of loans and other private finance (Oxfam, 2023).

Figure 6. Multilateral Climate Finance by Financial Instrument 2019-2020



Source: Oxfam, 2023

This problem might occur due to the absence of clear definition of climate finance which allow donor countries to include loans, export credits, and previously allocated aid which lead to exaggerated figures due to double counting (Oxfam, 2023). The problem of climate finance has demonstrated broken promises and structural injustices which leave developing countries struggle to fight climate change and environmental problems. The renewed

commitment for USD 300 billion up to USD 1,3 trillion annual climate finance by 2030 as agreed in COP29 also invites harsh critics from most developing countries as it was perceived too low for helping developing countries meeting their climate policy targets and potentially repeat the mistakes in the previous climate finance mechanisms (Igini, 2024).

Lastly, discussion on tackling the climate change has led to fragmentation as climate change has been discussed in various governance beyond UNFCCC, which might lead to conflicting institutional commitment, redundancy of efforts, and forum shopping (Hale, 2017). Until today, it could still be found that other governance or forum such as G7, G20, ASEAN, BRICS, also discuss about the climate change which the commitment in each forum might be overlapped and often conflicting.

Such condition has been further worsened by the U.S. withdrawal from the Paris Agreement under Trump's administration. The world witnessed the effort of U.S. withdrawal twice in 2020 and 2025. As one of the world's largest historical emitters and a major player in climate diplomacy, the U.S. withdrawal shakes the international community. It does not only undermine the legitimacy of the agreement but also weaken the collective ambition. The U.S. remains a major contributor to international climate finance, including the Green Climate Fund and its withdrawal raised concerns about funding gaps and the reliability of multilateral commitments (Civillini, 2025).

The U.S. withdrawal could be seen as a drawback from multilateralism and could influence other countries' climate ambition which potentially encourage pessimist behaviour in UNFCCC negotiations (Harstad, 2025). The impact to institutional credibility and diplomatic trust could not be neglected, though the U.S. rejoined the Paris Agreement in 2021 under Biden's administration. In addition to the existing sceptical views on the willingness of the Global North to meet their obligations, developing countries views the U.S. withdrawal as further confirmation that climate commitments are unstable and politically vulnerable, especially when it is not legally binding and consequently lack of enforcement mechanisms (Bodansky, 2016; Cullenward and Victor, 2020). These dynamics also underlined the fragility of international agreements which rely on voluntary mechanisms and peer pressure rather than binding and rigid clauses will lead to underperformance and delay.

To sum up, the UNFCCC and Paris Agreement are trapped in a complex gridlock caused by the deep-rooted North–South divide, the unmet climate

finance commitments, and the major power (U.S.) withdrawal. These challenges represent not only procedural but also deeply political problems, reflecting competing visions of justice, responsibility, and sovereignty. Global environmental governance will continue to struggle to challenge its own contradictions if these structural issues are not comprehensively addressed.

Conclusion

The UNFCCC and Paris Agreement as the global environmental governance seems unable to effectively address and remedy the environmental problems that globalization has caused. Both the UNFCCC and Paris Agreement experience gridlock and could not resolve the problems which lead to the gridlock. Multipolarity of their member countries contribute to maintain the unresolved the deep-rooted North-South divide which is derived from the difference capability and capacity. Lack of ambition to set the targets and fulfill the commitments also further limit the UNFCCC and Paris Agreement in achieving their targets. Failure to meet the Climate Finance target as promised also contributes to worsen the existing distrust between developed and developing countries. Major power retreat as represented by the U.S. withdrawals and lack of enforcement agreement only aggravate the seemingly week and less-substantial agreement and will lead to further ineffective and delay of the implementation. Lastly, as a final thought, this paper suggests that much works need to be done for ensuring the UNFCCC and Paris Agreement escape from its state of gridlock in order to really function for addressing the environmental degradations caused by globalization.

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