

Issue Brief

THE GLOBAL GOVERNANCE OF ECOSYSTEMS

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INTRODUCTION

In response to nearly 2,500 fires that started in the Amazon rainforest in 2019, French President Emmanuel Macron stated, “Our house is burning. The Amazon rainforest – the lungs which produce 20% of our planet’s oxygen – is on fire.” He called the situation an “international crisis,” and urged G7 countries to take action.¹ The UN Secretary-General Antonio Guterres echoed the sentiment, declaring, “The Amazon must be protected.”² These reactions illustrate that the protection of the Amazon rainforest speaks to a larger, and newly emerging, field in politics: the governance of ecosystems. If the Amazon, or any large and globally significant ecosystem, needs protection, who should be its protector, and what international norms or laws would determine that?

Ecosystem governance is framed by both domestic and global debates, which attempt to divide responsibility for the preservation of large ecosystems among local and international actors. Unlike other global public goods, such as the atmosphere or high oceans, land ecosystems tend to fall within the domestic territory of a limited number of nation states. As the world’s largest rainforest and one of its most diverse ecosystems, the Amazon rainforest absorbs around 4% of carbon emissions from fossil fuels, removing approximately 1.5 billion tons of carbon dioxide from the atmosphere every year.³ Despite its global impact, however, the Amazon only spans eight countries in South

America: Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, and Suriname. As states claim sovereignty over the territory that the ecosystem compasses, its preservation, management, and sustainability are dependent on national decisions.

The tensions between the national control of ecosystems and their worldwide impact points to a larger discussion on the governance of global public goods that fall within national territories, in part or in whole. Given the need to amplify global climate mitigation efforts, it is critical to assess these tensions in more detail, and to better address the limitations of state sovereignty in the face of borderless issues such as climate change.

BACKGROUND

There are a number of existing multi-lateral arrangements for governing ecosystems that surpass national boundaries. For the Amazon rainforest in particular, Colombia held the Presidential Summit of the Amazon in 2019, attended by Peru, Bolivia, Ecuador, Brazil, Suriname, and Guyana.⁴ The countries signed the Leticia Pact during the summit, aimed at consolidating regional cooperation for the protection of the rainforest.⁵ It specifies sixteen areas for interregional coordination, such as reforestation and the inclusion of indigenous peoples in preservation efforts.⁶ It also proposes a data exchange mechanism on deforestation and the creation of an emergency re-

sponse platform, the Amazon Network for Natural Disaster Cooperation.⁷ The Leticia Pact was backed by non-regional partners as well, during the 2019 UN Climate Action Conference in New York City. France alone committed \$100 million to the initiative, and Conservation International, a non-profit climate organization, pledged an additional \$20 million in funding.⁸

Another example of these efforts is the work of the Arctic Council, an inter-governmental forum composed of eight states with territories in the Arctic: the United States, Canada, Denmark, Finland, Iceland, Norway, Russia, and Sweden. The Council convenes on a biannual basis to discuss matters relating to sustainable development and environmental preservation in the Arctic. A number of countries with no territorial affiliation to the region also retain permanent observer status in the Council, including China, Germany, Spain, Switzerland, and India. Six organizations representing the indigenous peoples of the Arctic are likewise permanent participants. Despite its diverse composition, final decisions require consensus only by the eight Arctic states, which the Council defines as “stewards of the region.”⁹

Oceans are also ecosystems that fall, in part, within national borders. They are governed by United Nations Convention on the Law of the Sea (UNCLOS), which came into force in 1994.¹⁰ It is ratified by 167 countries and the European Union.¹¹ As per UNCLOS, coastal states can claim up to 22 kilometers of the

seabed as their territory. In addition, they can establish Economic Exclusive Zones up to 370 kilometers from their shores, where they can exploit the continental shelf for fossil fuels.¹² High oceans, sections that do not fall in any country’s territory, are given “international waters” status by UNCLOS.¹³ International waters are governed by the legal dictum *mare liberum*, that is, the freedom of the seas, which establishes that no jurisdiction applies in these areas.¹⁴

In all the above cases – the Amazon rainforest, the Arctic, and the world’s oceans – ecosystems that are within a number of countries’ national borders have had, and continue to have, undeniable effects on the global environment. The Arctic, for example, holds one-fifth of the world’s freshwater supplies, which plays a significant role in regulating global temperatures.¹⁵ Oceans, which comprise more than 70% of the surface of the Earth, produce nearly 50% of the world’s oxygen and trap gigatons of carbon dioxide in the seabed every year.¹⁶ Ocean currents also maintain the global climate, carrying cool water to warm regions and vice versa. However, although their effects transcend national borders, ecosystems are largely governed by domestic policies, as they fall within the territories of states. This interplay produces significant implications for regional and international cooperation.

DISCUSSION

Large ecosystems tend to be looked at as global public goods, a theoretical understanding of which dictates the parameters of appropriate jurisdiction and responsible actors. Within the fields of political science and economics, goods are broadly characterized in consideration of two criteria: exclusivity and rivalry. The former refers to whether access to a good can be limited, thereby “excluding” access for certain groups. Private goods, by nature, are excludable. In modern life, this often refers to services or resources that require payment to access, such as housing or education. In contrast, public goods are open to consumption and are thus non-excludable. Examples include water or radio signals. The latter, rivalry, concerns whether goods are diminished by use. Rivalrous goods can include timber or fossil fuels, whereas non-rivalrous goods are not impacted by consumption, such as TV broadcasting or public safety.

In theory, global public goods, which benefit all individuals, are both non-excludable and non-rivalrous. Ecosystems, or the natural environment as a whole, thus fall in this category, producing clean air and protecting biodiversity. However, the characterization is complicated when anthropogenic interventions cause the rapid diminishing of resources in ecosystems. Deforestation of the Amazon, for instance, causes a significant decrease in tree volume, leading to a reduction in carbon absorption,

which, in turn, causes clean air to diminish. Despite the theoretical definition of global public goods as non-rivalrous, the onset of anthropogenic climate change and the depletion of natural resources mean that ecosystem governance must address the competition for resources.

In the case of ecosystems that can be exploited for commercial gains, these resources tend to be looked at through contradictory lenses between national and international actors. In specific, while national governments can collect taxes or fees for allowing exploitation, which makes ecosystems a capital resource, the international community benefits from the preservation and maintenance of ecosystems for climate change mitigation. Put simply, ecosystem governance is, at the first instance, a zero-sum game between national and international actors – between economic gains and environmental protection. This is not to say that national actors merely seek commercial gains, disregarding climate change efforts. However, recent regulations for allowing the exploitation of ecosystems that fall within national borders illustrate this dilemma. For example, the United States recently began auctioning for further oil and natural gas drilling rights in Alaska, which is part of the Arctic Basin.¹⁷ Likewise, the administration of Jair Bolsonaro, the former President of Brazil, saw the deforestation of the Amazon reach a 15-year high. From the beginning of his term in 2019, former President Bolsonaro weakened existing

environmental protections, including instituting a 24% cut to the country's environmental budget. In the first six months of 2022 alone, more than 3,980 square kilometers of the Brazilian Amazon were cleared for commercial purposes.¹⁸ For context, that is approximately 3.5 times the size of Hong Kong.¹⁹

As states control the extent of man-made damages to the ecosystems found within their territories, they have an incentive to defend their sovereignty in any global governance proposal or other multilateral framework that concern these ecosystems. In 2019, former President Bolsonaro rejected \$22 million in aid from the Group of Seven – the United States, the United Kingdom, France, Germany, Canada, Italy, and Japan – which had been pledged to combat the wildfires that tore across the Amazon rainforest.²⁰ In a series of tweets, he wrote that Brazil cannot accept an “alliance” of countries to “save” the Amazon, “as if [Brazil is] a colony or a nobody's land.”²¹ His reaction highlights an important aspect of this debate: to what extent does international involvement in the protection of ecosystems, which are global public goods, infringe on national sovereignty?

Drilling rights in the Arctic illustrate the gravity of this question. The region is estimated to hold 22% of the Earth's undiscovered oil and natural gas reserves.²² Arctic onshore drilling already supplies 10% of the world's oil.²³ The current extraction process in the region is severely damaging to the environ-

ment. Seismic signals used to locate oil on the seabed disturb the marine habitat, and extraction can involve hydraulic fracturing, also known as “fracking,” whereby fluid is pushed into sedimentary rock formations to crack them and access previously “locked” fossil fuel stores.²⁴ Fracking produces huge amounts of wastewater and can cause trapped, often poisonous, gas to escape to the surface.²⁵ It also changes the underground rock composition, increasing the chance of landslides. Despite these implications, fracking is commonly used in the United States and Canada, and the practice is thought to have “given energy security to the [two countries] for the next 100 years.”²⁶ In Alaska's North Slope, new reservoirs were discovered in the past few years, containing billions of barrels of oil, some of which will be accessed by fracking.²⁷ Likewise, in 2022, Russia began building an Arctic oil terminal to store production in West Siberia. The terminal is slated to become the country's largest by 2030, which testifies to the scale of oil extraction in the Russian Arctic.²⁸

Arctic drilling is wholly controlled by the jurisdiction of the state whose national borders encompass the drilling zone. For example, when Germany, a non-Arctic state, released its Arctic Policy in 2019, its direct involvement was criticized by observers from Arctic states. A key Nordic commentator challenged the validity of Germany's policy proposals as the country is outside of the “family of Arctic states.”²⁹ The plan had recommended that “developments

that could lead to environmental pollution in the future,” such as fossil fuel extraction, “must be avoided from the outset,” which hints at the reasons for the resistance to Germany's proposals by Arctic states.³⁰ However, as Germany states in the report, “The changes observed in the Arctic,” as in other ecosystems, “affect the entire Earth system via feedback processes.”³¹ Therefore, increasing multilateral efforts in the governance of ecosystems is crucial in the way forward for effective global climate action.

RECOMMENDATIONS

State actors whose territories encompass ecosystems may be hesitant to relinquish sovereignty and potential economic revenue in the governance of these areas. Nonetheless, for pressing climate efforts to succeed, the international community must devise a framework that reconciles national sovereignty and global environmental responsibility. One such framework could be modeled on the Responsibility to Protect (R2P) doctrine.³² In the early 2000s, R2P established all states' responsibility to end mass atrocities as an international norm. It continues to provide a theoretical and legal framework for humanitarian interventions, which justifies the infringement of national sovereignty by third-party states in humanitarian crises. Considering that climate change affects all humanity, a novel international norm can apply the same principle to mitigation efforts. This

is not to say an R2P-like framework in the environmental field would necessitate or justify cross-border operations. Instead, enforcement mechanisms would be in the political and economic, not military, spheres. More importantly, such an initiative would create precedent for reframing ecosystems in the international legal sphere, changing their conception as domestic goods, protected by national sovereignty, to global public goods, whereby all actors actively possess responsibility for their preservation regardless of borders.

Secondly, policy decisions on ecosystem governance should shift from ecosystem-adjacent states towards more inclusive platforms whereby international actors can shape regulations without territorial limitations. As the changes in specific ecosystems affect the planet as a whole, a requirement of adjacency can be argued to be outdated. The Amazon Summit, proposed by Brazil's newly-incumbent president Luiz Inácio Lula da Silva, is an example of this. He announced in October 2022 that Brazil would hold a summit for nations with territories in the Amazon rainforest, as well as other interested nations.³³ Likewise, at the COP27 conference in Sharm al Sheikh in November 2022, Gabon and France announced they will jointly hold the One Forest Summit in March 2023, which will address the protection of forests at large.³⁴ The two summits are poised to surpass existing norms in ecosystem governance regarding which nation states take part in relevant policy decisions. None-

theless, further efforts are needed to expand these discussions beyond forest ecosystems, as well as to increase their geographic scope.

Thirdly, bilateral or multilateral trade agreements should more clearly disincentivize the overexploitation of ecosystems by large corporations. The biggest hindrance to climate diplomacy and environmental cooperation is the prospect of large-scale financial gains provided by the extraction and processing of natural resources. However, environmental-conscious trade practices need not be regarded as hindrances. Instead, they can present unique opportunities that are, at the same time, ecologically beneficial for all parties involved.

CONCLUSION

The case of ecosystems speaks to seemingly novel implications on international norms surrounding state sovereignty. As matters stand, global actors do not have the legitimacy to unilaterally impose rules for ecosystems that are within the territory of states, no matter how crucial the environmental influence of the ecosystem might be to the international community. New frameworks, beyond joint state declarations, must be devised that address concerns about decision-making autonomy while allowing for collaboration among multiple entities for the protection and preservation of ecosystems.

Ecosystems have thus far been neglected in supranational policy circles, as well as in academia, as the leading

assumption is that states possess full control of ecosystems within their borders. Continuing not to adequately question this assumption means that climate change conversations bypass a significant facet of environmental sustainability. It is critical to recognize ecosystems as a unique policy area, its implications not yet fully explored or adequately addressed. The international community should strive to address the limitations of the current system and narrow the disparities in environmental policymaking.

About the Author

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