

## THE ROLE OF COURTS IN PLASTIC POLLUTION GOVERNANCE SAMVEL VARVASTIAN\*

**Abstract** Plastic pollution is a planetary crisis posing a significant threat to humans and the environment. The regulatory response to this crisis has so far been piecemeal and has not prevented the accumulation and ubiquity of plastic pollution. The growing concern over plastic pollution and the first regulatory measures directed against it soon resulted in court cases. By early 2023, cases concerning plastic pollution emerged in more than 30 countries around the world. From holding private polluters accountable to considering the constitutionality of restrictions on certain plastic products and to ordering regulatory bodies to adopt or implement such measures, courts are playing an increasingly important role in plastic pollution governance.

**Keywords:** human rights, environment, health, plastics, regulation, litigation, threats.

### I. INTRODUCTION

It would be no exaggeration to say that plastic pollution is among the (if not the) most ‘underrated’ man-made planetary crises in contemporary law. The global scale of plastic pollution is breath-taking;<sup>1</sup> its ubiquity is confirmed by the presence of plastic in air, water, soil and living organisms,<sup>2</sup> in diverse geographic areas including Antarctica,<sup>3</sup> the Sonoran Desert,<sup>4</sup> the Mariana Trench,<sup>5</sup> Mount Everest,<sup>6</sup> and even in human

\* Lecturer in Law, Cardiff University School of Law and Politics, Cardiff, UK, [varvastians@cardiff.ac.uk](mailto:varvastians@cardiff.ac.uk). Some ideas expressed in this article were presented during a workshop at the School of Law and Politics in March 2022. The author is grateful to Jess Mant for organising it and to PJ Blount, Jade Jones, Ben Pontin, Huw Pritchard, Caer Smyth and Caleb Wheeler for the discussion. The author is also grateful to two anonymous peer reviewers for their comments and the ICLQ editors for their careful editorial work.

<sup>1</sup> United Nations Environment Programme (UNEP), ‘From Pollution to Solution: A Global Assessment of Marine Litter and Plastic Pollution’ (UNEP 2021) 14–15 <<https://www.unep.org/resources/pollution-solution-global-assessment-marine-litter-and-plastic-pollution>>.

<sup>2</sup> FM Windsor et al, ‘A Catchment-Scale Perspective of Plastic Pollution’ (2019) 25(4) *Glob Change Biol* 1207.

<sup>3</sup> DKA Barnes, A Walters and L Gonçalves, ‘Macroplastics at Sea around Antarctica’ (2010) 70(2) *Mar Environ Res* 250.

<sup>4</sup> ER Zylstra, ‘Accumulation of Wind-Dispersed Trash in Desert Environments’ (2013) 89 *J Arid Environ* 13.

<sup>5</sup> S Chiba et al, ‘Human Footprint in the Abyss: 30 Year Records of Deep-Sea Plastic Debris’ (2018) 96 *Mar Policy* 204.

<sup>6</sup> IE Napper et al, ‘Reaching New Heights in Plastic Pollution—Preliminary Findings of Microplastics on Mount Everest’ (2020) 3(5) *One Earth* 621.

placenta.<sup>7</sup> The threats posed by plastic pollution to the environment and humans are well documented;<sup>8</sup> and the emerging technologies to prevent and collect marine plastic litter are unable to solve the plastic pollution crisis.<sup>9</sup> A comprehensive response is therefore needed to tackle this.

There is no global treaty focused on plastic pollution, nor is there a single country with a comprehensive policy aimed at curbing plastic pollution.<sup>10</sup> Instead, there are piecemeal regulatory measures that either restrict the movement and disposal of plastic waste or ban certain plastic products or chemical substances that plastic products are made from. Unsurprisingly, such measures have been unable to solve this crisis, as demonstrated by the ever-growing scale of plastic pollution and its further projected growth.<sup>11</sup> In March 2022, the United Nations (UN) Environment Assembly (UNEA) adopted a resolution that paves the way for the development of the first legally binding international instrument on plastic pollution.<sup>12</sup> However, the content of this treaty and how it would address plastic pollution is not yet known.

Against the background of a piecemeal regulatory response, courts have been playing an increasingly important role in plastic pollution governance. By early 2023, cases concerning plastic pollution had emerged in more than 30 countries around the world.<sup>13</sup> These cases have been driven by two opposing forces: on the one hand, individuals and communities affected by plastic pollution seeking court action against regulatory bodies and companies over inadequate response to this crisis; and, on the other hand, the plastics industry and other related industries, dissatisfied with the emerging regulatory measures on plastics seeking to challenge the legality of such measures in courts.

The growing number of court cases around the world demands a careful inquiry into their contribution to the development of the regulatory response to plastic pollution. As institutional actors, the judiciary has played a major role in protecting the environment and human health,<sup>14</sup> with litigation often pointing out various flaws in a regulatory scheme, or its unanticipated consequences.<sup>15</sup> Courts have thus been instrumental in, for example, defining the scope of human rights obligations with respect to environmental protection,<sup>16</sup> clarifying the authority of regulatory bodies to regulate

<sup>7</sup> A Ragusa et al, 'Plasticenta: First Evidence of Microplastics in Human Placenta' (2021) 146 *Environ Int* 106274.

<sup>8</sup> UNEP (n 1).  
<sup>9</sup> E Schmaltz et al, 'Plastic Pollution Solutions: Emerging Technologies to Prevent and Collect Marine Plastic Pollution' (2020) 144 *Environ Int* 106067.

<sup>10</sup> See Section III.  
<sup>11</sup> SB Borrelle et al, 'Predicted Growth in Plastic Waste Exceeds Efforts to Mitigate Plastic Pollution' (2020) 369(6510) *Science* 1515.

<sup>12</sup> UNEA Res 5/14 (7 March 2022) UN Doc UNEP/EA.5/Res.14 (UNEA Resolution 2022).

<sup>13</sup> See Section IV.

<sup>14</sup> H Leventhal, 'Environmental Decisionmaking and the Role of the Courts' (1973) 122(3) *UPaLRev* 509.

<sup>15</sup> PM Wald, 'The Role of the Judiciary in Environmental Protection' (1991) 19 *BCEnvtlAffLRev* 519.

<sup>16</sup> *Oposa v Factoran*, G.R. No 101083 (Supreme Court of the Philippines, 30 July 1993).

pollution,<sup>17</sup> allowing victims of elusive environmental and health harms to receive compensation<sup>18</sup> and directing governments to adopt higher environmental protection standards.<sup>19</sup> Given the global scale of plastic pollution and the many threats that it poses, the response of the courts could be critical in tackling this crisis.

Individual cases concerning plastic pollution have already been mentioned by scholars in the context of plastic pollution governance<sup>20</sup> and jurisdiction-specific developments.<sup>21</sup> However, until now, there has been no in-depth analysis of the role of courts in plastic pollution governance across multiple jurisdictions. This article fills this gap by analysing the main drivers behind the global wave of plastic pollution cases and the courts' approaches to such claims in different jurisdictions. As this article demonstrates, courts around the world have been playing a major role in plastic pollution governance, and their role will continue to grow as countries develop a more comprehensive regulatory response.

The structure of this article is as follows. Section II discusses the threats posed by plastic pollution. Section III discusses the strengths and weaknesses of the key regulatory approaches. Section IV analyses the types of claims in plastic pollution cases and the courts' approaches to them. Section V identifies the key areas where courts have contributed to developing regulatory responses and the main challenges to such contributions. Section VI summarises the findings.

## II. THREATS POSED BY PLASTIC POLLUTION

'Plastic' is an umbrella term for a wide range of materials that are chiefly made from synthetic polymers—large molecules of hydrocarbon from fossil fuels, predominantly oil and natural gas.<sup>22</sup> The first synthetic polymers were developed in the late nineteenth century, followed by additives such as plasticisers, antioxidants, flame retardants and colourings that improved the properties of plastic products in the twentieth century.<sup>23</sup> However, it was not

<sup>17</sup> *Massachusetts v EPA*, 549 U.S. 497 (US Supreme Court, 2007).

<sup>18</sup> *Corby Group Litigation v Corby Borough Council* [2009] EWHC 1944 (TCC).

<sup>19</sup> *The Netherlands v Urgenda Foundation*, No ECLI:NL:HR:2019:2007 (Supreme Court of the Netherlands, 20 December 2019).

<sup>20</sup> For example: B Bharadwaj, JM Baland and M Nepal, 'What Makes a Ban on Plastic Bags Effective? The Case of Nepal' (2020) 25(2) *Environ Dev Econ* 95; L Shipton and P Dauvergne, 'Health Concerns of Plastics: Energizing the Global Diffusion of Anti-Plastic Norms' (2022) 65 (11) *J Environ Plan Manag* 2124.

<sup>21</sup> For example: SJ Morath, S Hamilton and A Thompson, 'Plastic Pollution Litigation' (2021) *Nat Resour Environ* <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3919319](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3919319)>; A Nagarajan, 'The Governance of Plastic in India: Towards a Just Transition for Recycling in the Unorganised Sector' (2022) 27(10–11) *Local Environ* 1394.

<sup>22</sup> RC Thompson et al, 'Our Plastic Age' (2009) 364(1526) *Phil Trans R Soc B* 1973.

<sup>23</sup> M Rahman and CS Brazel, 'The Plasticizer Market: An Assessment of Traditional Plasticizers and Research Trends to Meet New Challenges' (2004) 29(12) *Prog Polym Sci* 1223.

until the 1950s that large-scale production of everyday plastic items began.<sup>24</sup> The subsequent expansion of plastic production was dictated by the incredible versatility of plastic products, their strength and durability, light weight, resistance to corrosion, high thermal and electrical insulation properties and, of course, their low cost—a combination of highly desired properties that revolutionised the markets with a vast range of products.<sup>25</sup>

Unfortunately, the benefits of plastic may now be outweighed by the threats posed by or associated with every aspect of its production, use and disposal. In the 2021 report, the UN Special Rapporteur on hazardous substances and human rights identified a wide spectrum of impacts on humans and the environment caused by the entire life cycle of plastics—extraction and refining of fossil fuels, production, transport, use and waste.<sup>26</sup> Notably, these impacts stem not only from plastic pollution itself, but also from other global crises that the life cycle of plastic contributes to, most notably, climate change and air pollution.<sup>27</sup>

The global scale of plastic pollution is breathtaking. Of the 9.2 billion tonnes of plastic produced between 1950 and 2017, approximately 7 billion tonnes became plastic waste.<sup>28</sup> A significant part of this waste ended up in the ocean: of the 400 million tonnes of plastic produced annually, an estimated 19–23 million tonnes enters aquatic ecosystems.<sup>29</sup> In 2018, the Great Pacific Garbage Patch—the world’s largest ocean plastic accumulation zone formed in subtropical waters between California and Hawaii—covered an estimated surface area of 1.6 million square kilometres,<sup>30</sup> an area twice the size of Texas or three times the size of France.<sup>31</sup> There are other major, albeit smaller, garbage patches in the ocean,<sup>32</sup> but the estimates of plastic concentrations in the ocean may be too optimistic.<sup>33</sup> It is thus clear that unless some drastic measures are introduced, the global scale of plastic

<sup>24</sup> Thompson et al (n 22).

<sup>25</sup> AL Andrad and MA Neal, ‘Applications and Societal Benefits of Plastics’ (2009) 364(1526) *Phil Trans R Soc B* 1977.

<sup>26</sup> UN General Assembly, ‘Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, Marcos Orellana: The stages of the plastics cycle and their impacts on human rights’ (22 July 2021) UN Doc A/76/207, 5–7. <sup>27</sup> *ibid* 4. <sup>28</sup> UNEP (n 1) 15.

<sup>29</sup> *ibid* 14. See also C Wayman and H Niemann, ‘The Fate of Plastic in the Ocean Environment – A Minireview’ (2021) 23(2) *Environ Sci Process Impacts* 198.

<sup>30</sup> L Lebreton et al, ‘Evidence that the Great Pacific Garbage Patch is Rapidly Accumulating Plastic’ (2018) 8 *Sci Rep* 4666.

<sup>31</sup> The Ocean Cleanup, ‘The Great Pacific Garbage Patch’ <<https://theoceancleanup.com/great-pacific-garbage-patch/>>.

<sup>32</sup> PG Ryan, ‘Litter Survey Detects the South Atlantic “Garbage Patch”’ (2014) 79(1–2) *Mar Pollut Bull* 220; M Connan et al, ‘The Indian Ocean “Garbage Patch”: Empirical Evidence from Floating Macro-Litter’ (2021) 169 *Mar Pollut Bull* 112559.

<sup>33</sup> K Pabortsava and RS Lampitt, ‘High Concentrations of Plastic Hidden Beneath the Surface of the Atlantic Ocean’ (2020) 11(1) *Nat Commun* 4073.

pollution will continue to grow exponentially in the coming years and decades.<sup>34</sup>

Amplified by its global scale, plastic pollution poses numerous threats to both humans and the environment. The impacts on marine organisms that are known to interact with plastic at every level of the food chain are particularly well documented.<sup>35</sup> For example, marine birds, turtles, mammals and fish are all highly vulnerable to plastic pollution as they are widely observed to ingest floating plastic or become tangled in it.<sup>36</sup> As a result, these animals can sustain life-threatening physical damage to their limbs and gastrointestinal tract.<sup>37</sup>

For their part, tiny pieces of plastic—microplastics<sup>38</sup>—also pose significant threats to both humans and the environment. Microplastics can be deliberately produced or result from fragmentation and degradation of larger pieces of plastic. In general, plastic products are extremely resistant to degradation: depending on the properties of plastics and the surrounding environmental conditions, their longevity is estimated to be hundreds or even thousands of years.<sup>39</sup> However, despite being durable, plastic does degrade and can eventually break down into microplastics.<sup>40</sup> These tiny pieces of plastic are known to accumulate in the tissues of organisms that are exposed to them, harming these organisms and creating a pathway for plastic transfer within the entire food chain,<sup>41</sup> ultimately affecting humans.<sup>42</sup> Microplastics can also act as a vector and expose organisms to various contaminants, such as heavy metals, polycyclic aromatic hydrocarbons or antibiotics, that get ‘attached’ to plastic particles.<sup>43</sup>

<sup>34</sup> L Lebreton and A Andradý, ‘Future Scenarios of Global Plastic Waste Generation and Disposal’ (2019) 5 *Palgrave Commun* 6; IE Napper and RC Thompson, ‘Plastic Debris in the Marine Environment: History and Future Challenges’ (2020) 4(6) *Glob Chall* 1900081.

<sup>35</sup> UNEP (n 1) 22–3.

<sup>36</sup> C Wilcox, E Van Seville and BD Hardesty, ‘Threat of Plastic Pollution to Seabirds is Global, Pervasive, and Increasing’ (2015) 112(38) *Proc Natl Acad Sci USA* 11899; S Kühn, EL Bravo Rebolledo and JA van Franeker, ‘Deleterious Effects of Litter on Marine Life’ in M Bergmann, L Gutow and M Klages (eds), *Marine Anthropogenic Litter* (Springer 2015) 75. <sup>37</sup> *ibid.*

<sup>38</sup> There is no universally accepted classification of the sizes of plastic debris, though typically the term ‘microplastics’ is used with regard to pieces of plastic that are below 0.5 cm. See JPGL Frias and R Nash, ‘Microplastics: Finding a Consensus on the Definition’ (2019) 138 *Mar Pollut Bull* 145.

<sup>39</sup> K Zhang et al, ‘Understanding Plastic Degradation and Microplastic Formation in the Environment: A Review’ (2021) 274 *Environ Pollut* 116554. <sup>40</sup> UNEP (n 1) 69.

<sup>41</sup> SL Wright, RC Thompson and TS Galloway, ‘The Physical Impacts of Microplastics on Marine Organisms: A Review’ (2013) 178 *Environ Pollut* 483.

<sup>42</sup> T Kögel, A Refosco and A Maage, ‘Surveillance of Seafood for Microplastics’ in T Rocha-Santos, MF Costa and C Mouneyrac (eds), *Handbook of Microplastics in the Environment* (Springer 2022) 1311.

<sup>43</sup> AA Koelmans et al, ‘Microplastic as a Vector for Chemicals in the Aquatic Environment: Critical Review and Model-Supported Reinterpretation of Empirical Studies’ (2016) 50(7) *Environ Sci Technol* 3315; P Ma et al, ‘Research on Ecotoxicology of Microplastics on Freshwater Aquatic Organisms’ (2019) 31(1) *Env Pollut Bioavail* 131; TSM Amelia et al, ‘Marine Microplastics as Vectors of Major Ocean Pollutants and its Hazards to the Marine Ecosystem and Humans’ (2021) 8 *Prog Earth Planet Sci* 12.

Additionally, plastic pollution can expose organisms to hazardous materials and substances that plastic products are made from. Given that the total number of materials and additives used for making plastic products exceeds 10,000—a quarter of which are potentially hazardous<sup>44</sup>—the chemical impacts of plastic pollution are many. These include threats posed by bisphenol A (BPA), a chemical substance that commonly serves as a building block for polycarbonate plastics used in many everyday products such as plastic bottles, food packaging materials, construction materials, epoxy resins and toys.<sup>45</sup> Molecules of BPA leach from these products into the environment under normal conditions of use.<sup>46</sup> While the primary route for human exposure to BPA is via food, both humans and other living organisms are also exposed to BPA that leaches from BPA-based plastic products into the ambient environment, including into water, air and soil.<sup>47</sup> Human exposure to BPA has long been a matter of concern among health professionals and researchers, with an exponential increase in publications examining adverse effects on reproductive functions, child development, metabolism and other health effects.<sup>48</sup> BPA is currently recognised as an endocrine disruptor that can damage various tissues and organs, including the reproductive system, immune system and neuroendocrine system.<sup>49</sup>

While BPA is among the most studied, it is by no means the only harmful substance widely used in the production of plastic products. For example, substances that were once considered safer alternatives to BPA have raised similar, if not identical, concerns.<sup>50</sup> Similarly, phthalates, plasticiser additives that are used in everyday household items such as toys, paints, medical devices and personal care products, have been identified ‘as some of the most hazardous chemical additives in plastics for health’.<sup>51</sup> Ubiquitous and highly susceptible to leaching,<sup>52</sup> phthalates are endocrine-disrupting chemicals that can harm reproductive health, and may also cause or contribute to other health disorders, including asthma, allergies and various cancers.<sup>53</sup> Numerous other

<sup>44</sup> H Wiesinger, Z Wang and S Hellweg, ‘Deep Dive into Plastic Monomers, Additives, and Processing Aids’ (2021) 55(13) *Environ Sci Technol* 9339.

<sup>45</sup> LN Vandenberg et al, ‘Human Exposure to Bisphenol A (BPA)’ (2007) 24(2) *Reprod Toxicol* 139. <sup>46</sup> *ibid.*

<sup>47</sup> J-H Kang, F Kondo and Y Katayama, ‘Human Exposure to Bisphenol A’ (2006) 226(2–3) *Toxicology* 79.

<sup>48</sup> JR Rochester, ‘Bisphenol A and Human Health: A Review of the Literature’ (2013) 42 *Reprod Toxicol* 132.

<sup>49</sup> Y Ma et al, ‘The Adverse Health Effects of Bisphenol A and Related Toxicity Mechanisms’ (2019) 176 *Environ Res* 108575.

<sup>50</sup> S Eladak et al, ‘A New Chapter in the Bisphenol A Story: Bisphenol S and Bisphenol F are not Safe Alternatives to this Compound’ (2015) 103(1) *Fertil Steril* 11; JR Rochester and AL Bolden, ‘Bisphenol S and F: A Systematic Review and Comparison of the Hormonal Activity of Bisphenol A Substitutes’ (2015) 123(7) *Environ Health Perspect* 643.

<sup>51</sup> J Eales et al, ‘Human Health Impacts of Exposure to Phthalate Plasticizers: An Overview of Reviews’ (2022) 158 *Environ Int* 106903.

<sup>52</sup> S Benjamin et al, ‘Phthalates Impact Human Health: Epidemiological Evidences and Plausible Mechanism of Action’ (2017) 340 *J Hazard Mater* 360. <sup>53</sup> *ibid.*

substances that plastics are made from are also harmful to human health and the environment.<sup>54</sup> Furthermore, the persistence of these harmful substances in recycled plastic products undermines the efficacy of recycling as a way to deal with plastic pollution.<sup>55</sup>

### III. REGULATORY RESPONSE TO PLASTIC POLLUTION

The scale of the threat posed by plastic pollution makes it a planetary crisis that needs to be addressed urgently by adequate regulatory measures. Yet, as scholars have already observed, the regulatory response is highly fragmented and scattered across different jurisdictions, sectors and product lines.<sup>56</sup> What makes this fragmentation even more significant is the lack of policy coordination across States, the lack of dialogue between States and international institutions, the lack of uniformity among national and local policies, inconsistent standards, numerous loopholes, erratic implementation and systemic illegalities.<sup>57</sup> In the light of this fragmentation, no jurisdiction at either local, national or supranational level could comprehensively address plastic pollution. The absence of an international treaty addressing plastic pollution is the most salient gap,<sup>58</sup> and there have been various proposals for the establishment of such a treaty.<sup>59</sup> The UNEA 2022 resolution that paves way for the development of the first legally binding international instrument on plastic pollution by the end of 2024 thus seems an extremely timely (or rather, long overdue) development. However, the exact nature of the obligations under this prospective treaty remains uncertain, given the ambiguous reference to ‘both binding and voluntary approaches’ in that resolution.<sup>60</sup>

In the jumble of existing measures, several regulatory approaches have emerged that address various aspects of plastic pollution. This section will

<sup>54</sup> RU Halden, ‘Plastics and Health Risks’ (2010) 31 *Annu Rev Public Health* 179.

<sup>55</sup> JN Hahladakis et al, ‘An Overview of Chemical Additives Present in Plastics: Migration, Release, Fate and Environmental Impact During their Use, Disposal and Recycling’ (2018) 344 *J Hazard Mater* 179; A Turner, ‘Black Plastics: Linear and Circular Economies, Hazardous Additives and Marine Pollution’ (2018) 117 *Environ Int* 308.

<sup>56</sup> P Dauvergne, ‘Why is the Global Governance of Plastic Failing the Oceans?’ (2018) 51 *Glob Environ Change* 22. <sup>57</sup> *ibid.*

<sup>58</sup> J Vince and BD Hardesty, ‘Plastic Pollution Challenges in Marine and Coastal Environments: From Local to Global Governance’ (2017) 25(1) *Restor Ecol* 123.

<sup>59</sup> For example: K Raubenheimer and A McIlgorm, ‘Can the Basel and Stockholm Conventions Provide a Global Framework to Reduce the Impact of Marine Plastic Litter?’ (2018) 96 *Mar Policy* 285; EA Kirk and N Popattanachai, ‘Marine Plastics: Fragmentation, Effectiveness and Legitimacy in International Lawmaking’ (2018) 27(3) *RevEurComp&IntlEnvntL* 222; I Tessnow-von Wysocki and P Le Billon, ‘Plastics at Sea: Treaty Design for a Global Solution to Marine Plastic Pollution’ (2019) 100 *Environ Sci Policy* 94.

<sup>60</sup> UNEA Resolution 2022 (n 12) para 3: ‘[T]he intergovernmental negotiating committee is to develop an international legally binding instrument on plastic pollution, including in the marine environment ..., which could include both binding and voluntary approaches, based on a comprehensive approach that addresses the full life cycle of plastic.’

focus on three approaches that address the three critical stages of the plastics life cycle, namely, production, use and disposal: (a) regulation of movement and/or disposal of plastic waste (waste regulation approach); (b) regulation of certain plastic products (product regulation approach); (c) regulation of chemical substances that plastic products are made from (substance regulation approach). It will provide an overview of some of the key measures that are currently offered by each of these regulatory approaches, which are the cause of action in almost all cases concerning plastic pollution, as will be seen in Section IV.

### *A. Waste Regulation Approach*

Waste movement and disposal has been the main focus of the transnational regulation of plastics.<sup>61</sup> The key treaty that introduces restrictions on the movement of plastic waste is the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.<sup>62</sup> The 2019 amendments to its Annexes II, VIII and IX—also known as the Plastic Waste Amendments<sup>63</sup>—made the Convention the first and, thus far, the only legally binding global instrument that specifically addresses plastic waste.<sup>64</sup> Following the adoption of the Plastic Waste Amendments, the Convention classifies all plastic waste, including from households, as waste requiring special consideration (Annex II), with the exception of certain plastic waste that is classified as non-hazardous (Annex IX), while certain other plastic waste, for example, plastic waste that contains heavy metals, is classified as hazardous (Annex VIII). The inclusion of plastic waste means that the transboundary movement of such waste is now subject to specific requirements, restrictions and prohibitions set by the Convention, for example, consent of the importing States.

In addition to the Basel Convention, regional treaties—namely, the Bamako Convention<sup>65</sup> and the Waigani Convention<sup>66</sup>—prohibit the import of hazardous waste, including waste from production, formulation and use of plasticisers, into Africa and the Pacific Island Forum countries, respectively.

<sup>61</sup> H Johnson et al, 'Conceptualizing the Transnational Regulation of Plastics: Moving Towards a Preventative and Just Agenda for Plastics' (2022) 11(2) TEL 325, 328.

<sup>62</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (adopted 22 March 1989, entered into force 5 May 1992) 1673 UNTS 57.

<sup>63</sup> UNEP, 'Basel Convention Plastic Waste Amendments' <<http://www.basel.int/Implementation/Plasticwaste/Amendments/Overview/tabid/8426/Default.aspx>>.

<sup>64</sup> UNEP (n 1) 88.

<sup>65</sup> Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa (adopted 30 January 1991, entered into force 22 April 1998) 2101 UNTS 177.

<sup>66</sup> Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (Waigani Convention) (adopted 16 September 1995, entered into force 21 October 2001) 2161 UNTS 91.



Restrictions on the transboundary movement of plastic waste address the notorious practice of exporting such waste into developing countries that struggle to deal with their own waste, where, due to the lack of the necessary facilities to dispose of it safely, such waste is often openly burned, resulting in dangerous air pollution.<sup>67</sup> In response to this problem, some countries in Asia—a continent that has seen the highest level of production and consumption of plastic products as well as the greatest imports of plastic waste—have recently banned the import of such waste.<sup>68</sup>

Meanwhile, other international treaties prohibit the dumping of plastic in the marine environment. For example, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter prohibits the disposal of plastics at sea,<sup>69</sup> while the International Convention for the Prevention of Pollution from Ships prohibits the discharge of all garbage from ships, including any form of plastic.<sup>70</sup> The UN Convention on the Law of the Sea, though not explicitly referring to plastic pollution, also requires States ‘to prevent, reduce and control pollution of the marine environment from any source’.<sup>71</sup> Plastic waste dumping is also prohibited by numerous national and local laws on waste management and pollution prevention.<sup>72</sup>

Although important, an approach based on the regulation of waste alone does not offer a solution to the plastic pollution crisis. For instance, marine plastic litter comes mainly from land-based sources,<sup>73</sup> and thus prohibiting the dumping of plastic waste directly into the sea addresses only one element of the problem. Restrictions on the transboundary movement of plastic waste are not universal,<sup>74</sup> which means that such waste can still be exported to countries that do not have the capacity to process it safely. In other words, the waste regulation approach does not address the root cause of the plastic pollution crisis, namely, the gargantuan global rate of plastic production, which has now surpassed that of carbon emissions.<sup>75</sup>

<sup>67</sup> UN General Assembly (n 26) 7.

<sup>68</sup> Y Liang et al, ‘An Analysis of the Plastic Waste Trade and Management in Asia’ (2021) 119 *Waste Management* 242, 246.

<sup>69</sup> International Maritime Organization Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 and 1996 Protocol (2003) IMO(092)/L847, art IV and Annex I.

<sup>70</sup> International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) (adopted 2 November 1973, entered into force 2 October 1983) 1340 UNTS 184, Annex V.

<sup>71</sup> United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 397, art 194.

<sup>72</sup> R Karasik et al, ‘20 Years of Government Responses to the Global Plastic Pollution Problem: The Plastics Policy Inventory’ (Nicholas Institute for Environmental Policy Solutions 2020) <[https://nicholasinstitute.duke.edu/sites/default/files/publications/20-Years-of-Government-Responses-to-the-Global-Plastic-Pollution-Problem-New\\_1.pdf](https://nicholasinstitute.duke.edu/sites/default/files/publications/20-Years-of-Government-Responses-to-the-Global-Plastic-Pollution-Problem-New_1.pdf)>.

<sup>74</sup> Liang et al (n 68).

<sup>75</sup> RC Hale et al, ‘A Global Perspective on Microplastics’ (2020) 125(1) *J Geophys Res Oceans* e2018JC014719. Notably, plastic production itself is also a substantial contributor to carbon emissions and is projected to contribute 15 per cent of global greenhouse gases by 2050 at the current rate of production.

<sup>73</sup> UNEP (n 1) 46.

*B. Product Regulation Approach*

The limitations of the waste regulation approach are addressed to an extent by the more specialised regulatory approach that aims at limiting the production, distribution or use of plastic by imposing restrictions on, or specific requirements for, certain plastic products. The product regulation approach to tackling plastic pollution has a long history. In the 1990s and early 2000s, some countries began levying or imposing other restrictions on certain plastic products (particularly, single-use plastic bags), or even banning such products, in order to discourage their use and thus reduce their impact on the environment.<sup>76</sup> By the early 2020s, restrictions of this type, including bans on single-use plastic carrier bags, had been adopted by most countries.<sup>77</sup>

In recent years, there has been a trend towards a more comprehensive system of restrictions and requirements, which represents the next stage in the evolution of the product regulation approach from rudimentary bans on specific plastic products. A prominent example of such a system is the European Union (EU) legal regime on plastic products. In addition to the restriction on plastic bags introduced by the 2015 Plastic Bag Directive,<sup>78</sup> the 2019 Single-Use Plastics Directive banned the placing on the market of nine common single-use plastic products, including cutlery, plates and straws as well as food and drink containers made of expanded polystyrene.<sup>79</sup> Furthermore, the Single-Use Plastics Directive requires EU Member States to reduce national consumption of certain single-use plastics by setting consumption reduction targets, marketing restrictions and economic measures, and establishing a system of extended producer responsibility. Similar measures have been adopted, or are in the process of being adopted, by some countries outside the EU, including Canada,<sup>80</sup> Costa Rica,<sup>81</sup> India,<sup>82</sup>

<sup>76</sup> E Ritch, C Brennan and C MacLeod, 'Plastic Bag Politics: Modifying Consumer Behaviour for Sustainable Development' (2009) 33(2) *Int J Consum Stud* 168; Centre for Environmental Justice, 'Breaking the Plastic Cycle in Asia. Asia Pacific Regional Case Study: Australia, Bangladesh, Malaysia, Nepal, Sri Lanka' (Centre for Environmental Justice, April 2021) 21 <<https://foeasiapacific.org/wp-content/uploads/2021/08/Breaking-the-Plastic-Cycle-in-Asia.pdf>>.

<sup>77</sup> UNEP, 'Legal Limits on Single-Use Plastics and Microplastics' (6 December 2018) <<https://www.unep.org/resources/report/legal-limits-single-use-plastics-and-microplastics>>.

<sup>78</sup> Directive (EU) 2015/720 of the European Parliament and of the Council of 29 April 2015 requires the EU Member States to eliminate plastic carrier bags gradually by setting national reduction targets, marketing restrictions or economic instruments disincentivising the consumption of these bags.

<sup>79</sup> Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment [2019] OJ L155/1 (Single-Use Plastics Directive) art 5 and Part B of the Annex.

<sup>80</sup> Canadian Environmental Protection Act, 1999. Single-use Plastics Prohibition Regulations: SOR/2022-138, Canada Gazette, part II, vol 156, no 13.

<sup>81</sup> Plastic Pollution and Environmental Protection Law, No 9786, 26 November 2019.

<sup>82</sup> The Gazette of India: Extraordinary, CG-DL-E-12082021-228947, Part II—Section 3—Sub-section (i) (12 August 2021).

Japan<sup>83</sup> and others.<sup>84</sup> Costa Rica is a particularly notable example, as the measures adopted are part of the national strategy to eliminate completely the use of single-use plastics that are already prohibited from entering national parks and other protected areas in the country.<sup>85</sup> In a parallel process, various countries, including Canada, France, New Zealand, South Korea, Sweden, the United Kingdom and the United States (US), have banned the production or sale of cosmetics and personal care products containing plastic microbeads.<sup>86</sup>

While the product regulation approach is undoubtedly critical, its piecemeal nature results in numerous loopholes and exemptions that undermine the capacity of this approach in tackling plastic pollution. Whilst the EU Single-Use Plastics Directive prohibits the placing on the market of certain plastic products, it does not actually ban their production or export.<sup>87</sup> Furthermore, it does not prohibit the placing on the market of many commonly used single-use plastics, such as bottles made from polyethylene terephthalate (PET), facemasks and gloves, or non-single-use plastics of any type.

Meanwhile, recycling has already proven largely ineffective, with less than 10 per cent of all plastic ever produced having been recycled.<sup>88</sup> Unsurprisingly, common products like single-use plastic bottles continue to be among the most frequent types of marine plastic litter due to ineffective collection systems and low consumer participation in such systems.<sup>89</sup> In other words, even a more comprehensive system such as the EU Single-Use plastics regime still has considerable gaps. These and similar weaknesses of the product regulation approach are often highlighted when the respective legal acts are challenged in courts, as will be discussed in Section IV.

A significant failing of most restrictions on certain plastic products is that they do not address a related critical issue, namely, the hazardous properties of many substances that plastic products are commonly made from. Regulation of the latter has, however, been addressed by other legal regimes that focus on food safety and chemical substances control.

### *C. Substance Regulation Approach*

The substance regulation approach focuses on the chemical substances that plastic products are commonly made from. There is a long history of such

<sup>83</sup> Public Relations Office of the Government of Japan, 'Concerning the Act on Promotion of Resource Circulation for Plastics' (May 2022) <[https://www.gov-online.go.jp/eng/publicity/book/hj/html/202205/202205\\_09\\_en.html](https://www.gov-online.go.jp/eng/publicity/book/hj/html/202205/202205_09_en.html)>.

<sup>84</sup> Karasik et al (n 72) 10.

<sup>85</sup> Ministry of Environment and Energy of Costa Rica, SINAC-DE-944-2020, 25 August 2020.

<sup>86</sup> Karasik et al (n 72); see sections on 'Instruments Targeting Microplastic Pollutants'.

<sup>87</sup> Recital 3 to the Directive (n 79) merely states that 'it is also important that exports of plastic waste from the Union do not result in increased marine litter elsewhere'.

<sup>88</sup> R Geyer, 'Production, Use and Fate of Synthetic Polymers in Plastic Waste and Recycling' in TM Letcher (ed), *Plastic Waste and Recycling: Environmental Impact, Societal Issues, Prevention, and Solutions* (Academic Press 2020) 27.

<sup>89</sup> Single-Use Plastics Directive (n 79) recital 27.

measures at the national and international levels. For example, in 1979, the US Toxic Substances Control Act banned production and commercial distribution of polychlorinated biphenyls (PCBs)—a group of chemicals known to cause a wide range of adverse health effects, including cancer—that were widely manufactured as plasticisers in plastic products since 1929.<sup>90</sup> PCBs were subsequently banned by national law in most countries by the 1980s,<sup>91</sup> as well as by international law under the 2001 Stockholm Convention on Persistent Organic Pollutants.<sup>92</sup>

The specific nature of the substance regulation approach dictates both its advantages and limitations regarding plastic pollution. The main advantage is that it can prevent the use of hazardous substances across a wide range of plastic products, for example, as with PCBs and some other persistent organic pollutants used as plasticisers, flame retardants, or water repellents, that were banned by national law or by the Stockholm Convention.<sup>93</sup> However, like waste regulation, substance regulation does not prevent the production of plastic products—only certain substances (materials) used in such products. Consequently, as long as the restricted substances are substituted with others that are permitted, such an approach does not prevent production of any plastic products in any quantity. Unfortunately, there are thousands of substances that are used in the production of plastic products, and many such substances have been reported as having adverse health effects.<sup>94</sup>

The problem is further exacerbated by the fact that it can take many years for regulatory bodies to restrict certain substances, and the approach to such restrictions can be highly fragmented, as demonstrated by the example of BPA. In the US, the Food and Drug Administration (FDA) has been releasing reports on BPA since the late 2000s.<sup>95</sup> In 2012, the FDA and other federal agencies launched a collaborative project called CLARITY-BPA that involved scientists from several US universities, in order to provide a definitive evaluation of BPA.<sup>96</sup> After the project was concluded, scientists criticised the FDA over the agency's conclusion that the use of BPA and

<sup>90</sup> United States Code, Title 15, Chapter 53, Subchapter I, Sec 2605(e) (2022). See also United States Environmental Protection Agency, 'Learn about Polychlorinated Biphenyls (PCBs)' <<https://www.epa.gov/pcbs/learn-about-polychlorinated-biphenyls-pcbs>>.

<sup>91</sup> European Food Safety Authority (EFSA), 'Dioxins and PCBs' <<https://www.efsa.europa.eu/en/topics/topic/dioxins-and-pcbs>>.

<sup>92</sup> Stockholm Convention on Persistent Organic Pollutants (adopted 22 May 2001, entered into force 17 May 2004) 2256 UNTS 119, art 3, Annex A <<http://chm.pops.int/implementation/pcbs/overview/tabid/273/default.aspx>>.

<sup>93</sup> UNEP (n 1) 88.  
<sup>94</sup> L Hermabessiere et al, 'Occurrence and Effects of Plastic Additives on Marine Environments and Organisms: A Review' (2017) 182 *Chemosphere* 781; M Sendra et al, 'An Integrative Toxicogenomic Analysis of Plastic Additives' (2021) 409 *J Hazard Mater* 124975.

<sup>95</sup> FDA, 'Bisphenol A (BPA): Use in Food Contact Application' <<https://www.fda.gov/food/food-additives-petitions/bisphenol-bpa-use-food-contact-application#regulations>>.

<sup>96</sup> US National Toxicology Program, 'CLARITY-BPA Program' <<https://ntp.niehs.nih.gov/whatwestudy/topics/bpa/index.html>>.

exposure to it as currently permitted is safe, despite ‘overwhelming evidence of harm’.<sup>97</sup> Among other things, scientists pointed out that the FDA’s approach to risk assessment of hormonally active substances was outdated and rejected by endocrinology.<sup>98</sup> Admittedly, the FDA prohibited the use of BPA-based materials in baby bottles, sippy cups and infant formula packaging in 2012–13, but these prohibitions stemmed from the US chemical industry trade association’s statement that chemical companies were no longer using BPA in such products, and not from concern over BPA safety.<sup>99</sup>

In the meantime, some other countries have adopted national regulatory measures on BPA expressly because of its harmful health impacts. For example, in 2008 Canada became the first country in the world to raise regulatory concern over the use of BPA in baby bottles<sup>100</sup> and this subsequently led to the inclusion of polycarbonate baby bottles containing BPA in the list of banned consumer products under the Canada Consumer Product Safety Act.<sup>101</sup> Similar, or even more restrictive, measures on BPA have since been introduced elsewhere, for example in the EU and its Member States,<sup>102</sup> Argentina,<sup>103</sup> China<sup>104</sup> and South Africa.<sup>105</sup>

The fragmentation of the regulatory response to BPA can also occur within a single jurisdiction. For example, in 2015, the European Food Safety Authority (EFSA) published a comprehensive evaluation of BPA exposure and toxicity and concluded that ‘there is no health concern for any age group from dietary exposure and low health concern from aggregated exposure’ to BPA.<sup>106</sup> Nevertheless, EFSA temporarily reduced the tolerable daily intake of BPA, while committing to re-evaluate BPA toxicity following the findings of CLARITY-BPA.<sup>107</sup> In April 2023, after several years of consultations and assessment, EFSA published a re-evaluation of BPA toxicity, setting the tolerable daily intake of BPA in foods 20,000 times lower than in its 2015

<sup>97</sup> FS Vom Saal and LN Vandenberg, ‘Update on the Health Effects of Bisphenol A: Overwhelming Evidence of Harm’ (2021) 162(3) *Endocrinology* bqaa171. <sup>98</sup> *ibid.*

<sup>99</sup> FDA (n 95).

<sup>100</sup> I Buka, A Osornio-Vargas and R Walker, ‘Canada Declares Bisphenol A a “Dangerous Substance”: Questioning the Safety of Plastics’ (2009) 14(1) *Paediatr Child Health* 11.

<sup>101</sup> Canada Consumer Product Safety Act (S.C. 2010, c. 21) Schedule 2, Section 5.

<sup>102</sup> European Parliament, ‘New Rules on Bisphenol A in Food Contact Materials’ (February 2018) <[https://www.europarl.europa.eu/RegData/etudes/ATAG/2018/614705/EPRS\\_ATA\(2018\)614705\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2018/614705/EPRS_ATA(2018)614705_EN.pdf)>.

<sup>103</sup> Order 1207/2012 of the National Administration on Medicines, Foods, and Medical Technologies.

<sup>104</sup> Announcement of Six Departments Including the Ministry of Health on Banning the Use of Bisphenol A in Infant Feeding Bottles (No. 15, 2011) (30 May 2011) <<http://www.nhc.gov.cn/sps/s7891/201105/bcfe48fd3da849128e3017251833c9f3.shtml>>.

<sup>105</sup> Government Gazette No 34698 of 21 October 2011, Foodstuffs, Cosmetics and Disinfectants Act: Regulations: Prohibition of Manufacturing, Importation, Exportation and Sale of Polycarbonate Infant Feeding Bottles Containing Bisphenol A (No R. 879 of 2011).

<sup>106</sup> EFSA, ‘Scientific Opinion on the Risks to Public Health Related to the Presence of Bisphenol A (BPA) in Foodstuffs: Executive Summary’ (2015) 13(1) *EFSA J* 3978. <sup>107</sup> *ibid.*

report.<sup>108</sup> In contrast, as early as 2017, the European Chemicals Agency (ECHA) decided to include BPA as a substance of very high concern in the candidate list of substances identified with a view to their eventual inclusion in Annex XIV (substances subject to authorisation) to the Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation),<sup>109</sup> on the grounds that BPA had been identified as a substance toxic for reproduction within the meaning of Article 57(c) of the REACH Regulation.<sup>110</sup> Several months later, the ECHA updated the entry on BPA to reflect its endocrine-disrupting properties, in accordance with Article 57(f) of the REACH Regulation.<sup>111</sup> Unsurprisingly, the difference between the EFSA and the ECHA approaches was pointed out, albeit unsuccessfully, by the plastics industry, when it challenged the ECHA decision in the Court of Justice of the European Union (CJEU), as will be discussed in Section IV.

Whilst the substance regulation approach can effectively reduce some chemical threats posed by plastic pollution, it cannot adequately address all of the threats it presents. Even if the slow, case-by-case assessment of certain hazardous substances ultimately results in their restriction, such substances can still be produced and exported, as demonstrated by litigation in France discussed in Section IV, or simply be substituted by other hazardous substances. Consequently, pollution caused by such products persists.

#### IV. LITIGATING PLASTIC POLLUTION

The growing concern over plastic pollution and the first regulatory measures directed against it have resulted in litigation. By early 2023, cases had emerged in more than 30 countries, including national and/or local courts in Argentina, Australia, Bangladesh, Belgium, Brazil, Canada, Chile, China, Colombia, France, Germany, Guatemala, India, Indonesia, Ireland, Israel, Italy, Japan, Kenya, Malawi, Malaysia, Mexico, Nepal, the Netherlands, New Zealand, Pakistan, Paraguay, the Philippines, Portugal, South Africa, Spain, Sweden, Thailand, Uganda and the US, as well as in the CJEU.

Given the large number and the wide geographical distribution of such cases, it is helpful to classify the respective claims to determine the role of courts in relation to plastic pollution governance. There are two types of plastic pollution claims: (1) claims against regulatory bodies; and (2) claims against companies. The two most prominent categories of claims against regulatory bodies are: (a)

<sup>108</sup> EFSA, 'Scientific Opinion on the Re-Evaluation of the Risks to Public Health Related to the Presence of Bisphenol A (BPA) in Foodstuffs' (2023) 21(4) EFSA J 6857.

<sup>109</sup> Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency.

<sup>110</sup> ECHA, Inclusion of substances of very high concern in the Candidate List for eventual inclusion in Annex XIV, Decision ED/01/2017.

<sup>111</sup> ECHA, Inclusion of substances of very high concern in the Candidate List for eventual inclusion in Annex XIV, Decision ED/30/2017.

claims that seek the adoption or implementation of regulatory measures (pro-regulatory claims); and (b) claims that seek to quash the existing regulatory measures (anti-regulatory claims). For their part, claims against companies typically focus on pollution caused by the life cycle of plastic products, or on the false and misleading advertising of such products.

As this section demonstrates, the regulatory approaches discussed in Section III (or the alleged lack of regulatory measures that would fall under such approaches) have played a key role in the emergence of different types of claims. For instance, claims against regulatory bodies have largely stemmed from the restrictions adopted on or specific requirements for plastic products (in the case of anti-regulatory claims), or from the lack of such restrictions and requirements (in the case of pro-regulatory claims), whereas claims against companies have been predominantly driven by regulatory measures on plastic waste. Meanwhile, claims concerning chemical substances from which plastic products are made (most notably, BPA) are typically directed against regulatory bodies and are anti-regulatory. However, the overall volume of such claims is very low compared to claims that stem from product regulation. This focus of pro-regulatory claims on plastic products rather than on chemical substances probably reflects a long-standing tradition of considering plastic pollution through the lens of recycling and waste and not through the lens of its chemical impacts. For its part, the greater ability to substitute a restricted chemical substance than to substitute an entire product line may explain the focus of the industry's anti-regulatory claims on challenging product regulation rather than regulatory measures concerning chemical substances.

This section will now analyse the different types of plastic pollution claims in detail.

### *A. Claims against Regulatory Bodies*

Even though there are different categories of claims against regulatory bodies, the large majority of them focus on the regulation of plastic products.

#### *1. Pro-regulatory claims*

There are two categories of pro-regulatory claims: those that seek adoption of regulatory measures on plastic pollution and those that seek implementation of existing measures.

##### *a) Adoption of regulatory measures*

The first pro-regulatory claims where individuals and non-governmental organisations (NGOs) concerned about the growing threat of plastic pollution sought the adoption of regulatory measures date back to the early and mid-2000s. One of the first such cases was initiated in 2002 in Uganda, where the environmental NGO Greenwatch requested the High Court of Uganda to

declare the production, distribution, use and disposal of commonly used plastic bags, plastic food wrappers, and other plastic products, a violation of the constitutional right to a healthy environment.<sup>112</sup> The claimant asked the court to order the government to ban such products and to initiate environmental restoration. By the time the court issued its order in 2012, the government had already introduced some restriction on the importation and use of plastic bags, so the court merely urged it to adopt further measures ‘as a matter of urgency because the damage is likely to be extremely costly’.<sup>113</sup> More importantly, the court granted the declaratory relief that had been sought, thus becoming one of the first courts in the world to recognise explicitly that plastic pollution violates human rights, namely, the right to a healthy environment.

A more tangible outcome was achieved in the early pro-regulatory plastic pollution litigation in India. For example, in *Kumar Jain* the Delhi High Court was asked to direct the government to amend waste legislation in order to restrict the manufacture and sale of all plastic bags.<sup>114</sup> The court convened a committee that was tasked with studying environmental and health hazards resulting from the use of plastic bags in the country’s capital.<sup>115</sup> After considering numerous threats posed by plastic pollution, including air pollution resulting from inadequate recycling practices, the court concluded that ‘a blanket ban on the use of plastic bags may be premature’.<sup>116</sup> Nevertheless, the court directed the Delhi Government to ban such bags in markets and shopping centres, and to close unauthorised plastic waste recycling facilities.<sup>117</sup>

The widespread adoption of regulatory measures concerning plastic pollution over the past decade has not put an end to this category of pro-regulatory claims. For example, in response to a claim brought by the environmental NGO Adam Teva V’Din (ATD) in 2019, the High Court of Justice of Israel ordered the government to explain the exemption of large plastic bottles from the bottle deposit law,<sup>118</sup> which subsequently led the Minister of Environmental Protection to include these plastic products in that law in 2020.<sup>119</sup> Nevertheless, the growing number of regulatory measures has inevitably led to a greater focus on implementation. In the years following the early litigation in India, both the Supreme Court and the National Green Tribunal were asked to order the national government to introduce further restrictions on plastic products: both declined to do so by giving priority to monitoring

<sup>112</sup> *Greenwatch v Attorney General*, No 140 of 2002 (High Court of Uganda, 5 October 2012).

<sup>113</sup> *ibid.*

<sup>114</sup> *Vinod Kumar Jain v Union of India*, No W.P(C) 6456/2004 (Delhi High Court, 7 August 2008). <sup>115</sup> *ibid.*, para 6. <sup>116</sup> *ibid.*, para 11. <sup>117</sup> *ibid.*, para 20.

<sup>118</sup> T Staff, ‘High Court Orders Minister to Explain Why No Deposit for Large Plastic Bottles’ (*The Times of Israel*, 21 December 2019) <<https://www.timesofisrael.com/high-court-orders-minister-to-explain-why-no-deposit-for-large-plastic-bottles/>>.

<sup>119</sup> ATD, ‘Victory in the War on Plastic’ (31 October 2020) <<https://en.adamteva.org.il/huge-victory-the-deposit-law-will-also-apply-to-one-and-a-half-liter-bottles/>>.



implementation of existing national legislation, rather than the adoption of new measures.<sup>120</sup>

#### b) Implementation of regulatory measures

The widespread emergence of pro-regulatory claims concerning the implementation of regulatory measures on plastic pollution is a relatively recent phenomenon. In 2020–21, the Supreme Courts of Bangladesh,<sup>121</sup> Nepal<sup>122</sup> and Paraguay<sup>123</sup> ordered their respective governments to implement national legislation that restricted or banned plastic bags. A similar order was issued by the Lahore High Court against the government of the Province of Punjab in Pakistan in 2020.<sup>124</sup> In 2021, the Supreme Court of the Philippines issued a writ of Kalikasan and a writ of Continuing Mandamus in *Oceana Philippines International*, where claimants challenged the lack of implementation of national legislation on solid waste management regarding plastic pollution.<sup>125</sup>

A particularly striking fact about some of the cases mentioned above is that the unimplemented regulatory measures dated back to the early 2000s.<sup>126</sup> More recent measures, however, can also be undermined by prolonged lack of implementation, as demonstrated by *Larroza Lopez*.<sup>127</sup> In this case two individuals alleged violations of environment and health-related constitutional rights resulting from the Paraguayan government's failure to implement the 2015 law that imposed restrictions on the use of plastic bags. The Supreme Court of Justice found no evidence of any implementation measures five years after the law was passed, although by that time single-use plastic bags should have no longer been in commercial use.<sup>128</sup> The Court dismissed the ministry's argument that it was 'legally and factually impossible' to implement the 2015 law, by stating that such a justification could not be made with regard to the implementation of legislation.<sup>129</sup> At the

<sup>120</sup> *Karuna Society for Animals and Nature v Union of India*, No 154 of 2012 and No 19 of 2014 (Supreme Court of India, 16 July 2016); *Him Jagriti Uttaranchal Welfare Society v Union of India*, No 15/2014 (National Green Tribunal, 31 May 2019).

<sup>121</sup> *Bangladesh Environmental Lawyers Association v Bangladesh*, No 14941 of 2019 (Supreme Court of Bangladesh, 20 January 2020).

<sup>122</sup> *Interim Order Requiring Government to Ban Thin Plastic Bags*, 078-WO-0124 (Supreme Court of Nepal, 2021).

<sup>123</sup> *Derlis Humberto Larroza Lopez v Ministry of Industry and Commerce*, No 91/2020 (Supreme Court of Justice, 3 June 2020).

<sup>124</sup> *Haroon Farooq v Government of Punjab*, W.P. No 227807/2018 (Lahore High Court, 2021).

<sup>125</sup> *Oceana Philippines International v National Solid Waste Management Commission*, G.R. No 257609 (Supreme Court of the Philippines, 7 December 2021). Writ of Kalikasan and Writ of Continuing Mandamus are legal remedies guaranteeing judicial protection of the constitutional right to a balanced and healthful ecology. See Supreme Court of the Philippines resolution A.M. No 09-6-8-SC, Rules of Procedure for Environmental Cases (13 April 2010).

<sup>126</sup> Centre for Environmental Justice (n 76) 22.

<sup>127</sup> *Derlis Humberto Larroza Lopez v Ministry of Industry and Commerce* (n 123) 2.

<sup>128</sup> *ibid* 12–13. <sup>129</sup> *ibid* 14–15.

same time, the Court acknowledged that plastic pollution goes hand in hand with another global crisis, namely, climate change, as well as causing local environmental problems and creating favourable conditions for the spread of vector-borne diseases such as dengue.<sup>130</sup> The Court therefore ordered the ministry to implement the 2015 law immediately.<sup>131</sup>

## 2. Anti-regulatory claims

Anti-regulatory claims began to emerge shortly after regulatory bodies at the national and/or local level started imposing restrictions on certain plastic products.<sup>132</sup> Anti-regulatory claims are very common, and typically concern challenges relating to the economic interests of plastics manufacturers and other businesses, regulatory bodies' legislative power and conflict of laws, and the assessment of environmental and health impacts.

### a) Economic interests

The economic interest argument is one of the oldest and most common challenges against regulatory measures on plastic pollution. In such cases, the claimants—typically, the plastics manufacturers—argue that the regulatory measures imposed harm their economic interests. An early example of such a case is *Nepal Plastic Production Federation*, in which the Supreme Court of Nepal dismissed the plastics manufacturers' challenge to the 2000 municipal ban on plastic bags by referring to the harmful impacts of plastics on the environment and human health and declaring that the economic rights of producers were not absolute.<sup>133</sup> Similarly, when the Delhi Government banned the sale and use of plastic bags across various shopping and hospitality venues in response to the court order in *Kumar Jain*, this was immediately challenged by the plastics industry which claimed that the adopted measure put it under great economic pressure.<sup>134</sup> The Delhi High

<sup>130</sup> *ibid* 17–18.

<sup>131</sup> *ibid* 20. Notably, courts can not only assess the implementation of regulatory measures on plastic pollution in the context of pro-regulatory claims. For example, in 2022, the Portuguese Court of Auditors concluded that although the government has largely implemented the national urban plastic waste management policy, the adopted measures were insufficient to achieve some of its objectives. *Audit of Urban Plastic Waste Management*, Report No 7/2022 (Portuguese Court of Auditors, 8 April 2022) 13.

<sup>132</sup> The earliest anti-regulatory claims can be traced back to the 1970s, for example: *Society of Plastics Industry, Inc. v City of New York*, 68 Misc.2d 366 (Supreme Court of New York, 1971) (concerning a local law that imposed tax on the sale of plastic containers); *Minnesota v Clover Leaf Creamery Co.*, 449 U.S. 456 (US Supreme Court, 1981) (concerning a ban on the retail sale of milk in non-returnable and non-refillable plastic containers).

<sup>133</sup> *Nepal Plastic Producers Association and Others v Mahendranagar Municipality*, N.K.P 2060, Decision No 7207 (Supreme Court of Nepal, 2003).

<sup>134</sup> *All India Plastic Industries v Government of National Capital Territory of Delhi*, No 883 of 2009 & CM 4355/2009 (Delhi High Court, 14 July 2009) paras 4–5, 7.

Court, however, was unpersuaded, pointing out, first, that the contested measure did not completely ban the production of plastic bags,<sup>135</sup> and secondly, because it was introduced in response to growing environmental and health concerns, and so some impact on the manufacturers' commercial interests was inevitable.<sup>136</sup>

The economic interest argument has been widely and unsuccessfully referred to in more recent cases as well, including by the association of Argentinian plastic manufacturers who challenged a ban on the distribution of non-biodegradable lightweight carrier bags at the point of sale in the city of Buenos Aires, claiming that such a ban violated the constitutional right to carry out business.<sup>137</sup> The Administrative and Tax Court of Buenos Aires pointed out that the contested measure did not ban the production or the sale of such bags per se; thus, even if it affected the manufacturers' economic interests, this alone was insufficient to render it unconstitutional.<sup>138</sup> Similarly, the Supreme Federal Court of Brazil declared that economic interests cannot be pursued at the expense of environmental protection in *Union of the Plastic Material Industry of the State of São Paulo*, where the plastics industry unsuccessfully challenged a municipal law that prohibited businesses from distributing plastic bags to customers.<sup>139</sup>

It is important to observe that, on many occasions, courts have rejected the economic interest argument by weighing the right to carry out business against environmental rights and duties. Once again, India provides many such examples, including *Chennai Non Woven's Private Limited*, where the Madras High Court dismissed the economic interest argument of the plastics industry that challenged a ban on the production, use and distribution of most single-use plastic products that had been introduced by the state of Tamil Nadu in 2018.<sup>140</sup> The court stated that the right to life under Article 21 of the Indian Constitution 'includes right of enjoyment of pollution free water and air', and by imposing the above-mentioned ban, the state was ensuring this right.<sup>141</sup> Therefore, the resulting restrictions on the right to carry out business were inevitable.<sup>142</sup> Various other Indian courts have dismissed similar challenges on identical grounds.<sup>143</sup>

The conflict between the right to carry out business and environmental rights has been addressed by courts in other countries as well. For example, in *Kenya*

<sup>135</sup> *ibid.*, para 45.

<sup>136</sup> *ibid.*, para 48.

<sup>137</sup> *ADOC Envases SRL v GCBA*, IJ-CCLII-906 (Administrative and Tax Court of Buenos Aires, 2016) section I.

<sup>138</sup> *ibid.*, sections X, XI.

<sup>139</sup> *Union of the Plastic Material Industry of the State of São Paulo v Mayor of São Paulo*, No 901.444 (Supreme Federal Court of Brazil, 4 June 2018).

<sup>140</sup> *Chennai Non Woven's Private Limited v State of Tamil Nadu*, Nos 33453, 33461, 33463, 33738, 33770, 33897 and 34243 of 2018 (Madras High Court, 2019).

<sup>141</sup> *ibid.*, para 58.

<sup>142</sup> *ibid.*, paras 59–64.

<sup>143</sup> *Maharashtra Plastic Manufacturers Association v State of Maharashtra*, Petition No 4033 of 2018 (Bombay High Court, 13 April 2018) paras 30–32; *Kerala Bottled Water Manufacturers Association v State of Kerala*, WA. No 304 of 2020 (Kerala High Court, 23 March 2020) para 13.

*Association of Manufacturers*, the Environment and Land Court dismissed the industry's challenge to the 2017 national ban on the use, manufacture and importation of plastic bags used for commercial and household packaging.<sup>144</sup> The court was 'not persuaded that the benefits to be derived from plastic outweigh its negative effects on the environment',<sup>145</sup> and observed that while businesses 'may suffer social and economic losses as a result of the ban, the plastic ban is for the common good of the general public and as such lawful'.<sup>146</sup> The 'common good' at stake was the constitutional right to a healthy environment under Article 42 that was coupled with the constitutional duty of the government to protect the environment and natural resources under Article 69.<sup>147</sup> An identical line of reasoning was adopted by the Constitutional Court of Guatemala with regard to the industry's multi-pronged challenge to the ban on certain single-use plastic products that was introduced by the municipality of San Pedro La Laguna in 2016.<sup>148</sup>

One notable exception to the trend of courts rejecting the economic interest argument is the French case concerning BPA, where this argument was partially successful. When France banned the production, import, export and sale of BPA-based baby bottles in 2010, the plastics industry challenged it, claiming that the ban created market distortions and put the French companies in a disadvantageous position.<sup>149</sup> The French Constitutional Council observed that the adopted measure was intended to protect persons who are particularly vulnerable to the threats posed by exposure to endocrine-disrupting BPA, thus protecting the constitutionally recognised right to health.<sup>150</sup> However, the Council held that since BPA is allowed in many other countries, prohibiting its production in or export from France would not contribute to the protection of health in France, and thus such prohibitions were indeed unconstitutional.<sup>151</sup>

#### b) The legislative power of regulatory bodies and conflict of laws

Another long-established and common challenge to regulatory measures against plastic pollution is the alleged lack of regulatory bodies' legislative power and/or conflict of laws.<sup>152</sup> For example, in the case of *Aero Plastic Industries Ltd*, the plastics manufacturers challenged the Malawian government's ban on production, distribution and use of thin plastic bags and wrapping films, arguing that such a ban was inconsistent with legislation in

<sup>144</sup> *Kenya Association of Manufacturers v Cabinet Secretary*, Petition No 32 of 2017 (Environment and Land Court, 22 June 2018). <sup>145</sup> *ibid*, para 148. <sup>146</sup> *ibid*, para 162.

<sup>147</sup> *ibid*, paras 125–138.

<sup>148</sup> No 5956-2016 (Constitutional Court of Guatemala, 5 October 2017) 66–7.

<sup>149</sup> French Constitutional Council Decision No 2015-480 QPC of 17 September 2015, section 2.

<sup>150</sup> *ibid*, sections 4–5. <sup>151</sup> *ibid*, section 8.

<sup>152</sup> Such challenges can be traced back to the early 2000s, for example, *Santosh Kumar Mahato v The Government*, No 7430 NC.P.2061 (Supreme Court of Nepal, 2004), where the Nepali Supreme Court dismissed the plastics industry's claim that municipalities did not have the power to ban the sale and use of plastic bags within their area.

most other Southern Africa Development Community (SADC) countries and so arguably violated the SADC treaty.<sup>153</sup> The Supreme Court of Malawi disagreed, by pointing out the government's constitutional obligation to protect the right to a healthy environment<sup>154</sup> and international obligations to tackle plastic pollution, particularly, the Basel Convention and its Plastic Waste Amendments.<sup>155</sup> Furthermore, the Supreme Court reasoned, the SADC treaty does not address plastic pollution, and the fact that some SADC countries might have less stringent rules on plastic products did not reflect the specific situation in Malawi with regard to plastic pollution.<sup>156</sup>

An alleged conflict of laws was also at issue in the US case of *Poly-Pak Industries Inc.*, where a group of plastics manufacturers, supermarkets and local retailers challenged a ban on the distribution of plastic carryout bags introduced by the state of New York in 2019 (the Bag Reduction Act) and the subsequent 2020 regulations adopted with respect to it.<sup>157</sup> Amongst other things, the claimants alleged that the Bag Reduction Act conflicted with the state's 2008 Bag Recycling Act, which required businesses to establish recycling programmes for plastic carryout bags.<sup>158</sup> The state of New York Supreme Court dismissed the claim because 'where the provisions in the earlier statute cover the same field as the later statute and there is no room for reconciliation, such inconsistent earlier provisions are repealed'—in other words, 'the Bag Recycling Act's provisions would be subject to and preempted by the Bag Reduction Act'.<sup>159</sup> The court did find that part of the 2020 regulations conflicted with the Bag Reduction Act, as the former allowed additional exemptions for certain plastic bags that the latter banned: the court therefore declared these portions of the regulations invalid.<sup>160</sup>

Typically, claims within this category allege that the municipal or regional regulatory bodies lack the authority to introduce measures directed against plastic pollution and that such measures conflict with measures adopted at the national level.<sup>161</sup> A notable example of this is *Union of the Plastic Material Industry of the State of São Paulo*, where the plastics industry argued that a ban on plastic bags could only be introduced by state or federal authorities and not by a municipality.<sup>162</sup> The Supreme Federal Court of Brazil, however, disagreed and stated that the federal and state constitutions allow municipalities to legislate in matters concerning local interest, including solid waste management, while also imposing a constitutional duty to protect the

<sup>153</sup> *State (ex parte Aero Plastic Industries Ltd) v Director of Environmental Affairs*, MSCA Civil Appeal No 19 of 2019 (Supreme Court of Malawi, 31 July 2019).

<sup>154</sup> *ibid* 31–2.

<sup>155</sup> *ibid* 32–4.

<sup>156</sup> *ibid* 36.

<sup>157</sup> *Poly-Pak Industries, Inc. v State of New York*, No 902673-20 (State of New York Supreme Court, 20 August 2020).

<sup>158</sup> *ibid* 8, 25.

<sup>159</sup> *ibid* 30.

<sup>160</sup> *ibid* 40–3.

<sup>161</sup> This is not to say that the constitutionality of such measures introduced by national authorities is never questioned. See, for example, Case No 4925-18-CPR (Constitutional Court of Chile, 10 July 2018).

<sup>162</sup> *Union of the Plastic Material Industry of the State of São Paulo v Mayor of São Paulo* (n 139).

environment.<sup>163</sup> The Court also dismissed nearly identical challenges to similar bans introduced by the municipalities of Americana and Marília.<sup>164</sup>

The same line of reasoning was adopted by many Indian courts in cases where the plastics industry challenged state-level restrictions on certain plastic products that allegedly conflicted with national legislation (the Plastic Waste Management Rules) by imposing more stringent requirements or prohibitions than the latter. The courts dismissed such challenges by holding that the Plastic Waste Management Rules only set general requirements and therefore states could introduce further measures that they deemed necessary for the protection of the environment and human health.<sup>165</sup> For the same reason, the Supreme Court of Indonesia dismissed a challenge to the ban on certain single-use plastic products introduced by the province of Bali, indicating that the national legislation on waste did not preclude the local government from creating regional policies to address plastic pollution.<sup>166</sup>

Similarly, the Constitutional Court of Spain dismissed a challenge to the Chartered Community of Navarre's 2018 ban on distribution of plastic bags to consumers, only in this case it was not the plastics industry that challenged the local ban but the national government.<sup>167</sup> The ban introduced more stringent measures on plastic bags than did the national legislation, namely, the 2018 Royal Decree.<sup>168</sup> The national government maintained that the autonomous community could only introduce legislation concerning environmental protection in the absence of relevant national laws.<sup>169</sup> It also alleged that apart from its environmental protection function, the 2018 Royal Decree arguably introduced harmonious measures across the country in order to avoid market distortions.<sup>170</sup> The Constitutional Court disagreed, pointing out that autonomous regions could adopt further protection measures in addition to the minimum requirements set by national laws<sup>171</sup> and that the contested ban itself had no direct and significant effect on the market.<sup>172</sup> The Court therefore dismissed the claim.<sup>173</sup>

While courts have generally dismissed claims that challenged regulatory bodies' legislative power or raised concern about the alleged conflict of laws,

<sup>163</sup> *ibid.*

<sup>164</sup> *Union of the Plastic Material Industry of the State of São Paulo v Mayor of Americana*, No 729.731 (Supreme Federal Court of Brazil, 6 October 2017); *Union of the Plastic Material Industry of the State of São Paulo v Mayor of Marília*, No 732.686 (Supreme Federal Court of Brazil, 19 October 2022).

<sup>165</sup> *Goodwill Plastic Industries v Union Territory Chandigarh*, No 26 of 2013 (National Green Tribunal, 8 August 2013) paras 23–24; *Karnataka State Plastic Association v State of Karnataka*, No 9197/2017 (National Green Tribunal, 13 January 2017) paras 86–88; *Popular Plastic v State of Madhya Pradesh*, W.P. No 8182/2017 (Madhya Pradesh High Court, 30 August 2018) paras 35–36; *Chennai Non Woven's Private Limited v State of Tamil Nadu* (n 140) para 49.

<sup>166</sup> *Indonesian Plastic Recycling Association v Governor of the Province of Bali*, 29 P/HUM/2019 (Supreme Court of Indonesia, 23 May 2019).

<sup>167</sup> Constitutional Court of Spain, Decision 100/2020 of 22 July 2020 <[https://www.boe.es/diario\\_boe/txt.php?id=BOE-A-2020-9788](https://www.boe.es/diario_boe/txt.php?id=BOE-A-2020-9788)>.

<sup>170</sup> *ibid* 70814–15.

<sup>171</sup> *ibid* 70826.

<sup>168</sup> *ibid* 70815.

<sup>169</sup> *ibid* 70813.

<sup>172</sup> *ibid* 70829.

<sup>173</sup> *ibid* 70831–2.

there have been some notable examples of the challenged measures being quashed. One of these is *Canadian Plastic Bag Association*, where the manufacturers challenged the city of Victoria's 2018 bylaw that prohibited businesses from selling or providing single-use plastic bags to customers free of charge.<sup>174</sup> The manufacturers claimed that since the purpose of this bylaw was environmental protection, it should have been approved by the provincial minister of environment, for otherwise the city lacked jurisdiction to impose such a ban.<sup>175</sup> The Court of Appeal for British Columbia agreed, noting that because 'the Province takes an active part in regulating and managing not only the disposal of waste but environmental protection generally, [it] might wish to have the right to approve, or withhold approval of, municipal bylaws relating to environmental protection in order to ensure that a patchwork of different municipal laws does not hamper provincial environmental programs'.<sup>176</sup> Since the appeals court agreed that the ultimate goal of the bylaw was to prevent plastic pollution,<sup>177</sup> it declared that the city was indeed required to obtain the approval of the provincial Minister of Environment, and quashed the bylaw as *ultra vires*.<sup>178</sup>

Another example is the Quindío department's challenge to the 2020 ban on the use of certain plastic packaging adopted by the municipality of Salento in Colombia.<sup>179</sup> The claimant argued that while the municipality's intention of tackling plastic pollution was laudable, territorial entities could not unilaterally ban the use of plastic products because such power was vested only in the national authorities.<sup>180</sup> The Quindío Administrative Court agreed, stating that such measures needed to be adopted in the regional and national context, and declared the ban void.<sup>181</sup> Similarly, when the industry challenged the state of Oaxaca's ban on the sale, distribution or use of certain plastic products made of PET or expanded polystyrene, the Supreme Court of Justice of Mexico held that such a ban was indeed unconstitutional because such power is vested within federal, not state, authorities.<sup>182</sup>

Furthermore, courts can also declare municipal restrictions on certain plastic products to be pre-empted by state law, as happened in the US case of *City of Laredo*.<sup>183</sup> In 2014, the city adopted an ordinance that prohibited businesses from providing or selling certain plastic bags to customers, with a view of protecting the city from the various threats posed by plastic pollution, including threats to life and property that result from flooding caused by blocked sewer systems.<sup>184</sup> The industry alleged that the ordinance was pre-empted by state

<sup>174</sup> *Canadian Plastic Bag Association v Victoria (City)*, 2019 BCCA 254, 435 D.L.R. (4th) 488 (Court of Appeal for British Columbia, 2019). <sup>175</sup> *ibid*, para 17. <sup>176</sup> *ibid*, paras 50–51.

<sup>177</sup> *ibid*, para 54.

<sup>178</sup> *ibid*, paras 56–59.

<sup>179</sup> Decision No 37-2021 (Quindío Administrative Court, 15 April 2021).

<sup>180</sup> *ibid*, paras 6–7.

<sup>181</sup> *ibid*, para 12.

<sup>182</sup> *Propimex Ltd*, 173/2022 (Supreme Court of Justice of Mexico, 2022) paras 68–69; *Oxxo Commercial Chain*, 230/2022 (Supreme Court of Justice of Mexico, 2022) paras 80–91.

<sup>183</sup> *City of Laredo v Laredo Merchants Association*, 550 S.W.3d 586 (Supreme Court of Texas, 2018). <sup>184</sup> *ibid* 590.

law, namely, the Texas Solid Waste Disposal Act, which protects both the environment and public health, welfare and property by controlling the management of solid waste, including plastics.<sup>185</sup> The Supreme Court of Texas held that despite the city's 'full power of local self-government', the state legislature can limit that power by adopting state-wide regulation, in this case, the solid waste management under the above-mentioned Act,<sup>186</sup> and held that the latter Act pre-empted the city's ordinance.<sup>187</sup>

### c) Environmental and health impacts

While the two categories of anti-regulatory claims discussed earlier in this section are by far the most common, regulatory measures concerning plastic pollution are also frequently challenged on other grounds. The most frequent claim of these is that the regulatory bodies have failed to assess the environmental or health impacts resulting from the restrictions on certain plastic products.

One of the earliest examples of such claims is the US case of *Save the Plastic Bag Coalition*, where an association of plastic bag manufacturers and distributors challenged the city of Manhattan Beach's decision to ban the distribution of plastic bags at point of sale without carrying out an environmental impact assessment.<sup>188</sup> The claimants argued that such a decision would result in even greater environmental harm because plastic bags would be replaced by paper bags, the life cycle of which is arguably more harmful to the environment than that of plastic bags.<sup>189</sup> For its part, the city argued that the decision 'would have only a miniscule contributive effect on the broader environmental impacts', thus rendering a detailed analysis of these impacts under state environmental quality legislation unnecessary.<sup>190</sup> Considering the small size of the city's population and retail sector, the Supreme Court of California ruled in favour of the city and emphasised that generic assessment of life cycle impacts associated with a particular product 'must be kept in proper perspective and not allowed to swamp the evaluation of actual impacts attributable to the project at hand'.<sup>191</sup> The association's subsequent challenges to similar measures introduced by some other cities and counties in California were also unsuccessful.<sup>192</sup> A similar challenge to

<sup>185</sup> *ibid* 591, 594.

<sup>186</sup> *ibid* 593–5.

<sup>187</sup> *ibid* 598. Similarly, in *Florida Retail Federation, Inc. v City of Coral Gables*, 282 So.3d 889 (District Court of Appeal of Florida, 2019), the court held that a city ordinance prohibiting food service providers and stores from selling or using expanded polystyrene containers was pre-empted by three separate state statutes concerning packaging and polystyrene products.

<sup>188</sup> *Save the Plastic Bag Coalition v City of Manhattan Beach*, 52 Cal.4th 155 (Supreme Court of California, 2011).

<sup>189</sup> *ibid* 171–5.

<sup>190</sup> *ibid* 174.

<sup>191</sup> *ibid* 174–5.

<sup>192</sup> *Save the Plastic Bag Coalition v County of Marin*, 218 Cal.App.4th 209 (Court of Appeal of California, 2013); *Save the Plastic Bag Coalition v City and County of San Francisco*, 222 Cal.App.4th 863 (Court of Appeal of California, 2014).



national restrictions on certain single-use plastic products is currently pending before the Federal Court of Canada.<sup>193</sup>

Concern over the alleged health threats created by restrictions on plastic products, unsuccessfully argued in various cases,<sup>194</sup> has gained more prominence following the outbreak of the COVID-19 pandemic. For example, in *Poly-Pak Industries Inc.*, the claimants contended that the state of New York failed to consider the COVID-19-related health implications of its 2019 ban on plastic bags.<sup>195</sup> The court, however, dismissed this claim, stating that the claimants were not entitled to such a determination.<sup>196</sup> In contrast, in Brazil, the Court of Justice of São Paulo suspended the 2020 municipal ban on the distribution of single-use plastic cups, cutlery and some other products, in response to the plastics industry's claim that the regulatory bodies had failed to consider the effects of such a ban in the light of the COVID-19 pandemic.<sup>197</sup>

The assessment of health impacts was also the chief argument in the EU case of *PlasticsEurope*, where plastics manufacturers challenged the ECHA 2017 decision to include BPA as a substance of very high concern under the REACH Regulation.<sup>198</sup> The plastics manufacturers raised numerous objections to this decision, arguing, among other things, that the ECHA failed to establish the existence of 'probable' serious effects of BPA, and failed to consider the relevance of the EFSA 2015 assessment on BPA and studies conducted by non-EU bodies. The General Court of the EU dismissed the claims, finding that the scientific assessment carried out by the ECHA was adequate,<sup>199</sup> while the differing scope of the respective assessments conducted by the ECHA and EFSA meant that the alleged inconsistency between these assessments was irrelevant when the ECHA reached its decision to classify BPA as a substance of very high concern.<sup>200</sup> The plastics manufacturers' subsequent appeal to the European Court of Justice was also dismissed.<sup>201</sup>

### 3. Other claims against regulatory bodies

In addition to pro-regulatory and anti-regulatory claims, courts have also addressed various other claims against regulatory bodies. One of the most

<sup>193</sup> *Petro Plastics Corporation Ltd and others v The Attorney General of Canada*, Court file No T-14b8-22 (Federal Court of Canada, 15 July 2022).

<sup>194</sup> For example, in *Kenya Association of Manufacturers v Cabinet Secretary* (n 144) the claimants' allegations that 'after the plastic ban, traders were selling food items without wrapping or wrapping it in unhygienic material thereby exposing consumers to the risk of "food borne" diseases' were dismissed by the court as unsubstantiated by any evidence (paras 161–162).

<sup>195</sup> *Poly-Pak Industries, Inc. v State of New York* (n 157) 44. <sup>196</sup> *ibid.*

<sup>197</sup> *Petition by the Union of the Plastic Material Industry, Transformation and Recycling of Plastic Material of São Paulo to declare the unconstitutionality of the Municipal Law No 17.261/2020*, No 2017452-91.2020.8.26.0000 (Court of Justice of São Paulo, 1 April 2020).

<sup>198</sup> *PlasticsEurope v European Chemicals Agency*, Case No T 636/17 (General Court, 20 September 2019). <sup>199</sup> *ibid.*, paras 120–130. <sup>200</sup> *ibid.*, paras 62–66, 83–84.

<sup>201</sup> *PlasticsEurope AISBL v European Chemicals Agency*, Case No C 876/19 P (European Court of Justice, 21 December 2021).

common categories of such claims concerns the enforcement of restrictions imposed on certain plastic products, typically levies on plastic bags.<sup>202</sup> For example, in *Dunnes Stores*, a food, textiles and homewares retailer challenged a levy imposed by the Irish tax authority on ‘flimsy’ plastic bags that the company provided for the purposes of wrapping or hygiene.<sup>203</sup> The company claimed that such bags were not subject to the levy, which arguably applied only to plastic bags supplied to customers at the point of sale. The Supreme Court of Ireland disagreed, indicating that the levy was meant to tackle plastic pollution and thus applied to all bags other than those explicitly exempted.<sup>204</sup> A different outcome occurred in *Premier Plastics*, where the High Court of South Africa held that an environmental levy did not apply to thin plastic carrier bags that the claimant—a South African manufacturer of plastic products—exported to Eswatini and Lesotho.<sup>205</sup> The court emphasised that restrictions on the manufacture and distribution of such bags applied only in those cases when such bags were intended for use in South Africa, while export of such bags was exempted from restrictions and levies.<sup>206</sup>

Sometimes, claimants challenge regulatory bodies over environmental impact assessment relating to plastic pollution resulting from specific projects. For example, in *Te Rūnanga o Ngāti Awa*, the claimants challenged consents to the expansion of the existing water bottling plant and to the construction of a new plant issued by local authorities to a private company.<sup>207</sup> Among other things, the claimants alleged that the authorities failed to consider the end-use effects of bottling water, namely plastic pollution both within New Zealand and abroad. The case was first addressed by the Environment Court of New Zealand which dismissed the claim by holding that the end uses of putting water in plastic bottles were beyond the scope of environmental impact assessment required by the Resource Management Act 1991 (RMA).<sup>208</sup> The claimants appealed to the High Court of New Zealand, but they were unsuccessful. First, the court indicated that unlike the ban on the supply of plastic shopping bags by retailers, the use of plastic bottles was lawful.<sup>209</sup> Secondly, the court considered the effects of discarding such bottles abroad ‘too remote and outside the scope of the RMA ... as it is implausible to apply sustainable management principles to

<sup>202</sup> *Dunnes Stores v Revenue Commissioners* (2019) IESC 50 (Supreme Court of Ireland, 4 June 2019); *Regarding the meaning of ‘intended for permanent use’ according to the plastic carrier bag tax law*, Case No 3784-20, HFD 2020 ref. 54 (Supreme Administrative Court of Sweden, 29 October 2020); Appeal No 463/2021 (Court of Administrative Justice of Mexico, 9 September 2021); *Premier Plastics (Pty) Ltd v The Commissioner for the South African Revenue Service*, Case No 9726/2021 (High Court of South Africa, 28 July 2022).

<sup>203</sup> *Dunnes Stores v Revenue Commissioners*, *ibid.*, para 1.

<sup>204</sup> *ibid.*, paras 76, 80, 82.

<sup>205</sup> *Premier Plastics (Pty) Ltd v The Commissioner for the South African Revenue Service* (n 202) para 52.

<sup>206</sup> *ibid.*, paras 4–7.

<sup>207</sup> *Te Rūnanga o Ngāti Awa v Bay of Plenty Regional Council* [2020] NZHC 3388 (High Court of New Zealand, 17 December 2020).

<sup>208</sup> *ibid.*, para 87.

<sup>209</sup> *ibid.*, para 148.

overseas jurisdictions'.<sup>210</sup> As for the domestic use of such plastic bottles, the court was convinced that the existing recycling measures and prohibition of littering in New Zealand 'may reduce the relevant consequential effects'.<sup>211</sup> The court concluded that although the effect of plastic pollution will not always be 'too remote to warrant consideration', in this particular case it was indeed too remote.<sup>212</sup>

Plastic pollution has also been at the heart of other cases concerning environmental impact assessment, most notably challenges to permits for construction or expansion of plastics plants. A prominent example of this is the US case of *Center for Biological Diversity*, where environmental NGOs challenged a permit to construct a large plastics manufacturing plant in Louisiana, arguing that the project would lead to substantial discharge of microplastics into the Mississippi River and affect communities that were already overburdened with air and water pollution.<sup>213</sup> Shortly after the case was filed, the US Army Corps of Engineers suspended the contested permit in order to reassess it.<sup>214</sup> A similar challenge has been raised by environmental NGOs with regard to the decision of the Flemish authorities to permit expansion of the plastics factory in Antwerp, Belgium.<sup>215</sup>

### B. Claims against Companies

The role of companies in plastic pollution is complex and multifaceted. For example, scientists who reviewed the outcomes of CLARITY-BPA raised a number of disturbing points, such as the studies funded by the plastics and chemical industries that concluded that BPA was safe, as well as these industries' denial of the threats posed by BPA—tactics similar to those previously used by the tobacco and lead paint industries.<sup>216</sup> Similarly, the UN Special Rapporteur on hazardous substances and human rights has expressed concern over the industry's disinformation campaigns that have led to the widespread belief that recycling is a solution to plastic waste.<sup>217</sup> At the

<sup>210</sup> *ibid*, para 149.

<sup>211</sup> *ibid*, paras 150–151.

<sup>212</sup> *ibid*, paras 156–157. The court reached a similar decision in an earlier case that also concerned bottled water: *Aotearoa Water Action Inc. v Canterbury Regional Council* [2020] NZHC 1625 (High Court of New Zealand, 8 July 2020) para 252. The Court of Appeal of New Zealand reversed this decision and set aside the consents granted by the authorities, without, however, considering the issue of plastic pollution: *Aotearoa Water Action Inc. v Canterbury Regional Council and others*, CA430/2020 (2022) NZCA 325 (Court of Appeal of New Zealand, 20 July 2022).

<sup>213</sup> *Center for Biological Diversity v U.S. Army Corps of Engineers*, Civil Action No 20-103 (RDM) complaint, para 95.

<sup>214</sup> *Center for Biological Diversity v U.S. Army Corps of Engineers*, No 20-cv-103, 2020 WL 6041625 (US District Court for the District of Columbia, 1 January 2021).

<sup>215</sup> ClientEarth, '€3bn INEOS Plastics Project Finally Faces Court Action' (25 July 2022) <<https://www.clientearth.org/latest/press-office/press/3bn-ineos-plastics-project-finally-faces-court-action/>>.

<sup>216</sup> Vom Saal and Vandenberg (n 97).

<sup>217</sup> UN General Assembly (n 26) 6.

same time, as discussed earlier in this section, the plastics and the chemical industries as well as retailers have actively challenged regulatory measures relating to plastic products. However, claims against companies themselves are also becoming increasingly common, particularly over the inadequate handling of plastics throughout their life cycle, or the false and misleading advertising of such products.

### 1. Pollution caused by the life cycle of plastic products

As discussed in Section II, the entire life cycle of plastic products causes numerous threats to humans and the environment. Unsurprisingly, there is a wide range of civil and criminal cases concerning various stages of the life cycle of plastics, including leakage of plastic particles from manufacturing, packaging or waste treatment facilities into bodies of water,<sup>218</sup> storage<sup>219</sup> and dumping of plastic waste,<sup>220</sup> air, water or soil pollution with chemicals caused by inadequate recycling of plastic waste,<sup>221</sup> failure to meet recycling targets,<sup>222</sup> and failure to assess the various impacts of plastic on humans and the environment comprehensively.<sup>223</sup>

Among the prominent examples of such litigation is the US case of *San Antonio Bay Estuarine Waterkeeper*. Following multiple complaints from local residents about floating plastic pellets near Formosa's plastics manufacturing plant in Texas, the state environmental authorities found there had been repeated violations of the company's permit that prohibited

<sup>218</sup> *Waterkeeper v Formosa Plastics Corp, Texas*, 2019 WL 2716544 (District Court, S.D. Texas, 2019); *Charleston Waterkeeper v Frontier Logistics, L.P.*, 488 F.Supp.3d 240 (District Court, D. South Carolina 2020). See also the case against a sewage treatment plant in Schleswig, Germany, over leakage of small plastic particles into local water: *Süddeutsche Zeitung*, 'Plastik in der Schlei: Verfahren gegen Auflagen eingestellt' (*Süddeutsche Zeitung*, 5 October 2022) <<https://www.sueddeutsche.de/wissen/umweltverschmutzung-schleswig-plastik-in-der-schlei-verfahren-gegen-auflagen-eingestellt-dpa.urn-newsml-dpa-com-20090101-221005-99-14824>>.

<sup>219</sup> ECLI:NL:RBLIM:2018:4397 (District Court of Limburg, 9 May 2018).

<sup>220</sup> The Supreme People's Court of China's Case Law on Solid Waste Pollution and the Environment (1 March 2022) <<https://www.court.gov.cn/zixun-xiangqing-347801.html>>.

<sup>221</sup> For relevant cases in Japan, Malaysia and Thailand, respectively, see: District Court of Osaka, 'Air Pollution Case against Plastic Waste Plant in Neyagawa and Kitakawachi 4 City Recycling Facility Association' <[https://www.courts.go.jp/app/files/hanrei\\_jp/709/037709\\_hanrei.pdf](https://www.courts.go.jp/app/files/hanrei_jp/709/037709_hanrei.pdf)>; *Public Prosecutor v Megatrax Plastic Industries SDN BHD*, No BK-63ES-10-03/2020 (Sepang Sessions Court, 10 February 2021); Bangkok Post, 'Locals Secure Victory over Plastics Firm' (*Bangkok Post*, 25 December 2020) <<https://www.bangkokpost.com/thailand/general/2040819/locals-secure-victory-over-plastics-firm>>.

<sup>222</sup> S Surkes, 'Court Rejects Appeal by Large Plastic Bottle Makers Fined for Not Hitting Recycling Targets' (*The Times of Israel*, 28 July 2021) <[https://www.timesofisrael.com/liveblog\\_entry/court-rejects-appeal-by-large-plastic-bottle-makers-fined-for-not-hitting-recycling-targets/](https://www.timesofisrael.com/liveblog_entry/court-rejects-appeal-by-large-plastic-bottle-makers-fined-for-not-hitting-recycling-targets/)>.

<sup>223</sup> ClientEarth, 'We're Taking Danone to Court Over Plastic Pollution' (9 January 2023) <<https://www.clientearth.org/latest/latest-updates/news/we-ve-issued-legal-warnings-to-nestle-danone-and-others-over-plastic/>>.

the discharge of floating solids into local bodies of water.<sup>224</sup> Although the company tried various source control measures, none could adequately prevent the leakage of plastic pellets into the waterways.<sup>225</sup> The District Court for the South District of Texas concluded that the company's violations of its permit spanned several years and were 'enormous' and that the company was 'a serial offender', including a repeated failure to report such violations to the authorities.<sup>226</sup> The court also held that there was 'undisputed evidence' of harms to local residents because of the diminished recreational and aesthetic value of the local environment.<sup>227</sup> Following the district court's ruling, the company agreed to pay \$50 million to settle the claims, although this did not prevent the parties from disagreeing over what triggered Formosa's payment and reporting obligations.<sup>228</sup>

Another US court has also allowed a claim against a plastics packaging company that was allegedly leaking plastic pellets into local waters in South Carolina.<sup>229</sup> The court found that there was adequate evidence of injuries provided by the harmful environmental effects of the spilled plastic pellets, including 'lethal and sub-lethal effects in animals'.<sup>230</sup> The court was also convinced that the claimants could pursue simultaneous claims under resource conservation legislation and water pollution legislation, since each individual plastic pellet could qualify either as 'solid waste' under the former or as a 'point source discharge' under the latter.<sup>231</sup>

## 2. False and misleading advertising

Another prominent category of claims against companies concerns false and misleading advertising of plastic products. One of the earliest such cases, *Australian Competition and Consumer Commission*, concerned misleading statements made by an Australian company on its website and in newspapers that the plastic shopping bags distributed by the company were biodegradable, compostable and complied with the existing legislation and standards on such products.<sup>232</sup> The Federal Court of Australia ordered the company to issue a public notice concerning its false advertising. A similar decision was reached by the Court of Gorizia in the Italian commercial competition case of *Alcantara SPA*, where a company sued its competitor over the latter's false and misleading advertising of its automotive polyester

<sup>224</sup> *San Antonio Bay Estuarine Waterkeeper v Formosa Plastics Corp., Texas*, No 6:17-CV-0047 (District Court, S.D. Texas, 2019) 3–5. <sup>225</sup> *ibid* 7. <sup>226</sup> *ibid* 8–9. <sup>227</sup> *ibid* 9–10.

<sup>228</sup> *San Antonio Bay Estuarine Waterkeeper v Formosa Plastics Corporation Texas*, 852 Fed.Appx. 816 (US Court of Appeals, Fifth Circuit, 2021).

<sup>229</sup> *Charleston Waterkeeper v Frontier Logistics* (n 218) para 245. <sup>230</sup> *ibid*, para 257.

<sup>231</sup> *ibid*, para 259.

<sup>232</sup> *Australian Competition and Consumer Commission v Goody Environment Pty Ltd*, No SAD92/2010 (Federal Court of Australia, 20 December 2010).

fibre, including statements that the fibre was ‘100% recyclable’ and ‘eco sustainable’.<sup>233</sup> The court held that such statements created an image of a ‘green’ company, which led to unfair competition given consumers’ high environmental awareness, and ordered the defendant to remove the contested messages.

In contrast, in *Duchimaza*, the US District Court for New York’s Southern District held that a ‘100% recyclable’ statement on plastic water bottles was not false or misleading even if the caps and labels on such bottles are not recyclable, as these are merely ‘minor incidental components’ of the actual product.<sup>234</sup> Nor was the court convinced that the limited availability of recycling facilities in New York rendered the claim concerning ‘100% recyclability’ false or misleading.<sup>235</sup> A district court in Illinois reached an identical conclusion in the case of *Curtis*, holding that the lack of recycling facilities does not render ‘recyclable’ claims on certain plastic products false or misleading, because the word ‘recyclable’ simply refers to the fact that it is possible to recycle such products, but it does not constitute a promise or prediction that such products would actually be recycled.<sup>236</sup>

Several claims within this category were brought by the US environmental NGO Earth Island Institute against various food, drink and consumer goods companies, seeking compensation over alleged harms caused by plastic pollution on the coasts and waterways of California resulting from defendants’ distribution of plastic products in California without sufficient warning of threats posed by such products.<sup>237</sup> The claimant alleged that the defendants put a recycling symbol on their products, which misled consumers about the ultimate fate of such products once they are discarded, namely, that most of these products would either be burned or dumped in waterways.<sup>238</sup> At the early stage of litigation, the claimant achieved procedural wins in two of its cases: by persuading the federal court in *Crystal Geysers Water Company* to remand the case to state court on the grounds that the alleged harms stemmed from local pollution, rather than global pollution, as purported by the defendants;<sup>239</sup> and by persuading the court in *BlueTriton Brands* to deny the defendant’s motion to dismiss the

<sup>233</sup> *Alcantara SPA v Miko SRL*, No 712/2021 (Court of Gorizia, 25 November 2021).

<sup>234</sup> *Duchimaza v Niagara Bottling, LLC*, 619 F.Supp.3d 395 (US District Court, S.D. New York, 2022) 414–415.

<sup>235</sup> *ibid* 413–414.  
<sup>236</sup> *Curtis v 7-Eleven, Inc.*, No 21-civ-6079 (US District Court, N.D. Illinois, 2022) 13–14. Similar questions related to the lack of recycling facilities have been raised in several other pending US cases, for example: *Downing v Keurig Green Mountain, Inc.*, No 1:20-cv-11673-IT (US District Court, D. Massachusetts, 2021); *State of Connecticut v Reynolds Consumer Products, Inc.*, HHD-CV-22-6156769-S (Hartford Superior Court, 2022).

<sup>237</sup> *Earth Island Institute v Crystal Geysers Water Company*, 521 F.Supp.3d 863 (US District Court, N.D. California, 2021); *Earth Island Institute v BlueTriton Brands*, No 2021 CA 003027 B, 2022 WL 2132634 (US District Court, N.D. California, 2022); *Earth Island Institute v Coca-Cola Company*, No 2021 CA 001846 B, 2022 WL 18492133 (District Court, District of Columbia, 2022).

<sup>238</sup> *Earth Island Institute v Crystal Geysers Water Company*, *ibid* 868.

<sup>239</sup> *ibid* 880.

complaint.<sup>240</sup> However, the claimant failed to persuade the court to deny the defendant's motion to dismiss the claim in *Coca-Cola Company*, as the court held that statements such as 'Make 100% of our packaging recyclable globally by 2025' are aspirational in nature, and thus do not violate consumer protection law.<sup>241</sup>

#### V. LITIGATION AS A GLOBAL ANTI-POLLUTION STRATEGY

The analysis of the different types of claims in plastic pollution litigation and the courts' treatment of such claims reveals several trends relating to plastic pollution governance.

First, there are numerous ways for courts to engage with legal questions concerning plastic pollution. Courts can order the regulatory bodies to adopt measures that address plastic pollution or to implement existing measures. Furthermore, they can uphold the validity of such measures when the latter are challenged by the industry. Courts can also order regulatory bodies to consider the environmental and health impacts of plastics properly when approving projects that could lead to increased pollution. Finally, courts can hold private entities liable for pollution caused by inadequate handling of plastics at various stages of their life cycle, or for misleading consumers about their plastic products. Of course, the ability of courts to deal effectively with these questions is largely contingent on the legal context in which they are operating, for example, the existence of a legislative or constitutional mandate in the respective legal system that allows courts to impose a duty on a regulatory body to adopt or implement measures regarding plastic pollution.

Secondly, although plastic pollution has been litigated in different legal systems with different litigation traditions and different levels of judicial power,<sup>242</sup> courts around the world have clearly signalled their willingness to engage with legal questions concerning plastic pollution. Such willingness has been primarily driven by the universal recognition of the threats posed by plastic pollution, most notably the significant local environmental and health harms. Accordingly, most courts have recognised the importance of tackling plastic pollution at the local level. This recognition is pivotal for strengthening the regulatory response to plastic pollution, as it allows local governments to introduce and enforce strict regulatory measures even in the absence of (adequate) national response. Plastic pollution has been observed to concentrate close to its sources, including urban areas and tourist

<sup>240</sup> *Earth Island Institute v BlueTriton Brands* (n 237) 5.

<sup>241</sup> *Earth Island Institute v Coca-Cola Company* (n 237) 6–7.

<sup>242</sup> Although the questions that the respective courts address in such cases are often very similar, as observed by the Environment and Land Court of Kenya in *Kenya Association of Manufacturers v Cabinet Secretary* (n 144) paras 153–154 where the court referred to the similarity between this case and the Indian case of *Maharashtra Plastic Manufacturers Association v State of Maharashtra* (n 143).

regions;<sup>243</sup> thus, local preventive measures are crucial as they help protect local ecosystems and communities that may be disproportionately affected by plastic pollution.<sup>244</sup> Furthermore, as plastic pollution can be easily dispersed via different transport mechanisms such as wind, rivers and sewerage systems,<sup>245</sup> local measures preventing the emergence of such pollution are also vital to addressing the global crisis.

Similarly, the focus on local impacts has led many courts to recognise plastic pollution as a potential human rights concern, and in some cases even declare that such pollution violates human rights. This step is strategically important, as it paves the way for the development of substantive and procedural obligations, as well as obligations relating to the protection of those particularly vulnerable to environmental harms,<sup>246</sup> for example, consideration of impacts on human rights when approving projects that could lead to increased plastic pollution. This is highly relevant given that polluting projects can, or even tend, to emerge in places where systemic inequalities and human rights violations abound. By way of example, the proposed site for the construction of the contested plastics manufacturing plant in *Center for Biological Diversity* was none other than the infamous ‘Cancer Alley’: an 85-mile stretch of land along the Mississippi River from New Orleans to Baton Rouge, primarily populated by low-income and African American communities, which has a very high concentration of petrochemical plants, refineries, landfills and factories.<sup>247</sup> For decades, local communities in this area have been affected by high incidences of cancer, skin inflammation, significant respiratory problems and many other health threats.<sup>248</sup>

However, Cancer Alley is just one of many such ‘sacrifice zones’: millions of people around the world suffer from constant exposure to environmental pollution and the resulting human rights violations, as confirmed by the 2022 report of the UN Special Rapporteur on human rights and the environment.<sup>249</sup> Of course, in the case of plastic pollution it is not just new plastics plants that can endanger human rights but also single-use plastic

<sup>243</sup> F Galgani, G Hanke and T Maes, ‘Global Distribution, Composition and Abundance of Marine Litter’ in Bergmann et al (eds) (n 36) 34.

<sup>244</sup> UNEP, ‘Neglected: Environmental Justice Impacts of Marine Litter and Plastic Pollution’ (UNEP 2021) <<https://wedocs.unep.org/bitstream/handle/20.500.11822/35417/EJIPP.pdf>>.

<sup>245</sup> UNEP (n 1) 54.

<sup>246</sup> JH Knox, ‘Human Rights, Environmental Protection, and the Sustainable Development Goals’ (2015) 24 *WashIntlLJ* 517.

<sup>247</sup> *Center for Biological Diversity v U.S. Army Corps of Engineers* (n 213) paras 2–3.

<sup>248</sup> GR Berry, ‘Organizing against Multinational Corporate Power in Cancer Alley: The Activist Community as Primary Stakeholder’ (2003) 16(1) *Organ Environ* 3; M Singer, ‘Down Cancer Alley: The Lived Experience of Health and Environmental Suffering in Louisiana’s Chemical Corridor’ (2011) 25(2) *Med Anthropol Q* 141.

<sup>249</sup> UN General Assembly, ‘The right to a clean, healthy and sustainable environment: non-toxic environment. Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment’ (12 January 2022) UN Doc A/HRC/49/53, 6–11.



products already released into the environment, as observed by various courts. The human rights approach to plastic pollution, traditionally overlooked in the regulation of plastics<sup>250</sup> which has been developed by courts, is therefore fully consistent with the general trend of national and supranational courts' contribution to strengthening the regulatory response to environmental problems.<sup>251</sup>

However, the contribution of courts to developing the regulatory response to plastic pollution has not been completely unhindered. One of the impediments is the traditional problem of the non-implementation of court orders, as demonstrated by the Supreme Court of Nepal's inquiry into the government's failure to implement the ban on plastic bags, as ordered by the Court in 2021.<sup>252</sup> A more specific impediment is the piecemeal regulatory response to plastic pollution that has to some extent bound courts to the confines of existing measures. The most notable examples of this problem are: (a) the successful anti-regulatory claims in Canada, Colombia, Mexico and the US, where the respective courts declared the contested municipal measures *ultra vires* or pre-empted by higher hierarchy norms; (b) the French BPA case and the South African case of *Premier Plastics*, where the respective courts declared that the restrictive measures did not apply to the production and export of BPA<sup>253</sup> and thin plastic carrier bags, respectively; and (c) the unsuccessful claims in the US cases of *Duchimaza* and *Curtis*, where the courts held that the lack of adequate recycling facilities did not render statements about recyclability false or misleading.

In the first category of cases, the lack of regulatory measures adopted at the national level prevented the respective courts from upholding the contested local measures. Similarly, in *Duchimaza* and *Curtis*, systemic problems, such as the lack of recycling facilities or low recycling rates, were the result of the lack of measures by regulatory bodies that the courts could do nothing about. In *Premier Plastics*, it was the South African legislature that deliberately created an exemption for the export of such products. In other words, all these examples reflect the fact that, as institutional actors, courts are not tasked with or equipped to craft solutions to plastic pollution.

However, plastic pollution litigation has also raised some important questions that courts have thus far left unanswered (or only partly answered). These include consideration of the end use of plastics in environmental impact assessment<sup>254</sup> and the question of consumer information raised in the

<sup>250</sup> Johnson et al (n 61) 332. Costa Rica is among the notable exceptions, with a largely human rights-focused approach to restrictions on single-use plastics. See SINAC-DE-944-2020 (n 85).

<sup>251</sup> UN General Assembly (n 249).

<sup>252</sup> Nepal News, 'SC Seeks Written Response from Chief Secretary on Contempt of Court' (*Nepal News*, 6 May 2022) <<https://nepalnews.com/s/nation/sc-seeks-written-response-from-chief-secretary-on-contempt-of-court>>.

<sup>253</sup> As noted above, the anti-regulatory claim in France was only partially successful.

<sup>254</sup> As discussed in Section IV, the High Court of New Zealand did not rule out the possibility of considering the effect of plastic pollution in an environmental impact assessment.

Earth Island Institute claims.<sup>255</sup> Such claims are particularly interesting, as they are arising against the backdrop of emerging requirements for extended producer responsibility under the EU Single-Use Plastics Directive<sup>256</sup> and elsewhere,<sup>257</sup> that involves awareness-raising measures and the costs of cleaning up litter and waste collection. Yet, at this stage, these cases do not allow any concrete conclusions to be drawn about courts' potential contribution in these fields. Other important questions, such as responsibility for cleaning up plastic pollution that has accumulated in the world ocean and its persisting toxic legacy,<sup>258</sup> have not been raised before courts at all. Hopefully, such questions will be dealt with by a specialised global treaty, as academics have proposed.<sup>259</sup>

What is clear though is that, however piecemeal, existing regulatory measures at the local, national and supranational levels already provide useful tools for courts in the assessment of regulatory bodies' and companies' obligations. As many countries move towards a more comprehensive regulatory response to plastic pollution, coupled with the potential adoption of the first specialised global treaty, courts have developed an impressive toolkit with which to address various questions related to plastic pollution. At the same time, those who oppose regulation will have more restrictions to challenge.<sup>260</sup> Thus, the role of courts in plastic pollution governance will continue to grow and courts will have further opportunities to address the various questions that are only starting to emerge in plastic pollution litigation. And while litigation cannot possibly solve a crisis of this magnitude by itself, it can help 'set the agenda and frame the issues in this crisis', just as occurred with other multi-dimensional and far-reaching environmental and health hazards such as opioids,<sup>261</sup> tobacco<sup>262</sup> and climate

<sup>255</sup> *Earth Island Institute v BlueTriton Brands* and *Earth Island Institute v Coca-Cola Company* (n 237).

<sup>256</sup> Single-Use Plastics Directive (n 79) art 8.

<sup>257</sup> See, for example: Ministry of the Environment of Chile, Framework Act on Waste Management, Extended Producer Responsibility and Promotion of Recycling, No 20.920 (17 May 2016); The Gazette of India, CG-DL-E-17022022-233568, Part II—Section 3—Sub-section (i) (16 February 2022), Schedule II (Guidelines on Extended Producer Responsibility for Plastic Packaging); Public Relations Office of the Government of Japan (n 83).

<sup>258</sup> For example, although production and usage of PCBs had largely ceased by the 1980s, these hazardous chemicals are still widely present in the environment in high concentrations due to their persistence. See BG Yeo et al, 'PCBs and PBDEs in Microplastic Particles and Zooplankton in Open Water in the Pacific Ocean and Around the Coast of Japan' (2020) 151 Mar Pollut Bull 110806.

<sup>259</sup> Kirk and Popattanachai (n 59) 233.

<sup>260</sup> A typical example of this litigation–regulation feedback loop can be observed in the Indian cases of *Vinod Kumar Jain v Union of India* (n 114) (pro-regulatory claim resulting in the adoption of regulatory measures) and *All India Plastic Industries v Government of National Capital Territory of Delhi* (n 134) (anti-regulatory claim that unsuccessfully challenged these adopted measures).

<sup>261</sup> See, for example, AR Gluck, A Hall and G Curfman, 'Civil Litigation and the Opioid Epidemic: The Role of Courts in a National Health Crisis' (2018) 46 JLMed&Ethics 351.

<sup>262</sup> See, for example, MA Derthick, *Up in Smoke: From Legislation to Litigation in Tobacco Politics* (CQ Press 2011).

change.<sup>263</sup> As seen throughout this article, the engagement of courts with legal questions concerning measures to prevent further worsening of the global plastic pollution crisis and measures to protect humans and the environment from its current and future impacts confirms the potential of litigation as a global anti-pollution strategy.

#### VI. CONCLUSION

Plastic pollution is caused by the ever-growing accumulation of countless sources of diffuse transboundary pollutants. It is the result of widespread use of products that are so deeply entrenched in modern life that banning them completely 'is highly unlikely to succeed',<sup>264</sup> at least for the time being. The issue raises complex questions of law, science and economics and yet, as demonstrated in this article, such complex questions are not beyond judicial scrutiny. From holding private polluters accountable to considering the constitutionality of restrictions on certain plastic products and to ordering regulatory bodies to adopt or implement such measures, courts are playing a major role in plastic pollution governance. It is true that persisting gaps in the regulatory response have to some extent hindered the courts' contribution to the tackling of this crisis, but as the overall regulatory response gradually becomes more comprehensive, so does the ability of courts to address the various legal questions that this crisis poses.

<sup>263</sup> Climate change is a particularly interesting example to consider because of the inherent similarity between it and plastic pollution, namely, the fact that both these crises are primarily driven by the accumulation of countless sources of diffuse, fossil fuel-based transboundary pollutants—greenhouse gas emissions and plastics, respectively. For a detailed discussion on climate change litigation see, for example, J Peel and HM Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (CUP 2015).

<sup>264</sup> Kirk and Popattanachai (n 59) 232.