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SYMPOSIUM ON GLOBAL PLASTIC POLLUTION

FIGHTING PLASTICS WITH ENVIRONMENTAL PRINCIPLES? THE RELEVANCE OF THE PREVENTION PRINCIPLE IN THE GLOBAL GOVERNANCE OF PLASTICS

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A common exercise for international lawyers faced with a new global environmental problem consists in undertaking a review of the applicable law. Environmental principles generally feature extensively in such studies: their open-textured nature is recognized to facilitate a fluid adaptation of international law as new risks become apparent. Among these principles is the foundational prevention principle, which is based on the rationale that environmental damage is best avoided rather than repaired. Since its international recognition in the 1972 Stockholm Declaration on the Human Environment,[1] the prevention principle has gained an influential place in the work of environmental lawyers. While it is readily assumed that the principle is able to guide state responses to the plastics crisis,[2] its exact functions and legal implications in this context remain underexplored.[3] The purpose of this essay is to shed light on the different roles that the prevention principle can play in response to the proliferation of harmful plastics.

A Reassuring Response: The No-Harm Rule

The initial role of the prevention principle in the context of the plastics crisis is to offer a stabilizing response to this new type of harm. When new environmental risks emerge, international lawyers generally invoke a classic form of the principle: the well-established prohibition against transboundary harm (also known as the no-harm rule), which aims to protect the territorial integrity of states from external interference. By applying the no-harm rule, international lawyers posit that states are under an obligation to ensure that plastics do not cause significant harm beyond their jurisdiction or control. It is clear that plastics can cause significant harm to "persons, property or the environment."[4] Impacts can be wide-ranging, affecting the environment, economic sectors such as tourism,

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[1] Declaration of the United Nations Conference on the Human Environment Principle 21, 11 ILM 1416 (June 16, 1972).

[2] Ad Hoc Open-Ended Expert Group on Marine Litter and Microplastics, Combating Marine Plastic Litter and Microplastics: An Assessment of the Effectiveness of Relevant International, Regional and Subregional Governance Strategies and Approaches, UN Doc. UNEP/AHEG/2018/1/INF/3, at 33 (2018) (identifying prevention as an applicable principle) [hereinafter Combating Marine Plastic Litter and Microplastics].

[3] For a more general analysis, see Leslie-Anne Duvic-Paoli, The Prevention Principle in International Environmental Law (2018).

[4] Int'l Law Comm'n, Draft Articles on Prevention of Transboundary Harm from Hazardous Activities (with Commentaries) art. 2(b), [2001] 2 Y.B. Int'l L. Comm'n, pt. 2 at 148 [hereinafter ILC Prevention Articles].

as well as human health.[5] As plastic debris and microplastics are transported across borders by ocean and watercourse currents, the problem extends beyond national borders to affect other states as well as areas beyond national jurisdiction. Inevitably, therefore, the no-harm rule has been identified as an applicable norm in the context of the plastic pollution crisis.[6]

However, it is also clear that no-harm cannot provide an adequate response on its own. First, the rule was originally conceived to regulate state-centric environmental problems—for instance, discharges of pollution into a transboundary river, or emissions of air pollutants responsible for acid rain in a neighboring state—that threaten territorial integrity, rather than to protect the environment per se. The proliferation of plastics is more complex than those problems. Indeed, the plastics crisis is much closer to climate change in terms of the challenges it poses with regard to attribution of damage, causation, and standard of proof.[7] Importantly, plastics are both chemicals and waste, pollute land, water, and air, and have biodiversity and health impacts. As a result, the plastics problem does not fit into a neat legal category and instead calls for a multi-perspective, integrated approach that draws upon a multiplicity of existing legal regimes.

Second, the rule presupposes that the risk of harm is foreseeable and of a certain magnitude.[8] Our scientific understanding of the quantitative impacts of plastics, in particular of marine litter and micro-plastics, is generally well-developed. However, significant uncertainties remain in relation to nano-plastics,[9] for which the more controversial precautionary principle, which holds that lack of full scientific certainty should not prevent the adoption of environmental measures, might be better suited. In addition, the no-harm rule triggers only once the risk of harm exceeds a certain threshold (usually defined as "significant")[10] and is therefore ill-suited to address plastic pollution's impacts, which tend to be widespread, long-term, and cumulative.

Third, while the no-harm rule imposes a duty to avoid environmental damage from activities under the jurisdiction or control of the state of origin,[11] it is unclear how this duty applies in the case of the plastics crisis. The rule does not easily accommodate situations in which a source of pollution is deliberately and consensually transferred to another state. Throughout their life cycle, plastics are handled by numerous operators, potentially across dozens of borders, and undergo various transformations. Most stages of the plastics life-cycle occur outside of the manufacturing state, meaning that identification of the "state of origin" (understood as the location of the potentially harmful activity) is not a straightforward process. Responsibility becomes even more obscured as winds and

[5] Patricia Villarrubia-Gómez et al., *Marine Plastic Pollution as a Planetary Boundary Threat – The Drifting Piece in the Sustainability Puzzle*, 96 Marine Pol'y 213 (2018).

[6] For an international institution report, see, e.g., Combating Marine Plastic Litter and Microplastics, *supra* note 2 (defining prevention as "transboundary pollution prevention"). For an academic paper, see, e.g., Christopher C. Joyner & Scot Frew, *Plastics Pollution in the Marine Environment*, 22 Ocean Dev. & Int'l L. 33, 37 (1991) (identifying Stockholm Principle 21 as applicable). For a civil society report, see Oliver Tickell, *International Law and Marine Plastic Pollution - Holding Offenders Accountable* 12 (2018) (discussing the prohibition against transboundary harm).

[7] The first lawsuit against major plastic polluters was filed in California and uses litigation strategies tested in the climate context. *See* Complaint, Earth Island Inst. v Crystal Geyser Water Co. et al., No. 20-CIV-01213 (Cal. Super. Ct., Feb. 26, 2020).

[8] ILC Prevention Articles, *supra* note 4, art. 2(a).

[9] *See, e.g.*, Intergovernmental Review Meeting on the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, Draft Programme of Work of the Global Programme of Action Coordination Office for the Period 2018–2022, UN Doc. UNEP/GPA/IGR.4/4/Rev.1, para. 37 (2018).

[10] ILC Prevention Articles, *supra* note 4, art. 2(a).

[11] *Id.* art. 2(d).

surface currents transport discarded plastics across the world and break them down into smaller pieces. In the end, "virtually all States are likely to be responsible States as well as injured States."[12]

Fourth, it is questionable whether the no-harm rule can address plastic pollution that accumulates in areas beyond national jurisdiction. Although states are, as a matter of customary international law, under a duty to prevent harm in areas beyond their jurisdiction,[13] existing legal tools struggle to adequately respond to the accumulation of plastics in the oceans. For instance, assigning responsibility for the Great Pacific garbage patch, a collection of floating plastic of over six hundred thousand square miles, halfway between Hawaii and California,[14] raises contentious questions. Indeed, major uncertainties remain regarding inter alia the invocation of shared responsibility for harm originating from multiple states, the rights of non-directly injured states to protect the global commons as well as the nature and allocation of reparations.[15] The no-harm rule is too focused on protecting territorial integrity to adequately respond to environmental problems that manifest in these locations.

Despite these inherent limitations, references to the no-harm rule in the context of global plastic governance tell us something about its role in international environmental law. That is, references to the rule often fulfill a moral, rather than strictly legal, role. The rule offers a foundational basis to argue that harm arising from the plastics crisis cannot be deemed acceptable and to call for the adoption of more appropriate international legal responses.

A Gap-Filler: Prevention and the Duty of Due Diligence

While the no-harm rule is unlikely to provide a satisfactory response to the plastics crisis, the prevention principle has evolved to encompass not only the negative duty established by that rule, but also a positive duty emphasizing the expected proactivity of states in the face of risk. In this latter sense, the prevention principle imposes a due diligence obligation and fills in gaps left by the fragmented state of the applicable international law in the absence of a global treaty to combat plastic pollution.

Although existing instruments fail to cover the entire life cycle of the plastic problem in all its material and spatial dimensions,[16] the international legal landscape is not completely irresponsive to the plastics crisis. The existing legal and policy framework is very sophisticated, ranging from general obligations to prevent pollution under law of the sea treaties to policy objectives to reduce marine debris under the Sustainable Development Goals.[17] The normative landscape is particularly intricate given the relevance of oceans, waste, and biodiversity law in the governance of plastics.

In this context, the principle of prevention, through its due diligence standard, acts as a "legal connector"[18] that brings coherence to international legal frameworks and clarifies existing state duties in the face of plastics harm. Activities below the threshold of significance required to trigger a breach of no-harm remain governed by the duty

[12] Int'l Law Comm'n, Third Report on the Protection of the Atmosphere by Special Rapporteur Shinya Murase, A/CN.4/692, at para. 37 (2016) (making this point in relation to atmospheric pollution).

[13] Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 ICJ Rep. 226, para. 29 (July 8).

[14] Laurent Lebreton et al., *Evidence that the Great Pacific Garbage Patch is Rapidly Accumulating Plastic*, 8 Sci. Rep. 4666 (2018).

[15] *See* Yoshifumi Tanaka, *Land-Based Marine Pollution*, *in* The Practice of Shared Responsibility in International Law 294 (André Nollkaemper & Ilias Plakokefalos eds., 2017).

[16] Peter Dauvergne, *Why is the Global Governance of Plastic Failing the Oceans?*, 51 Global Envtl. Change 22 (2018).

[17] For a synthesis, see Luisa Cortat et al., *International Law Instruments to Address the Plastic Soup*, 43 Wm. & Mary Envtl. L. & Pol'y Rev. 871 (2019).

[18] Eloise Scotford, *Environmental Principles Across Jurisdictions: Legal Connectors and Catalysts*, *in* Oxford Handbook of Comparative Environmental Law 651, 653 (Emma Lees & Jorge Viñuales eds., 2019).

of due diligence, which is not limited by the same threshold.[19] Moreover, the potential lack of clarity about whether the level of scientific knowledge is enough to trigger a preventive duty is not necessarily problematic when focusing on the duty of due diligence, which provides that a state may be required or entitled to take precautionary measures even in the absence of scientific certainty as to the existence of risk of significant harm.[20] And an assessment of whether a state has acted diligently to anticipate the risks posed by plastic pollution can draw upon jurisprudential clarifications of the due diligence standard. For example, the legal reasoning of the *South China Sea* arbitral tribunal, which assessed the level of due diligence required under the UN Convention on the Law of the Sea "against the background of other applicable international law" (including treaty obligations to protect biodiversity),[21] provides guidance on how to rely on, and interpret, fragmented and sectoral legal frameworks to assess the reasonableness of state actions.[22]

A Policy Idea: Prevention as a Normative Idea of Harm Avoidance

Finally, the prevention principle manifests not as a legal norm but rather as a policy of harm avoidance. As the international community started to mobilize to find solutions to the plastics crisis, consensus rapidly built over the applicability of the principle of prevention,[23] alongside other environmental principles, including the precautionary approach[24] and the polluter-pays principle.[25] Notably, prevention has become a recurring theme in the UN Environment Assembly resolutions relevant to plastics governance, where it is explicitly recognized as the preferred approach to the plastics problem and endorsed as a policy to guide the further actions of the international community.[26] Conversely, questions of liability and compensation have not been completely put aside but are presented as a secondary, complementary, route.[27]

In its manifestation as policy, the principle of prevention channels discussions and informs decision-making. In the context of the plastics crisis, policy-makers rely on its sophisticated manifestations in the waste sector, including in the form of the concept of "waste hierarchy," for inspiration.[28] The preventive rationale can be broken down into several goals to offer a kaleidoscope of preventive options, including the reduction of waste, reuse, recycling,

[19] Alabama Claims of the United States of America Against Great Britain, XXIX R.I.A.A., 125 (Sept. 14, 1872).

[20] Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, Case No., Advisory Opinion of Feb. 1, 2011, 2011 ITLOS Rep. 10, para. 131 (explaining that precaution is also an "integral part of the general obligation of due diligence of sponsoring States").

[21] South China Sea Arbitration (Phil. v. China) PCA Case No. 2013-19, paras. 945, 956-57 (UNCLOS Annex VII Arb. Trib., July 12, 2016) (using multilateral environmental agreements to interpret Part XII of the United Nations Convention on the Law of the Sea).

[22] *See* Makane M. Mbengue, *The South China Sea Arbitration: Innovations in Marine Environmental Fact-Finding and Due Diligence Obligations*, 110 AJIL Unbound 285 (2016).

[23] Ad Hoc Open-Ended Expert Group on Marine Litter and Microplastics, Report of the Second Meeting, UN Doc. UNEP/AHEG/2018/2/5, Annex, para. 7 (2019) (stating that "prevention is paramount and is the priority").

[24] *See, e.g.*, UN Env't Assembly Res. 1/6, UN Doc. UNEP/EA.1/Res.6, para. 1 (June 27, 2014).

[25] *See, e.g.*, UN Env't Assembly Res. 2/11, UN Doc. UNEP/EA.2/Res.11, para. 12 (July 27, 2017).

[26] UN Env't Assembly Res. 1/6, *supra* note 24, Preamble ("Noting the international action being taken to promote the sound management of chemicals throughout their life cycle and waste in ways that lead to the prevention and minimization of significant adverse effects on human health and the environment."); UN Env't Assembly Res. 2/11, *supra* note 25, at para. 7 (stating that "prevention and environmentally sound management of waste are keys to long-term success in combating marine pollution"); UN Env't Assembly Res. 3/7, UN Doc. UNEP/EA.3/Res.7, Preamble (2018) (stating that preventive actions through waste minimization "should be given the highest priority").

[27] Ad Hoc Open-Ended Expert Group on Marine Litter and Microplastics, Report of the First Meeting, UN Doc. UNEP/AHEG/2018/1/6, at para. 81 Annex I: Elements for Possible Further Work, Section 6 (2018).

[28] *See* UN Env't Assembly Res. 2/11, *supra* note 25, at para. 7.

recovery, and the optimization of final waste disposal. While it is increasingly recognized that the plastics problem is best addressed at the source, the prevention principle applies throughout the lifecycle of plastics, including upstream preventive action as well as mitigation and removal efforts downstream.[29] Because it does not prescribe a specific plan of action, the principle accommodates different policy agendas and fosters international cooperation despite the existence of diverging state interests.

Conclusion

Principles are powerful instruments in the toolbox of international environmental law. In the context of the plastics crisis, the prevention principle plays a pervasive and diffuse role. Compared to other principles such as precaution, its impacts on legal processes are often more subtle. And it is both ineffective and promising at the same time: On the one hand, the principle has failed to avert environmental degradation from plastics in the first place. Moreover, the principle is not clearly adaptable to a problem that is much more complex than the traditional forms of inter-state pollution that it was originally designed to address. On the other hand, thanks to its abstractness and flexibility, the prevention principle can inform assessments of the level of diligence required of states in the face of the plastics problem, help to adapt existing legal frameworks, and encourage creativity in lawmaking. As a familiar principle of environmental policy-making, the principle resonates well with the international community and could become an influential tool in the governance of the plastics crisis.

[29] Ad Hoc Open-Ended Expert Group on Marine Litter and Microplastics, Report of the Third Meeting, UN Doc. UNEP/AHEG/2019/3/6, at para. 57 (2019).