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Climate Change as a Security Threat: Theoretical Dilemmas and the Limits of Climate (In)Action in the Anthropocene

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ABSTRACT

The rising recognition that environmental degradation is no longer just about ecology; we are now seeing resource scarcity, loss of biodiversity, and ecological decline as important security problems, not just at the level of nation-states but also at other levels of society. As a result, over time, the climate-security linkage has emerged onto the main international debates concerning climate change. The emergence of the Anthropocene has challenged many of the underlying assumptions we had about how to control or predict climate change. This paper considers this by viewing the environment as a security object and exploring how different theoretical lens will shape how we respond to climate change. The paper analyses climate security through the prism of international regime theory, hegemonic stability theory, and securitization theory — all of which highlight specific tensions within these theoretical perspectives. Although these theoretical frameworks give political weight and urgency to climate issues, they also have the potential to sideline underlying structural drivers of climate issues and to promote state-centrist responses to climate issues. Ironically, as a result of this, despite increased focus on climate issues, many of our existing mechanisms are not structured to adequately address the breadth and complexity of the climate crisis.

Keywords: *Anthropocene; Security Paradigms; Climate Security; Ecological Security; Climate Change Governance.*

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Introduction

The Widening of Security: The Case for Environment

When we say security, we often think of violence, but we should also recognize that security includes all aspects of survival. Therefore, if you believe that humans depend on all of the functions of an ecosystem (i.e., water, food, and a liveable space), then the absence of that ecosystem means that the ability to survive can be compromised and therefore a sense of insecurity is more naturally created. Detraz and Betsill illustrate this point well and show how environmental degradation threatens the material foundations of life itself (Detraz & Betsill, 2009).

However, the pathway from ecological degradation to insecurity usually runs through political, market, and social inequalities. At this point in time, it may not be that easy of an explanation. Environmental damage is often referred to as a threat multiplier. While this term is somewhat technical, it describes the reality of the situation as it relates to climate stress. Climate stress will exacerbate existing problems such as poverty, inequality, and weak state institutions, and this has been formally documented by the International Committee of the Red Cross (ICRC) in its report on Iraq in 2020 (*When Rain Turns to Dust | International Committee of the Red Cross*, 2020). The ICRC report notes how years of conflict destroyed water infrastructure, degraded governance capacity, and created immense water shortages that resulted in social instability and unrest. Put simply, the conflict created damage to the environment and created further conflict as a result of that damaged environment. Yemen exemplifies how the sequence is repeating, like other parts of the world. The underlying cause of the violence can be interpreted as a "power struggle", yet the analysis developed by the Centre for Climate and Security in relation to Yemen shows that the continued, escalating pressure on the environment, particularly from lack of water, played a major role in the escalation of tensions and in creating a longer duration of a humanitarian crisis.

The continued water shortages increased the food insecurity for many communities, reduced local economic opportunities, and forced migrant journey's directly creating a greater problem with social fragmentation. These cases do fit well into the resource-based explanations for intrastate conflict, however there are those who argue that resource-based explanations raise a controversy. The criticism to this line of reasoning is based on the idea that the term security continues to get stretched too far by including environmental issues. From this perspective, security continues to be defined by violence and human intent and this argument goes back to Hobbesian perspective.

The criticism from Deudney provides an excellent illustration. While environmental degradation can cause death or injury, it cannot be described as security in a conventional sense, because it is not violent in and of itself (Deudney, 1990). Conversely, many view this narrow definition of security as increasingly inconsistent with the contemporary reality; for instance, Busby and others advocate for an expanded vision of security that encompasses not just military threats or state borders, but also the political, economic, social, and environmental dimensions (Busby, 2021) . Dalby has similarly tried to introduce ambiguity into the distinction between environmental alterations and war, thereby challenging traditional views on security from a Cold War perspective (Dalby, 2010).

In this light, adopting a military-only view of security may be seen less as intellectual integrity and more as a lack of understanding. A traditional military view of security begins to appear, over time, less as a matter of conceptual clarity and more as a form of analytical blindness to reality. The view that the environment does have some value in relation to the security of the state is supported, at least to some extent, by Deudney; however, he acknowledges that environmental degradation constitutes a risk to security in cases where it is directly related to the violence of armed conflict or preparation for such an act (Deudney, 1990). The area of radioactive contamination from the use or production of nuclear weapons fits within the definition of security. However, the problem for many security studies scholars is that the majority of environmental harm is not the result of armed conflict but instead accumulates gradually through the lack of regulatory oversight, lack of industrial regulation and long-term neglect

of the environment. Some scholars in this school of thought believe that due to the accumulation of environmental harm outside of armed conflict, and therefore influencing long-term environmental security, issues regarding the state and a state's security should remain outside of the discipline of security studies, for fear that it will lose its focus on providing a relevant policy for 21st-century practitioners, as noted by Stern and Foster (Stern, 1995).

The cost of narrowing the frame of security studies may also be high. A broader framework of security acknowledges that there are many different types of threats to international security today that are not limited to the Cold War paradigm and the threat of military invasions. In addition to these threats, there are also currently many environmental issues that pose threats to nation-states and society that will progressively become worse as environmental degradation occurs over a longer time. Hulme's work does a good job of encapsulating this paradigm shift, by suggesting that in the 21st-century understanding of security, securing human welfare is equally as important as securing borders (Hulme, 2008). This view regarding security studies is not just about defining security, but whether or not security studies is willing to confront and address the many non-traditional threats that individuals face daily across the world.

The Threat and Dilemma of Climate Security

Climate security presents a new set of challenges, as well as a new set of opportunities, for how nations and the world address new and emerging threats to both national and international security: the environmental security challenge - climate change is more than just global warming. Climate Change represents something much larger – it will have widespread consequences, and the implications for the human race may be far more severe than we have yet to acknowledge. Today, the impact climate change has on humans and our societies is not only a theory, but a scientific fact. Worsening droughts, floods, and the expansion of traditional patterns of malaria and dengue-fever outbreaks into previously unaffected areas of the planet, as well as the increasing intensity of forest fires and hurricanes are no longer isolated events but instead now reflect an emerging trend of heightened vulnerability resulting from long-term environmental degradation. Rising sea levels and agricultural production declines from climate change will likely lead to widespread shortages of human food. The most worrisome aspect of these changes is that the impacts of climate change are being felt most in the areas of the world that have the fewest resources to address the effects, including large parts of South Asia and Africa, which are struggling with high levels of poverty and inadequate infrastructure.

These impacts highlight the undeniable influence of climate change on international relations and stability, elevating it within the contemporary security discourse (Wik & Neal, 2025). Illustrated in this context is how climate will increase/decrease the vulnerabilities of other socio-economic & political systems by acting as a 'threat multiplier'. This can also be viewed as climate as a catalyst for instability in many of the world's regions (Mees & Surian, 2023). Demonstrating how climate has compounded (or considered) existing political/economic and social vulnerabilities. Moving forward, a robust understanding of how climate affects military preparedness and strategy and how various governments utilize climate risk in their defense planning [1] will be necessary for comprehensive insight into this complex interplay between climate change and conflict (Jayaram, 2021).

However, responsibility for these actions are not uniformly divided among the states and impact from climate varies considerably - there is a difference in the cost of response for different states. The resulting situation creates a classic free-rider with respect to expectations regarding the duties/responsibilities of other parties to alleviate these burdens. Thus, collective initiatives may themselves become fragile or even counterproductive. Furthering this discussion, McDonald questions what will be the "referent object" of "security." Will this security refer to states, vulnerable populations, future generations, or even non-human life? (McDonald, 2023) There

[1] The recent clash between India and Pakistan in May 2025 is one example where the suspension of the Indus Water Treaty by India in response to the Pahalgam terror attack, underscores the intricate nexus between hydro-political tensions and climate-induced resource scarcity, demonstrating how environmental factors can profoundly reshape interstate dynamics and can be a source of escalation.

has been recognition of the security implications of climate change at an institutional level (e.g., UN Security Council), but because the discussion is framed by national interests, the human and ecological concerns have been only partially addressed.

Initially, the global response was established through The United Nations Framework Convention on Climate Change (UNFCCC) and the implementation of the 1997 Kyoto Protocol, which aimed to impose binding reductions on carbon dioxide emissions primarily on industrialised nations, and 184 countries ratified this commitment as their first diplomatic agreement to reduce their greenhouse gas emissions. Developed countries and the European Union committed to cutting carbon dioxide emissions to five percent below 1990 levels by 2012. In addition to mitigation efforts, the Kyoto Protocol also sought to provide adaptation assistance to poor countries through technology transfers and other strategies such as salt-tolerant crops. The principle of "common but differentiated responsibilities" was the basis for this design and placed a more significant burden on more affluent countries (Annex I). While Kyoto is viewed as a key first step in establishing the framework for global climate governance, it has also been hampered by the realities of politics/economics. Many instances of developed nations breaching the protocol existed due to competitive advantages and inequitable burden/cost sharing; although the protocol was diplomatically successful, its implementation was largely viewed as a near failure, reflecting the difficulty in achieving both consensus and meaningful action (Puaschunder, 2020).

Since the Kyoto Protocol, negotiation tension has continued to grow with the belief that a new framework would be established at the 2009 Climate Conference in Copenhagen. However, the negotiations demonstrated a significant gap between developed and developing nations. An informal agreement (the Copenhagen Accord) was reached among five countries (the U.S., China, India, Brazil, and South Africa); however, not all nations formally adopted it as a binding commitment upon them. While the Accord recognized that climate change represents one of the greatest threats to the future of humanity, it did support the goal of limiting temperature increase to no more than 2°C, but did not provide a legal obligation on any party to comply with its commitments.

Therefore, while individual states have the responsibility of monitoring and/or enforcing voluntary steps towards mitigation they take under their own sovereign authority, there is really no accountability imposed on any party but each individual state. Although Copenhagen is frequently described as a failure, it was important in laying the foundation for the Paris Agreement in 2015, which took a very different strategic approach. Rather than dictating top-down obligations, the Paris Agreement established a bottom-up approach. Under this structure, countries selected their own level of commitment and subsequently determined the means necessary to achieve those commitments. The intent of the Paris Agreement is to limit climate warming to well below two degrees Celsius (to ideally limit it to 1.5 degrees Celsius), to establish either parameters or timeframes for when emissions may peak and to achieve net zero emissions balances after 2050. The agreement includes a five-year interval for parties to increase their commitments and established a commitment of $100 billion annually to assist the disadvantaged (developing countries).

Falkner is cautiously optimistic about the Paris Agreement reflecting an improved correspondence between international climate policy and the underlying political environments in which it operates. In his opinion, such a situation will allow for domestic political processes to determine which countries participate in the implementation of the Paris Agreement and therefore increase the chances that those types of countries' participation will increase (Falkner, 2016). On the other hand, however, he has expressed very strong doubts as to whether the Paris Agreement can deliver on its stated goal of limiting the rise of global temperatures through deep levels of carbon dioxide reductions. The ability of the Paris Agreement to produce this result is echoed by other authors within the literature. Many experts have pointed out how the voluntary nature of the commitments made under the Paris Agreement may result in many countries simply choosing not to act at all, creating a "free rider" scenario where some countries benefit from action taken by other countries without making

any efforts themselves. Several supporters of the Paris Agreement believe that is a very positive development toward developing a more universally flexible governance approach; however, according to Young, the pessimistic view of the Paris Agreement is likely to be upheld by more pessimists based on some of the same reasons as those articulated by Young. That said, he points out three of the key flaws many critiques of the Paris Agreement have pointed out: (i) that the Paris Agreement does not provide a clear mechanism for determining the expected increase in the levels of commitments made under the Paris Agreement; (ii) the impact of domestic political changes on the outcomes of the commitments made and (iii) the very real difficulty of ensuring compliance with the full extent of one's commitments made (Young, 2016). However, Young hopes that his views will not discourage people from acting on behalf of the climate. While imperfect, the Paris Agreement was established to provide the best opportunity to confront a problem that no single state can overcome by itself.

Why Global Climate Action Remains Elusive?

International cooperation on climate change has been challenging not due to states' unwillingness to acknowledge the issue but because it challenges how International Politics normally functions. Climate change is a slow-moving, unpredictable, and often invisible process, whereas Politically-based decision-making is typically aligned with short (often four-year) electoral cycles and immediate economic concerns. The short-term gains associated with certain polices create an incentive for governments to prioritize them; however, long-term benefits are often not seen until decades later. As a result, it is difficult to justify cutting emissions because it typically does not result in a gain within the same electoral cycle. In contrast, providing fuel subsidies and commencing large infrastructure projects in general will likely gain votes in the short-term, but will subsequently create a long-term increased risk of climate-related consequences for future generations (Corry, 2012).

Furthermore, uncertainty compounds this challenge; while much is known regarding climate change in general, there are still many questions regarding the timing and extent of the various impacts. Policymakers are therefore making policy decisions without knowing how quickly sea levels will rise, how extreme weather events will change in the future, and when various ecosystems will cross "tipping points". Instead of acting with precaution because of the uncertainty, it has often been used as a rationale to delay acting, particularly in policy areas that would require a political or economic "sacrifice" (Corry, 2012; Milkoreit, 2019).

Lastly, one of the largest hurdles for international cooperation on climate change is that it is primarily a structural issue. The climate crisis reaches across all sectors, all policy domains and, therefore, it requires everyone to play a role in its mitigation. All developed, developing, and least-developed countries fall within this structural regard. Each sector (Electrical, transportation, agricultural, industrial, etc.) requires different mitigation methods and political trade-offs making coordination of multiple sectors across multiple levels of government difficult, if not impossible. As noted by Suechting and Pettenger (2022), this fragmentation gives people diffuse responsibility and weakens accountability, which, in turn, slows collective action.

Additionally, there is the issue of scale; the impacts of climate change happen on a global scale, whereas environmental degradation, such as deforestation and water contamination, occurs on a more local/regional level but still contributes to the overall degradation of the global environment. The governance framework governing the various levels is dispersed/disjointed and complicates the coordination between climate issues, thereby creating blurred lines of responsibility (von Lucke, Wellmann, & Diez 2014). Disagreement occurs on what to do, who should act here or, alternatively, at what level to use authority to act. Along with these practical challenges lie the normative disagreements.

Climate policy is not technical solely; it is based upon contested or differing opinions regarding the notions of fairness, responsibility, and "sacrifice". States differ regarding the extent to which environmental protection should take precedence over the need for short-term economic growth and/or development, especially in cases where the latter is still a priority in the present. As a result, many developing nations encounter numerous unresolved questions concerning historic

responsibility and unequal burdens on respective nations regarding burden-sharing, resulting in the difficulty of achieving a global consensus (Detraz & Betsill, 2009).

Therefore, when viewed in their entirety, these mentioned factors converge to create what has been identified as the "global security dilemma". States are hesitant to act decisively for fear that the actions of one country may leave that country at a competitive disadvantage compared to others if they do not receive the same benefits from the same climate mitigating process. In this regard, the mitigation of climate change is a form of a "collective good," which has benefits for all, yet few will pay for it (i.e., climate mitigation). Thus, the actions taken by countries are likely to be incremental in response to political pressures, have a modest degree of urgency, and fall short of expectations as outlined by the scientific community. However, these barriers will not persist indefinitely. Political short-termism can be moderated via the implementation of long-term frameworks for climate policies, the establishment of independent science advisory bodies (i.e., the IPCC or equivalent), as well as via public engagement beyond the election cycle of governments (Falkner, 2016).

In addition, the uncertainty around climatic events need not create paralysis. The application of the precautionary principle provides a greater basis for taking action to prevent irreversible harm from occurring while recognising that to delay may increase the harm to future generations (Milkoreit, 2019). Therefore, while the climate threat is multifaceted and operates at multiple levels, the integration of policy development, emerging technologies, and the mechanisms and institutions created via multi-level governance provide an additional framework for action (Staupe-Delgado, 2020). Furthermore, the moral obligation to prevent irreversible damage to the environment provides another compelling rationale for States to take definitive climate action soon (Elliott, 2015).

Without an agreed-upon definition of what constitutes "climate security" and an agreed-upon method for how to pursue it, it is unlikely that meaningful international cooperation regarding the "climate security challenge" can occur. This situation also can be looked at from two perspectives: 1) a collection action problem, and 2) a lack of cooperation between countries. As stated earlier, even though countries have acknowledged the consequences of climate change and agree that it poses a threat, they have continued to respond slowly and unevenly to climate change. There is not one answer to this inaction, nor is there an easy solution. Therefore, in order to understand why there has historically been a disconnect, the below section will provide three explanatory theories of climate inaction: International Regimes Theory, Hegemonic Stability Theory, and Securitization Theory.

Explaining global (in)action on climate change

Climate change is a unique global issue because of the limitations it exposes to collective action at the international level. Although the international community understands the importance of climate change, its response has been slow, fragmented, and often reactionary. There are multiple competing explanations for this inertia. Each explanation tries to shed light on the challenges associated with creating opportunities for cooperation to occur. This section examines climate action at the global level through three theoretical perspectives: international regimes theory, hegemonic stability theory, and securitization theory; with particular attention given to international regimes/norms first.

International Regimes and Norms

International climate governance is seen as one of the most challenging coordination issues in contemporary history. Climate governance involves multiple actors, including states, international organizations, businesses, and civil society. However, each actor has different interests, capacities, and priorities, creating a difficult coordination challenge for those involved. Therefore, international regime theory may be helpful in identifying both how cooperation should work and why cooperation often does not reach its full potential (Suechting & Pettenger, 2022).

In Krasner's seminal work in 1982, he defines international regimes as the set of principles/norms/rules/decisional procedures that converge around multiple actors' expectations in a specific issue area (Krasner, 1982). Examined in regard to climate change, the UNFCCC, Kyoto Protocol, and Paris Agreement are all examples of international regimes that seek to impact the

behavior of states by providing expected joint or combined responsibility and expectations around joint mitigation and cooperation. Thus, each of these regimes has as their goals to reduce cost through the use of information sharing, forum creation, and cooperation.

While the above illustration emphasizes the optimistic outlook of theorists for regime ability to limit what states do, the realist perspective is much less positive. To realists, state cooperation is weak because states will always put their own interests first. Realists argue that international regimes have little to no independent ability to compel states to obey them since states will simply disregard or repudiate the regime if it conflicts with their national goals (Mearsheimer, 1994). Additionally, states operate within an anarchic system, which fosters a permanent distrust of relative gains, and long-term limitations on their independence (Grieco, 1988).

Therefore, from a realist perspective, climate agreements only can persist as long as they do not interfere with domestic economic and strategic interests. The United States' withdrawal from the Paris Agreement during both 2017 and in the future in 2025 exemplifies the reasoning behind this perspective. Each time the U.S. withdrew from the agreement, its political leaders have said that the agreement posed a significant risk to the nation's economy and its ability to compete effectively, especially in the energy-intensive industry. Therefore, the U.S. government's decision to leave the Paris Agreement demonstrates that short-term national interest takes precedence over joint climate obligations and supports realists' assertion that regimes do not have the ability to bind powerful states in high politics areas (Mearsheimer, 1994).

In contrast, the liberal institutionalists have more confidence in the potential for regimes to influence the rules of the game in support of greater cooperation and influence the way countries perceive the costs and benefits of cooperating with one another. They have observed that institutions can create a change in the cost-benefit calculus of cooperation, provide a basis for reciprocal expectations, and improve the transparency of negotiations (Abbott & Snidal, 1998; Keohane & Martin, 1995). Thus, liberal institutionalists believe that even for self-interested actors (states), regime structures will influence their perceptions of cooperation effectively, increasing the likelihood that they will cooperate.

Moreover, the EU provides substantial evidence of the success of the liberal institutionalist hypothesis. The EU has defined itself as a leader in climate actions, committing itself to significant reductions in emissions and significant decarbonisation of the continent. By consistently committing to climate governance actions such as the Paris Agreement and through implementing other regulatory actions such as the 2030 Climate and Energy Framework, the EU has demonstrated that climate governance is now part of the overall system of governance of the EU and is no longer an issue addressed by the EU merely symbolically (Puaschunder, 2020). Moreover, both formally and informally, the EU's international engagement and development of European climate governance reflect the liberal argument that regimes can and do impact both domestic policy decisions and external engagement, even when states face domestic challenges that can support them going against their international commitments (Hildebrand, 1992).

From a liberal institutionalist perspective, by continuing to operate under international regime frameworks such as the Paris Agreement, EU Member States can develop long-term institutional frameworks that will result in influencing Member State attempts to re-calibrate their short-term incentives to foster cooperation toward climate action. The EU illustrates how regime structures and incentives can be developed over long periods of time to embed climate actions/initiatives within the overall system of governance, market signals, and political expectations to support greater participation and cooperation around climate-related initiatives as well as pave the way for Member States to begin and work collaboratively toward reducing emissions in a more equitable way. Nevertheless, while the EU provides an illustration of the liberal perspective of the potential for climate regimes to shape state behavior, there are significant concerns related to the overall success of the climate regime. For instance, since Parties to the Paris Agreement are only required to voluntarily indicate a contribution in their Intended Nationally Determined Contributions (INDCs),

combined with the significant structural inequalities between many states, these factors impact the ability of the regime to provide significant and timely reductions in emissions to meet climate science targets (Puaschunder, 2020).

The constructivist approach moves the focus from materialistic incentives (e.g., states cooperating with one another to protect the environment to benefit themselves) to norms, ideas and social processes. Therefore, from a constructivist perspective, regimes provide key sites for the development and dissemination of norms regarding appropriate behavior in regard to the environment, not simply for the collection of resources (Finnemore, 1993).

According to constructivists, interactions among individual states help to create agreements and improve on those agreements with members of other states; whereas member states of the constructivist worldview communicate and learn about one another's states through socialization and norm construction rather than by coercion or threats through economic sanctions or other methods of punishment (Alastair Ian, 2002). Emerging civil society organizations in developing nations such as Brazil, Kenya, and India have bolstered the constructivist position with respect to developing norms internationally.

The Centre for Science and Environment (CSE), for example, is promoting the idea that climate change should be treated as a policy issue that encompasses the issues of justice, health, and development rather than just as an emissions accounting exercise (Viola & Franchini, 2017). The CSE's efforts demonstrate how civil society can affect how "responsible" actions related to climate change are defined and viewed in their countries. In a similar manner, the Instituto Socioambiental (ISA) in Brazil has built a bridge between the climate discussions and the human rights of Indigenous and traditional peoples. By demonstrating how timber cutting and globally-assisted climate change impact the ability of Indigenous and traditional people to continue to live culturally and economically, ISA has created a much broader definition for environmentalising action beyond just an environmental focus to include governance and social justice. The work that ISA is doing provides an illustration of how norms travel up the scale of governance from the local and national levels into the international discourse surrounding climate change (Ylä-Anttila & Swarnakar, 2017).

In Kenya, The Kenya Organization for Environmental Education (KOEE) follows a similar path in that it is part of a larger network of organizations throughout Africa focused on environmental education, awareness and developing community-based responses to climate change by translating the risks associated with climate change (i.e., through drought, flooding, etc.) into real social issues. KOEE represents an example of the growing role of youth movements and grassroots organizations in creating the discourse around climate change, particularly in locations where formal environmental enforcement mechanisms (i.e., national parks) are weak (Rodela & Roumeliotis, 2024).Ultimately, from a constructivist perspective, the above examples emphasise the argument that international regimes are not only a collection of formal rules, but through international regime frameworks, norms are disseminated, debated and eventually internalised through engagement and interaction within various international regimes. As shown by the civil society engagement from the Global South, international regimes and their associated institutions have the potential to alter the manner in which we understand and prioritise climate change. Over time, the result of these changes will be a change in expectations and behaviour which results in higher rates of cooperation and which material incentives alone cannot fully explain.

Hegemonic stability theory

In essence, the Hegemonic Stability Theory asserts that, for there to be sustained or increased state cooperation there must be a hegemon that is able and willing to provide its support to promote that cooperation. The theory proposes that hegemonic power can set the rules for international order and can promote collective cooperation by absorbing costs and using both pressure and/or rewards to promote other states' interests to cooperate. The same reasoning can be applied to climate change. That is, for climate governance to have a global impact there must be a leading power which is able to supply the public goods of funding; scientific knowledge; clean technologies; and establish International treaties

and standards to foster collective mitigation and adaptation.

For much of the Post-Cold War era, the United States was seen as the hegemon (albeit not in a completely consistent manner). U.S. interaction with International Climate Governance has varied depending on the current Administration. The U.S. played an instrumental role in the establishment of the Paris Agreement and indicated a desire to lead on the topic of climate change under the Obama administration; this was countered with two separate withdrawals on behalf of President Trump, who has asserted that the U.S. should not commit to climate-related efforts because they would not benefit the U.S. economically or industrially. The Biden administration's re-engagement with the Paris Agreement and renewed focus on domestic climate policy provided a brief period of congruence between the U.S. and International climate policy efforts. However, President Trump's re-election and his renewed withdrawal demonstrate the unpredictable nature of climate governance when it is heavily dependent upon a singular hegemonic power (MacNeil & Paterson, 2020). Additionally, China's development as a rising geopolitical power and a global climate leader has complicated issues.

As one of the largest producers of greenhouse gases, China is critical for any global climate solutions to be realized successfully; recently, China has pledged to become carbon neutral by 2060 and increased its participation in international climate governance. Nevertheless, China has classified itself as a developing nation; which means that economic development takes precedent over the costs and duties associated with becoming the next leading power in climate governance (Wang, 2022). As a result, China's current position is ambiguous concerning the requirements placed upon it to become the next hegemon of Global Climate Governance, and it signals commitments to collaborative efforts while resisting the expectation to carry a disproportionate burden (in relation to other large greenhouse gas emitters).

The European Union (EU) and its position as a normative leader on the topic of climate change is legitimate. The EU's regulatory framework, Emissions Trading Scheme, and decarbonization targets put the EU in the forefront of climate policy, but it is limited in the ability to influence other global emitters as a result of the gathering of internal political factions, as well as EU's comparatively weaker material power. While the EU may lead by example, it does not hold weight over the major greenhouse gas emitters to lead Europe on climate policy; therefore, the leadership of the EU is in most instances 'persuasive', thus the EU is successful in setting standards and norms, but not leading to global climate action.

This leads to a larger issue as climate change is complicated, unevenly distributed, and interwoven with domestic political economies for one actor to address it. To the extent that the liberal International order has serviced the world and provided climate governance, such as the United Nations Framework Convention on Climate Change (UNFCCC), the Liberal International Order is overwhelmed. Moreover, the emergence of a multipolar world, we are required to ask ourselves 'will we continue to cooperate to address this threat without a clear hegemon?' and 'is the expansion of power and legitimacy going to further diminish the ability of any one actor to effectively coordinate the Global Action Plan on Climate Change?'

A number of emerging powers also will play an increasing role in defining and fulfilling the Role of Sovereignty, Power, and Authority on topics related to climate change, including Brazil and India. Brazil's emissions profile is relatively unique compared to other major emitting countries as a result of the large amount of deforestation that Brazil is responsible for, primarily from the Amazon Rainforest. The Amazon Fund, for instance, demonstrates that policy choices during the last thirty years can be of significance, but examples of progress have been inconsistent and politically contested (Puaschunder, 2020).

On the other hand, India is attempting to balance rapid economic development, energy demand, and climate change responsibilities; India has set significant renewable energy goals, but it still maintains a cautious approach pertaining to binding commitments (i.e., Emission Obligations) as it continues to focus on issues related to historical responsibility and development

(Dubash et al., 2018). The emissions profile of Brazil and India will impact the continued success of global climate change efforts (or inaction). For example, stronger actions on behalf of Brazil to stop deforestation could provide greater global benefits at a lower cost, while progressive support for renewable energy by India could positively affect future emission profiles. However, continued actions to expand renewable energy in India and/or Brazil could be under-mined (or Negated) by retracting policy decisions on climate change by prioritizing short-term economic development (Puaschunder et al., 2020).

Overall, the patterns identified above call into question the application of hegemonic stability theory as an explanation of climate governance. There is a clear and continuing gap between a willing hegemon and what is needed to address climate change from an international, cooperative perspective. Reliance on a singular actor to organize or develop an international response is becoming increasingly unfeasible. We need to acknowledge that, in order to take effective action regarding climate change, cooperation is required among a number of actors. As far as the convergence of these actors is concerned, it is currently fragile and partial, and until a more flexible and holistically shared leadership Exists, we will continue to face a global climate dilemma.

Securitization theory

Securitization Theory addresses how high-priority issues can be transformed into urgent security issues, demanding immediate, focused government action, thus making them separate from day-to-day politics. By enabling government to address climate change through a security issue, securitization increases overall political pressure from constituents on elected representatives while enabling government to provide much-needed attention to the issue of climate change. An excellent example was when the Obama administration publicly proclaimed climate change to be one of the largest national and global security threats to this generation (Jones & Fowler, 2022).

Hence, when climate change is viewed using the securitization framework, it forces us, as citizens, to have an increase in the seriousness with which we view the issue of climate change. Additionally, framing climate change as a security problem has created an incentive for all levels of government to abandon incremental approaches to climate change policy, and, rather, take immediate and bold action to address this urgent situation (von Lucke, Wellmann, and Diez, 2014). The need to frame climate change as a national security issue has resulted in the creation of significant opportunities to achieve substantive regulatory reform regarding climate change. As a direct result of the Obama Administration's emphasis on the climate change problem, the Federal Government increased the amount of federal budget spent on climate-specific initiatives, including the use of clean, renewable energy technology and reducing greenhouse gas emissions, mainly in the transportation and electric power sectors.

The first example of the Federal Government's shift to viewing climate change as a threat to national security occurred in 2009 with the implementation of the Environmental Protection Agency (EPA) regulations concerning the regulation of greenhouse gas emissions from vehicles. This was a major milestone in the history of climate change reaction because the Clean Power Plan (2015) represented the first-time limits were set by the Federal Government on carbon emissions at the national level from power generators. The introduction of these regulatory actions was an example of how viewing climate change through the securitization lens will create/enforce regulatory obligations by creating actual regulation that can be enforced. However, it also illustrates how fragile this frame is, as the Trump administration successfully dismantled many of the key elements of the securitization framework by taking away the authority from the Federal Government and returning it to the states regarding the development of their coal-based generation policies such as the Affordable Clean Energy (ACE) in 2019. Consequently, critics argue that the ACE Rule and the regulations created to meet it would lead to increased greenhouse gas emissions from coal-fired generation, increased adverse public health impacts, and slow the advancements in clean energy technology. Therefore, a key premise for continuing to utilize the securitization framework in addressing global climate change is continuing support from states through the creation of bipartisan support across both major political

parties (Martin 2022).

As a result of the inherent limitations of the securitization framework, the dynamic growth of the climate change securitization agenda will develop more rapidly than the views of various countries regarding the security issue of climate change currently do. For example, while climate change is discussed most within an economic context in India, climate change is viewed within an existential risk context in many western countries (Boas 2014). Therefore, as long as the Indian Government does not characterize climate change as one of the highest priority existential threats facing India, the Government will continue to prioritize economic growth and thus resist any binding commitments to emissions reductions that may undermine its economic development efforts. Accordingly, the Indian Government developed the National Action Plan on Climate Change (NAPCC) to serve as a reference for how to reconcile India's long-term economic development with its climate change strategy. Although the NAPCC recognizes the importance of climate change issues as it relates to India's long-term economic development, the focus of the NAPCC primarily is on how to achieve a low carbon economic development path (Sahu, 2022).

The incorporation of security language into climate-related development plans has resulted in numerous criticisms regarding the unrealistic growth models that are generated, the underestimation of the differences in global energy consumption, and the reduction of domestic public discourse regarding climate justice. Moreover, many have raised concerns regarding how the securitization of climate change in India will create additional land, resource, and infrastructure-related conflicts (like those arising from climate change) rather than mitigating them. As with India, other countries have similar patterns developing with regard to climate change national security. In Pakistan, for instance, climate change is characterized as an important national security issue that has direct implications for public health, internal security, and economic stability (Banuri, Rumi 2020). Therefore, the classification of climate change as a threat to Pakistan's national security has resulted in increased attention given to the climate change issue during the policy discussions in Pakistan, which raises concerns over the use of the climate change issue as a justification for policy decisions that conflict with social and environmental interests (McDonald 2023).

Due to the limited scope of the security lens through which we look at climate change, experts are generally of the opinion that the securitization of climate change will not be the best utilization of models of understanding climate change governance. Therefore, Corry (2012) has introduced the idea of "riskification," which is a new way to understand the political logic of climate change, to describe how society approaches climate change. There are distinct differences between how society views short-term and unforeseen dangers associated with climate change and long-term, systemic risks associated with climate change, through the risk model of understanding climate change. Therefore, in terms of mitigating/preventing climate change-related disasters, the planning will occur after the disaster has occurred.

There are numerous reasons riskification may provide for more appropriate climate governance than securitization. For instance, climate change poses challenges at a temporal scale, presenting itself over a long-time horizon in a convoluted system and making exceptional short-term responses, such as those associated with securitization, impractical. Riskification allows policymakers to examine the factors producing the increase in greenhouse gas emissions, such as emissions-intensive development pathways, rather than limit their focus to just the symptoms associated with climate change. Additionally, riskification promotes a governance methodology emphasizing sustainability, mitigation, and adaptation through expert knowledge and long-term planning rather than existential threat perceptions as required by securitization: instead, risk politics focuses on reducing vulnerability and establishing security in anticipation of potential catastrophic, irreversible losses (Odeyemi, 2020).

The European Union Business and Industry's Emissions Trading System (ETS) is a classic example of a risk-oriented governance model. Since the ETS is designed to address climate change as a systemic rather than as an immediate security risk, the ETS has been designed to use market mechanisms. By placing a price on carbon, the ETS creates incentives for firms to reduce their

level of carbon emissions and to invest in cleaner technologies. The ETS solution will eliminate the structural conditions that produce climate harm and focus action on addressing both the cause and the impact after the fact. The ETS does not simply address the cause and then stop; instead, the ETS is both about the long-term sustainability of EU actions regarding emissions as well as influencing the establishment of similar initiatives elsewhere in the world. Thus, the above argues that while securitization as a framework can generate political attention and mobilize political resources, it is not a universal or normative framework; in many instances, a risk-based framework provides a more stable and inclusive pathway for managing climate change in that it links long-term prevention with addressing the challenges associated with climate change.

Conclusion

Security has evolved from being defined solely through military means (tanks, borders and armies) to now also including environmental threats; with climate change at the forefront of this expansion. The logic behind this evolution of thought makes sense to many academics who argue that environmental security is a logical extension of traditional understanding of security as it relates to the protection of human life. The degradation of our environment caused by climate change, deforestation, desertification and pollution, reduces our ecosystem and thereby reduces the ability of humans to survive. Increased degradation also creates an increase in the levels of social and political stress already present in many parts of the world. Environmental degradation is therefore considered a "threat multiplier"; increasing the vulnerabilities that exist due to a lack of resources and opportunities. Other scholars argue passionately against this trend, asserting that by including environmental concerns within the domain of security it diminishes the meaning of security and moves it further away from its original state-centric conception. Climate change complicates this debate by not being able to be easily categorized within any of the established security categories.

Climate change is global in nature, has differing impacts based upon geographic location, and cannot be managed by any individual nation. To mitigate the effects of climate change, it will require sustained international cooperation and agreement; however, achieving sustained international agreement has proven extremely difficult to date. Different theories offer insight into the problems surrounding the lack of agreement on climate change. Regime Theory addresses how institutions and norms could shape state behavior with respect to climate change. Hegemonic Stability Theory focuses on the lack of a dominant actor providing consistent leadership in an increasingly fragmented world. Securitization Theory outlines how governments can encourage action by framing the issue of climate change as a national security concern. Each of these theoretical perspectives supports the idea that there are deeper issues at play than simply being unaware of climate change, namely how states conceive of environmental threats as well as their respective understandings of the concept of security.

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