

Advancing Sustainable Natural Resources Management for Development through International Law, Governance and Capacity

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Prof Marie-Claire Cordonier Segger and Prof Ilaria Espà¹

The degradation and sound stewardship of the world's common heritage, including many significant natural resources, has become a crucial matter of global, regional and transboundary concern. As scientific knowledge advances and the complex interdependence of natural systems is better understood, the challenges for international law are intensified. Tensions are rising as evidence progressively demonstrates that many natural resources are being increasingly mismanaged and degraded, leading to depletion of crucial non-renewable resources, as well as over-exploitation of potentially renewable resources. As human societies and the world economy begin to re-open over the coming months and years, there is a pressing need to provide more coherent, cooperative, effective law and policy regimes for sustainable natural resources management and use.

Rising to these inter-linked challenges, new guidelines have been adopted by the International Law Association (ILA) on the Role of International Law in Sustainable Management of Natural Resources for Development (*ILA Sustainable Natural Resources Guidelines*). These *ILA Sustainable Natural Resources Guidelines* highlight the myriad rules and standards which now define, guide and direct State practice, and providing a roadmap for the progressive development of international law on the sustainable management of natural resources for development.² Drafted by nearly 50 leading international legal experts and specialists appointed by the ILA from over 30 countries, the newly adopted guidelines provide a crucial framework to cobble collaboration and compliance out of the current complex crises.

Global Degradation of Natural Resources: A Crucial Common Concern of Humanity

Recent findings by the Intergovernmental Panel on Climate Change (IPCC),³ the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES),⁴ the World Health Organization (WHO), also the World Bank and the UN Development Programme, among other authorities, highlight that humanity is reaching a critical crossroads. Rapid and dangerous climate change is exacerbating global poverty rates, undermining access to essential crops and food sources and

¹ Professor Dr Marie-Claire Cordonier Segger, DPhil (Oxon) MEM (Yale) BCL & LLB (McGill) BA Hons (Carl/UVic), Leverhulme Trust Visiting Professor, Bennett Institute for Public Policy and Lauterpacht Centre for International Law, University of Cambridge; Senior Director, Centre for International Sustainable Development Law (CISDL); Full Professor of Law, Faculty of Environment, University of Waterloo and Rapporteur of the International Law Association Committee on the Role of International Law in Sustainable Resources Management for Development; and Professor Dr Ilaria Espà, Senior Assistant Professor, Law Institute, Università della Svizzera italiana (USI), Senior Research Fellow, World Trade Institute (WTI) and CISDL Lead Counsel for Natural Resources. Warmest thanks are due to Tejas Rao, LLM Candidate; David Gayle, MPhil Candidate; Fabiana Piccoli Araújo Santos, LLM Candidate; and Freedom-Kai Phillips, PhD Candidate, at the University of Cambridge for their invaluable insights, research and drafting assistance, as well as to the brilliant international legal experts and specialists who served on the ILA Committee on the Role of International Law in Sustainable Resources Management for Development over the past eight years, and Professor Nico Schrijver, State Councillor in the Council of State of the Netherlands and Professor Emeritus at the University of Leiden, who chaired the ILA Committee.

² Committee on the Role of International Law in Sustainable Natural Resources Management for Development International Law Association, 'The role of international law in sustainable natural resources management for development' in International Law Association Final Report of the 79th Biennial Conference (Kyoto 2020) (International Law Association Kyoto 2020) <https://www.ila-hq.org/images/ILA/docs/kyoto/Draft%20Resolution%204%20&%20Guidelines%20Int%20Law%20Sustainable%20Natural%20Resources%20Kyoto%202020.pdf>

³ V Masson-Delmotte, et. al. "Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty" (IPCC, 2018). [IPCC 1.5 Report]

⁴ S Diaz, et.al., "Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services" (Bonn, Germany: IPBES, 2019) [IPBES 2019]; Secretariat of the Convention on Biological Diversity, "Global Biodiversity Outlook 5" (Montreal, Canada: CBD, 2020). [CBD 2020]

threatening livelihoods for thousands of people⁵ even as many countries, including small island nations, are still struggling to overcome terrible human development challenges. Vital planetary thresholds are being violated. Essential life support ecosystems, including the forests, grasslands, wetlands, rivers and oceans, also the migratory species which depend on them, continue to degrade, with nearly 1 million species facing extinction.⁶ Even as we overload the Low-Earth Orbit with debris, and consider means to mine the moon and other celestial bodies, three-quarters of our land and soil ecosystems, and about 66 per cent of the marine environment, have been significantly altered by human actions. Failure to conserve and sustainably use natural resources has entailed fundamental economic development, environmental and social implications. Current negative trends in biodiversity and eco-systems are projected to affect a wide of proportion of indigenous peoples and many of the world's poorest local communities.⁷ Simultaneously, successive waves of the COVID-19 pandemic, reaching over 120 million cases and more than 2.6 million deaths worldwide this month,⁸ risk a global economic contraction of over 5.2 percent, further escalating poverty.⁹

These challenges are connected, complex and increasing in severity. However, they are not truly surprises. Global, inter-linked "wicked problems" of climate change, drought and hunger; terrestrial and marine ecosystem collapse and species extinction; and world health pandemics, among others, have been flagged by scientists and civil society, with increasing urgency, for decades. Across 193 UN member States, pressure is rising on already-limited human, financial and natural resources; intensifying the need for prompt and effective public policy responses, backed by legal and institutional reforms, to foster rather than frustrate global sustainable development. The international community has been examining scientific data, raising the alarm, and struggling to negotiate responses through the UN for over 75 years. International conferences and debates have been leading slowly to clearer definitions of problems; to general commitments to cooperate; and to fragmented, incoherent, conflicting and sometimes even overlapping attempts to act. Indeed, through a series of international events and programmes of action, including the 1992 UN Conference on Environment and Development (UNCED), the 2002 World Summit on Sustainable Development (WSSD) and the 2012 UN Conference on Sustainable Development (UNCSD), as well as through the adoption of the Millennium Development Goals (MDGs) in 2000, and through the negotiation of myriad international instruments.¹⁰

Obstacles to Opportunities: World Economic Recovery Aligned with the SDGs

Indeed, this stumbling, thorny path towards international collaboration and consensus has not been completely in vain. Replacing the Millennium Development Goals (MDGs), as a new global cooperation agenda toward 2030, in 2015 countries have adopted 17 Sustainable Development Goals (SDGs) with 169 key targets, covering key areas of public policy from poverty, hunger, health, education and gender equality to water, energy, employment, infrastructure, equality, cities, production and consumption patterns, climate change, biodiversity, oceans and justice, and establishing global partnerships for action. As an agenda for the global community, the SDGs apply to all countries – rich or poor – providing a common framework to facilitate cooperation and action. They offer a succinct set of public policy priorities and time-bound targets to unite international organizations, countries and stakeholders. Of course, as detractors underline, each SDG target is aspirational, strictly non-binding in nature. However, like other important and universal aspirations such as world peace, or human rights, the Sustainable

⁵ *Ibid*, IPBES, 2019 at 12-15; *Ibid*, CBD 2020, 10, 16. H-O. Pörtner, et. al. eds, "IPCC Special Report on the Ocean and Cryosphere in a Changing Climate" (IPCC, 2019), 12, 15-16.

⁶ *Ibid*, IPBES 2019, at 12.

⁷ United Nations, "Environment: United Nations For Indigenous Peoples" online: <https://www.un.org/development/desa/indigenouspeoples/mandated-areas1/environment.html>.

⁸ WHO, "Coronavirus Disease (COVID-19) Dashboard" (29 October 2020), online: <https://covid19.who.int/>.

⁹ World Bank, "Global Economic Prospects" (Washington, DC: World Bank, 2020), online: www.worldbank.org/en/publication/global-economic-prospects; World Bank, "Poverty and Shared Prosperity 2020: Reversals of Fortune" (Washington, DC: World Bank, 2020), online: <https://openknowledge.worldbank.org/bitstream/handle/10986/34496/9781464816024.pdf>. And see UNDP, "Human Development Report 2019 - Beyond income, beyond averages, beyond today: Inequalities in human development in the 21st century" (New York: UN, 2019), online: <http://hdr.undp.org/sites/default/files/hdr2019.pdf>.

¹⁰ MC Cordonier Segger and A Khalfan, *Sustainable Development Law: Principles, Practices and Prospects* (OUP, 2004); MC Cordonier Segger w HE Justice CJ Weeramantry, *Sustainable Development in International Courts and Tribunals* (Routledge, 2014).

Development Goals are not legally irrelevant. International law and policy will help or hinder the implementation of every global Sustainable Development Goal.

Efforts to achieve the 17 SDGs and their 169 targets are supported by the principles of international law itself,¹¹ and by many binding international, regional and bilateral treaties.¹²

In fact, an immense and varied network of increasingly specific international accords prioritizing sustainable development has been adopted in recent decades, from key global human rights instruments such as the International Covenant on Economic, Social and Cultural Rights (ICESCR),¹³ the Convention on the Elimination of Discrimination Against Women (CEDAW), and the UN Convention on the Rights of the Child (CRC);¹⁴ to the ILO Labour Conventions;¹⁵ and the FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)¹⁶ to the UN Framework Convention on Climate Change (UNFCCC) and its Paris Agreement,¹⁷ the Convention on Biological Diversity (CBD) and its Cartagena and Nagoya Protocols,¹⁸ the Ramsar Convention on Wetlands of International Importance,¹⁹ or the UN Convention on the Law of the Sea (UNCLOS).²⁰ Commitments to sustainable development are even enshrined in the Agreements establishing the World Trade Organization and in a web of inter-regional, regional and bilateral trade and investment agreements.²¹ These binding accords set specific and enforceable obligations, along with cooperative work programmes and institutions that can support achievement of each SDG. In each case, the inter-governmental regime engages a community of stakeholders, from local to global in scope, to implement key operational requirements, often with public participation, financing, monitoring, reporting and verification arrangements, as well as dispute settlement and other provisions. Efforts to achieve each SDG target and the related international obligations are also facilitated by a toolkit of related domestic legal obligations, regulations and institutions at the national and sub-national levels in each country,²² and also by important customary

¹¹ International Law Association, ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development. (2002) International Environmental Agreements: Politics, Law and Economics 2, 211–216; United Nations. Rio Declaration on Environment and Development, 14 June 1992, UN Doc. A/CONF.151/26 (Vol. I), 31 ILM 874 (1992); MC Cordonier Segger & A Khalfan, *Sustainable Development Law: Principles, Practices and Prospects* (Oxford, Oxford University Press: 2004).

¹² ¹² S Atapattu, S Fraser, “SDG 1 on Ending Poverty in All its Forms: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/07/12/sdg-1/ [SDG 1 Issue Brief]; M Prabhu, S Blakely, “SDG 3 on Ensuring Healthy Lives and Promoting Well-Being for All at All Ages: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/06/12/sdg-3/; C Fenton-Glynn, P Towela Sambo “SDG 4 on Ensuring Inclusive and Equitable Quality Education: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/06/12/sdg-4-issue-brief/; A Harrington, WB Shipley, “SDG 5 on Gender Equality: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/05/12/sdg-5-issue-brief/; FK Phillips et al., “SDG 6 on Ensuring Water and Sanitation for All: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/05/01/sdg-6-issue-brief/ [SDG 6 Issue Brief]; S Bruce, S Stephenson “SDG 7 on Sustainable Energy for All: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/04/01/sdg-7/; M Gehring, FK Phillips, WB Shipley, “SDG 12 on Ensuring Sustainable Consumption and Production Patterns: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/05/01/sdg12-issue-brief/; K Lofts, et al., “SDG 13 on Taking Action on Climate Change and its Impacts: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/02/12/sdg-13/ [SDG 13 Issue Brief]; K Koutouki, FK Phillips “SDG 14 on Ensuring Conservation and Sustainable Use of Oceans and Marine Resources: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/04/12/sdg-14/; J Cabrera, F Perron-Welch, B Pisupati, “SDG 15 on Terrestrial Ecosystems and Biodiversity: Contributions of International Law, Policy and Governance” Issue Brief (UNEP/CISDL, 2016), online: www.cisd.org/2016/02/10/sdg-15/.

¹³ *International Covenant of Economic, Social and Cultural Rights*, 16 December 1966, 993 UNTS 3 (entered into force 3 January 1976). [ICESCR]

¹⁴ *Convention on the Elimination of All Forms of Discrimination Against Women*, 18 December 1979, 1249 UNTS 13 (entered into force 3 September 1981) [CEDAW]; *Convention on the Rights of the Child*, 20 November 1989, 1577 UNTS 3 (entered into force 2 September 1990). [CRC]

¹⁵ ILO, *Indigenous and Tribal Peoples Convention* (No. 169), 27 June 1989, ILO (entered into force 5 September 1991).

¹⁶ *International Treaty on Plant Genetic Resources for Food and Agriculture*, FAO Res 3/2001, 3 November 2001, 2400 UNTS 303, (entered into force 29 June 2004). [ITPGRFA]

¹⁷ *United Nations Framework Convention on Climate Change*, 9 May 1992, 1771 UNTS 107, 31 ILM 849 (entered into force 21 March 1994) [UNFCCC]; *Adoption of the Paris Agreement*, 12 December 2015, Dec 1/CP.21, FCCC/CP/2015/L.9, UNTC No 54113, (entered into force 4 November 2016) [Paris Agreement].

¹⁸ *Convention on Biological Diversity*, 5 June 1992, 31 ILM 822 (1992), (entered into force 29 December 1993) [CBD]; *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity*, 29 October 2010, UN Doc UNEP/CBD/COP/DEC/X/1, UNTC No 30619 (entered into force 12 October 2014).

¹⁹ *Ramsar Convention on Wetlands of International Importance*, 2 February 1971, 996 UNTS 245 (entered into force 21 December 1975).

²⁰ *United Nations Convention on the Law of the Sea*, 10 December 1982, 1833 UNTS 397 art 136 (entered into force 16 November 1994).

²¹ MC Cordonier Segger, *Crafting International Trade and Investment Agreements for Sustainable Development: Athena's Treaties* (Oxford, Oxford University Press: forthcoming 2021).

²² MC Cordonier Segger, A Harrington, FK Phillips eds., *SDG 1 on Ending poverty in all its forms everywhere: Contributions of Canadian Law, Policy and Governance A Toolkit of Legal & Institutional Practices* (Montreal, QC: Centre for International Sustainable Development Law, 2020), online: www.cisd.org/2020/08/17/sdg-1-a-toolkit-of-legal-institutional-practices/; MC Cordonier Segger, A Harrington, FK Phillips eds., *SDG 4 on Ensuring Inclusive and Equitable Quality Education A Toolkit of Legal & Institutional Practices* (Montreal, QC: Centre for International Sustainable Development Law, 2020), online: www.cisd.org/2019/10/19/sdg-4-on-ensuring-inclusive-and-equitable-quality-education-a-toolkit-of-

rules, economic incentives, and cultural values.²³ Mobilizing and scaling up action across all these channels to achieve the SDGs by 2030 could make a significant difference in response to current global challenges, meeting international legal obligations, and laying the foundations for great advances, even in this time of crisis.

However, we face significant obstacles in taking up these opportunities – obstacles that are conceptual, as well as legal and practical. While natural resources may originate in the territory of a sovereign State, the impacts of their degradation, damage and loss extends beyond national boundaries, to transboundary, regional and global. The world’s natural resources, once seen as national and subject to permanent sovereignty, are now increasingly recognized as matters of common global, regional, transboundary and national concern. Science is demonstrating the interdependencies, challenging international law to provide more coherent, effective cooperative regimes for sustainable management. Global policy agendas reflect the importance of sustainable development of natural resources to States and stakeholders.

Annexed to the 2002 World Summit on Sustainable Development Outcomes, the ILA New Delhi Declaration on the Principles of International Law Relating to Sustainable Development lays out the duty of States to ensure sustainable use of natural resources.²⁴ International treaty law and, increasingly, decisions of international courts and tribunals, reflect this emerging principle of customary law. Indeed, this principle is woven into the outcomes of 2012 at the UN Conference on Sustainable Development, and into the 2015 Sustainable Development Goals. Natural resources management features prominently in nearly all the SDGs and targets, as a reflection of the centrality of natural resources governance for the furtherance of sustainable development.

Natural resources are prioritized across the 2030 Agenda for Sustainable Development and its 17 global Sustainable Development Goals (SDGs) with 169 targets towards 2030. Sustainable management and use of natural resources is woven into the targets under SDGs such as zero hunger which for example,

[legal-institutional-practices/](#); MC Cordonier Segger, A Harrington, FK Phillips eds., *SDG 6 to Ensure Availability and Sustainable Management of Water and Sanitation for All: Contributions of Canadian Law, Policy and Governance A Toolkit of Legal & Institutional Practices* (Montreal, QC: Centre for International Sustainable Development Law, 2020), online: www.cisd.org/2020/08/17/sdg-6-a-toolkit-of-legal-institutional-practices/; MC Cordonier Segger, A Harrington, FK Phillips eds., *SDG 7 on Sustainable Energy for All: Contributions of Canadian Law, Policy and Governance A Toolkit of Legal & Institutional Practices* (Montreal, QC: Centre for International Sustainable Development Law, 2020), online: www.cisd.org/2019/10/19/sdg-7-on-sustainable-energy-for-all-a-toolkit-of-legal-institutional-practices/; MC Cordonier Segger, A Harrington, FK Phillips eds., *SDG 13 on Taking Action on Climate Change and its Impacts: Contributions of Canadian Law, Policy and Governance A Toolkit of Legal & Institutional Practices* (Montreal, QC: Centre for International Sustainable Development Law, 2020), online: www.cisd.org/2019/10/19/sdg-13-on-taking-action-on-climate-change-and-its-impacts-a-toolkit-of-legal-institutional-practices/; MC Cordonier Segger, A Harrington, FK Phillips eds., *SDG 14 on Conservation and Sustainable Use the Oceans: Contributions of Canadian Law, Policy and Governance A Toolkit of Legal & Institutional Practices* (Montreal, QC: Centre for International Sustainable Development Law, 2020), online: www.cisd.org/2020/08/17/sdg-14-a-toolkit-of-legal-institutional-practices/; MC Cordonier Segger, A Harrington, FK Phillips eds., *SDG 15 Life on Land: Contributions of Canadian Law, Policy and Governance A Toolkit of Legal & Institutional Practices* (Montreal, QC: Centre for International Sustainable Development Law, 2020), online: www.cisd.org/2019/10/19/sdg-15-life-on-land-contributions-of-canadian-law-policy-and-governance-a-toolkit-of-legal-institutional-practices/; MC Cordonier Segger, A Harrington, FK Phillips eds., *SDG 16 Peace, Justice and Strong Institutions: Contributions of Canadian Law, Policy and Governance A Toolkit of Legal & Institutional Practices* (Montreal, QC: Centre for International Sustainable Development Law, 2020), online: www.cisd.org/2020/08/17/sdg-16-a-toolkit-of-legal-institutional-practices/.

²³ MC Cordonier Segger, P Reynaud eds., “Green Economy for Sustainable Development: Compendium of Legal Best Practices” (IDLO/CISDL, 2012) online: <www.idlo.int/sites/default/files/pdfs/publications/idlo-cisd-green-economy-best-practices-2012.pdf>; IDLO, “Doing Justice to Sustainable Development: Integrating the Rule of Law into the Post-2015 Development Agenda” (IDLO, 2015), online: www.idlo.int/sites/default/files/pdfs/publications/Doing%20Justice%20to%20Sustainable%20Development.pdf.

²⁴ See ILA New Delhi Declaration 2002 “1.1 It is a well-established principle that, in accordance with international law, all States have the sovereign right to manage their own natural resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause significant damage to the environment of other States or of areas beyond the limits of national jurisdiction. 1.2 States are under a duty to manage natural resources, including natural resources within their own territory or jurisdiction, in a rational, sustainable and safe way so as to contribute to the development of their peoples, with particular regard for the rights of indigenous peoples, and to the conservation and sustainable use of natural resources and the protection of the environment, including ecosystems. States must take into account the needs of future generations in determining the rate of use of natural resources. All relevant actors (including States, industrial concerns and other components of civil society) are under a duty to avoid wasteful use of natural resources and promote waste minimization policies. 1.3 The protection, preservation and enhancement of the natural environment, particularly the proper management of climate system, biological diversity and fauna and flora of the Earth, are the common concern of humankind. The resources of outer space and celestial bodies and of the sea-bed, ocean floor and subsoil thereof beyond the limits of national jurisdiction are the common heritage of humankind.”

See also 2020 ILA Sustainable Natural Resources Guidelines, citing 2002 ILA New Delhi Declaration: “EMPHASIZING that States are under a duty to manage natural resources, including natural resources within their own territory or jurisdiction, in a rational, sustainable and safe way so as to contribute to the development of their peoples, with particular regard for the rights of Indigenous peoples, and to the conservation and sustainable use of natural resources and the protection of the environment, including ecosystems...”

address secure and equal access to land, other productive resources and inputs, or sustainable food production systems which progressively improve land and soil quality, and maintaining the genetic diversity of seeds, cultivated plants and other species, also promoting access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge (SDG 2); clean water and sanitation, which for instance, touch on substantially increasing water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater, as well as implementing integrated water resources management at all levels, including through transboundary cooperation (SDG 6); affordable and clean energy which encourages the development of renewable energy resources (SDG 7); industry, innovation and infrastructure which touch on, for instance, more resilient infrastructure, increased resource-use efficiency, greater adoption of clean and environmentally sound technologies and industrial processes, and value addition to commodities (SDG 9); sustainable consumption and production which *inter alia*, actually sets as a target to achieve by 2030 the sustainable management and efficient use of natural resources, and seeks environmentally sound management of chemicals throughout their life cycles to protect air, water and soil, also rationalisation of inefficient fossil-fuel subsidies (SDG 12); climate action which includes implementation of the *United Nations Framework Convention on Climate Change* (UNFCCC)²⁵ (SDG 13); life below water which commits to conserve and sustainably use the oceans, seas and marine resources (SDG 14); life on land which aims to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (SDG 15); and also peace, justice and strong institutions, which calls, for instance, for clear anti-corruption measures and the adoption of sustainable development laws (SDG 16); as well as in the partnership for the goals, itself (SDG 17).

Unfortunately, for each different natural resource, each instrument, each problem, the rules have remained woefully unclear, or at least, certainly, under-recognised and, above-all, under-implemented. The success or failure of this global policy agenda depends on how fast and how deeply countries, together, can align with the SDG's regulatory agenda, especially through cooperative efforts. In this respect, international law can be critical to harness sustainable natural resource management for development and can function as a catalyst for the design and implementation of transformative laws and regulations that align with the key targets of the SDGs. In order to advance achievements on the world's SDGs in the context of important global challenges such as 'building back better' from the COVID-19 pandemic, new insights are required on the means by which international law and governance can promote, rather than frustrate, sustainable use of natural resources for development.

Rights to Responsibilities: Newly Adopted ILA Sustainable Natural Resources Guidelines

As a contribution to international efforts to address these immense and inter-related challenges, and to achieve the world's Sustainable Development Goals, the ILA Committee on the Role of International Law in Sustainable Management of Natural Resources for Development was established in 2012 (Washington ILA) in order to investigate the contours of the duty of States to ensure sustainable use of natural resources, in the context of the SDGs, and relevant treaty law, practices and international dispute resolution. Nearly fifty experts from over thirty countries, selected by their ILA national branches and the international headquarters, collaborated over eight years to draft the new guidelines, completing over twenty scoping studies and papers, and surveying hundreds of treaties and international tribunal decisions. Through their eight-year journey, the experts found that indeed: "International rules and standards now define, guide and direct State practice, providing a roadmap for the progressive development of international law on the sustainable management of natural resources for development." Importantly, the *ILA Sustainable Natural Resources Guidelines* find that both established and emerging international law norms can help, rather than hinder, sustainable management of global natural resources, and regional, transboundary and national natural resources of global relevance.

²⁵ *United Nations Framework Convention on Climate Change* (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107 (UNFCCC), art 2.

Part I of the *ILA Sustainable Natural Resources Guidelines* presents, sector by sector in a non-exhaustive survey, rules derived from international treaties and practices on the sustainable management of global, regional, transboundary and national natural resources, covering: (1) global natural resources such as celestial bodies, the atmosphere and a stable climate system, biological diversity and ecological systems, and the ocean and its mineral and living resources; (2) regional and transboundary natural resources of global importance such as forests and landscapes as regional and transboundary natural resources, rivers and freshwater ecosystems as regional and transboundary natural resources, and migratory species as regional and transboundary natural resources; and (3) national natural resources of global relevance such as forests and landscapes, land and soil, mineral commodities, including precious minerals and sustainable energy.

With regards to global resources, a key area where international law has rapidly evolved is climate change. An important body of international law instruments aims at promoting a more sustainable management of the atmosphere and a stable climate system. Under the UNFCCC, States have committed to achieve a stabilization of greenhouse gas (GHG) concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.²⁶ Specifically, under the *Paris Agreement*, States have committed to holding temperature increases to well below 2°C above pre-industrial levels, and to pursue efforts to limit temperature increases to 1.5°C above pre-industrial levels mainly by achieving global peaking of GHG emissions as soon as possible and carbon neutrality by 2050.²⁷ Accordingly, States must put forward progressive Nationally Determined Contributions (NDCs) every five years, which are to reflect their highest possible ambition, and need to report on the progress on implementation and achievement of their NDCs.²⁸ Achieving these targets requires redoubled efforts towards sustainable management of natural resources, including the conservation and enhancement of terrestrial, coastal and marine sinks and reservoirs of GHG, which play a vital role in determining GHG concentrations in the atmosphere, and pose risks of releasing GHG emissions on a significant scale when disturbed or not managed sustainably. The Paris Agreement Implementation and Compliance Committee is the competent oversight committee in those cases where States allegedly fail to meet their treaty-based obligations.²⁹ Another example of global resources to which international law has paid great attention and, therefore, provided a potent framework for its protection and sustainable management, is biodiversity. Treaties such as the *Convention on Biological Diversity*, the *Convention on International Trade in Endangered Species of Flora and Fauna* and the *Convention on Migratory Species*³⁰ determine that states shall conserve and sustainably use biological diversity and ecological systems, taking active regulatory and protective measures, both through national plans, programmes and policies and international cooperation.³¹ Moreover, a final illustration of a global resource of which the sustainable management is increasingly fostered by international law is the ocean and its mineral and living resources. Marine biodiversity conservation is recognized as a common concern of humankind, and States are bound to duties of cooperation, conservation, due diligence, precaution and to the duty to perform Environmental Impact Assessments (EIAs), especially with respect to areas beyond national jurisdiction (ABNJ).³² The main international instrument in which those considerations are enshrined is the *United Nations Convention on the Law of the Sea*.³³

Among the regional and transboundary natural resources of global relevance, an evolving body of international law promotes the sustainable management of forests and landscape ecosystems,

²⁶ *United Nations Framework Convention on Climate Change* (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107 (UNFCCC), art 2.

²⁷ *Paris Agreement* (adopted 12 December 2015, entered into force 4 November 2016) UN Doc FCCC/CP/2015/L.9/Rev.1, 55 ILM 743 (Paris Agreement), arts 2.1 and 4.1.

²⁸ *Ibid.*, art. 4.2-4.7.

²⁹ *Ibid.*, art. 15.

³⁰ *Convention on Biological Diversity* (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79 (CBD); *Convention on the International Trade in Endangered Species of Wild Fauna and Flora* (adopted 2 March 1973, entered into force 1 July 1975) 993 UNTS 243 (CITES); *Convention on the Conservation of Migratory Species of Wild Animals* (signed 23 June 1979, entered into force 1 November 1983) 1651 UNTS 333 (CMS).

³¹ *Supra* note 1 p 6.

³² *Ibid.* p 19.

³³ *United Nations Convention on the Law of the Sea* (UNCLOS) (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS

including, but not limited to, the *Convention on Biological Diversity*, the *UNFCCC*, the *Paris Agreement* and the *International Tropical Timber Agreement*.³⁴ Taken together, this body of international law establishes several key norms. States should create and implement national forestry management policies, strategies and practices which recognize the varied nature of interests encompassed in forests and land management, including applying the ecosystem approach, and addressing GHG emissions and removals from land use, land-use change, and forestry. States should also prevent, and restore, land and forest degradation through sustainable management practices. Further, States should ensure that regulatory actions related to forestry and land use also cover private and industry actors involved in extraction, harvesting and use of these resources and associated value chains. Additionally, States may enter into voluntary agreements on forests which further collaboration with other States, international organizations and private actors in order to undertake actions to reduce emissions from deforestation and forest degradation, conserve forest carbon stocks, sustainably manage forests, and enhance forest carbon stocks.

A number of international law instruments also contribute to promoting a more sustainable management of transboundary rivers and freshwater ecosystems as a transboundary natural resource of global importance, including, but not limited to, the *New York Convention*, the *Helsinki Convention* and the *Ramsar Convention*.³⁵ Based on this body of international law, several key norms are either established or emerging. States should ensure that there is harmonization in the legal and governance systems relating to transboundary and regional watercourses, including obligations to work together to ensure this harmonization. As part of this, States must include the duty to notify and to consult neighbouring states in their management of watercourse resources. Additionally, in managing transboundary and regional watercourses, States should include key sustainable development law principles, such as the no significant harm principle, the polluter pays principle and the precautionary principle. When addressing the development of watercourses or wetlands, directly or indirectly, States should adopt the ecosystem approach and use EIAs or Sustainability Impact Assessments (SIAs) as tools to ensure that there is a full assessment of likely impacts, taking into account public concerns and contributions. Further, States should cooperate to create guidelines for the management of shared rivers and freshwater ecosystems.

A further regional and transboundary concern regards the protection of migratory species, and the potential of international law in fostering their sustainable management. Many species are highly migratory as a matter of standard course and cross boundaries and regions, making them a legal and societal resource of more than a particular State.³⁶ Therefore, as provided, for instance, by the *Convention on the Conservation of Migratory Species of Wild Animals*,³⁷ States are required to protect, conserve and manage migratory species that traverse their territories, working together to establish agreements for the sustainable management of these species at national and regional levels.³⁸

With regards to national natural resources of global importance, international law increasingly complements national instruments in promoting more sustainable natural resources management. This mainly occurs via shaping the regulatory space left to State to introduce and/or maintain national laws, regulations and standards. In the case of mineral resources, for instance, international law instruments have focused on governing the risks entailed in the extraction and trade of minerals. Innovative instruments in this respect include the *Minamata Convention*, which points to an emerging principle according to which States shall reduce and eliminate the extraction and use of minerals when it poses

³⁴ *Convention on Biological Diversity* (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79 (CBD) arts 5 and 6; UNFCCC art 4; Paris Agreement art 5; *International Tropical Timber Agreement* (adopted 27 January 2006, entered into force 7 December 2011) UN Doc TD/TIMBER.3/12 (ITTA 2006).

³⁵ *Convention on the Law of the Non-Navigational Uses of International Watercourses* (signed 21 May 1997, entered into force 17 August 2014) (2017) 36 ILM 700 (New York Convention); *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (signed 17 March 1992, entered into force 6 October 1996) 1936 UNTS 269 (Helsinki Convention); *Convention on Wetlands of International Importance especially as Waterfowl Habitat* (signed 2 February 1971, entered into force 21 December 1975) 996 UNTS 245 (Ramsar Convention) art 5.

³⁶ *Supra* note 1 p 22.

³⁷ *Convention on the Conservation of Migratory Species of Wild Animals* (signed 23 June 1979, entered into force 1 November 1983) 1651 UNTS 333 (CMS).

³⁸ *Ibid.* p 23.

serious health and environmental threats, including in relation to GHG emissions.³⁹ A wide range of standards targeting the private sector engaged in extractive resources have also emerged. Such standards seek to increase transparency, accountability and public participation in this area by establishing inter alia good practices to ensure fiscal transparency, contain bribery, corruption and money laundering, combat tax avoidance and evasion, but also – and increasingly so – prevent and mitigate human rights abuses and violations of rights of indigenous people by business engaged in extracting industries, especially when it comes to containing extraction and trade in conflict minerals.⁴⁰ In the case of sustainable energy, a number of international law instruments have attempted at encouraging stronger sustainable and renewable energy-related activities and governance systems, including via trade and investment policy instruments, communities’ engagement and citizens’ participation.⁴¹ Oversight mechanisms and procedures, such as impact assessment and safeguarding mechanisms, are also mushrooming for the purposes of avoiding maladaptation risks and potential conflicts with other environmental policies. Ultimately, the protection of land and soil within a State has increasingly been on the radar of international law, due to their global relevance in relation to the sustainable management of the atmosphere and the stable climate system, as well as their pivotal role in the balance of biodiversity and ecosystems. Hence, States are required to undertake National Biodiversity Strategies and Action Plans for their sustainable use and conservation, which embodies, among other efforts, mitigating climate change effects, enhancing adaptive capacity, combating desertification and droughts and preventing pollution.⁴²

Innovations for Implementation: Instruments, Approaches and Dispute Trends

International legal instruments in sustainable natural resources management keep evolving to meet today’s challenges. A number of trends and innovations are worth mentioning to gain an insight into the way forward and the extent to which ongoing developments can be considered sufficient to address natural resources management concerns. Part II of the *ILA Sustainable Resources Management Guidelines* surveys trends and innovations in international instruments and approaches, as a selection of: (4) trends in international human rights, economic, environmental, peacebuilding and post-conflict instruments, such as: human rights approaches; economic incentives and instruments; environment and sustainable development cooperation including scientific collaboration, financing mechanisms, monitoring, reporting and verification, and public participation and access to information and justice; environmental war crimes, peacebuilding and post-conflict instruments, and the importance of secure land and water access and tenure. The Guidelines also consider (5) innovative techniques and requirements in international instruments, such as: transparency and stakeholder engagement, equitable benefit-sharing, legal indicators of effectiveness, and control of illicit flows; and (6) recent progress on sustainable natural resources management in international dispute settlement, including the decisions of international courts and tribunals.

A first noticeable trend is that sustainable natural resources management is gaining prominence in international law instruments that address economic, human rights and environmental issues. In many cases, highly relevant innovations have mainly occurred through practices and cooperative measures, but also through the decisions of international dispute settlement mechanisms.

³⁹ *Minamata Convention on Mercury* (adopted 10 October 2013, entered into force 16 August 2017) 55 ILM 582 (Minamata Convention).

⁴⁰ See, among others, the United Nations Guiding Principles on Business and Human Rights, the OECD Due Diligence Guidance for Responsible Mineral Supply Chains of Minerals from Conflict Affected and High-Risk Areas, the Kimberley Process Certification Scheme for Rough Diamonds, the Extractive Industries Transparency Initiative (EITI).

⁴¹ See, among others, the *Energy Charter Treaty* (adopted 17 December 1994) 2080 UNTS 95, *Agreement Establishing the Multilateral Trade Organization* [World Trade Organization] (signed 15 April 1994, entered into force 1 January 1995) 1867 UNTS 154; (1994) 33 ILM 13 (WTO Agreement)

⁴² *Convention on Biological Diversity* (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79; Committee for the activities of the Council of Europe in the field of biological and landscape diversity (CO-DBP) ‘Revised European Charter for the Protection and Sustainable Management of Soil’ (adopted 28 May 2003) CO-DBP (2003) 10 (Revised European Charter for the Protection and Sustainable Management of Soil); *Paris Agreement* (adopted 12 December 2015, entered into force 4 November 2016) UN Doc FCCC/CP/2015/L.9/Rev.1, 55 ILM 743 (Paris Agreement).

With regards to human rights treaties, regional courts are increasingly called to consider claims at the nexus of human rights and natural resources.⁴³ This has led to an extensive and evolutive interpretation of the scope of rights and duties related to the enjoyment of natural resources, including the right of Indigenous peoples to enjoy the natural resources in their traditional lands, as well as the right of both current and future generations to derive a benefit from the protection of nature and natural resources.⁴⁴ Further, a number of quasi-judicial and other bodies have issued findings and decisions that are critical in entrenching the sustainable management of natural resources in organizational, as well as in international, regional and national legal practice. The World Bank Inspection Panel,⁴⁵ Inter-American Development Bank Independent Consultation and Investigation Mechanism,⁴⁶ Committee on the Elimination of Racial Discrimination,⁴⁷ Human Rights Committee,⁴⁸ and multilateral environmental agreements' enforcement mechanisms, such as those associated with the *UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters*⁴⁹ and the *North American Agreement on Environmental Cooperation*,⁵⁰ to signal a few, have been asked to resolve claims relating to unsustainable natural resources exploitation, and have risen to the challenge.

International economic instruments also exhibit an increasing recognition of the links between international trade and investment rules, and the sustainable development of the world's resources. Free trade agreements (FTAs) among States have begun to include more specialized provisions to protect the environment and natural resources and to promote sustainable development, such as climate finance mechanisms, the promotion of trade and investment in more sustainable products, services or technologies, disaster risk reduction collaboration, commitments to encourage subsidies for clean and renewable energy resources or organic agriculture, the inclusion of standard setting for low-carbon development, and the use of monitoring and assessment mechanisms to review the impacts of trade agreement implementation.⁵¹

At the multilateral level, the World Trade Organization has attempted, for instance, to lower tariffs on environmental goods and services (EGS). The most significant developments, however, have emerged out of WTO dispute settlement system, which has been willing in certain circumstances to consider sustainable natural resources management concerns even in the context of restrictions on international trade, via natural resources conservation related exceptions. In *US – Shrimps* and *US – Tuna Products (Article 21.5)*, for instance, WTO adjudicators clarified that Members can legitimately pursue conservation measures necessary for the conservation of both non-living and living exhaustible natural resources, even if such rules result in extraterritorial effects, if *bona fide* efforts have sought to include all trading partners in the regime. Similarly, international investment agreements (IIAs) have begun to include significant aspects of environmental protection and conservation, incorporating commitments to promote sustainable development and reaffirming State rights and duties to regulate in relation to sustainable development.⁵² These trends may be reflected in decisions of the International Centre for

⁴³ For e.g., the Caribbean Court of Justice, the European Court of Human Rights and the Inter-American Human Rights system.

⁴⁴ See, *infra*, MC Cordonier Segger with HE CJ Weeramantry (eds), *Sustainable Development in International Courts and Tribunals* (Routledge 2017).

⁴⁵ See Cambodia - Forest Concession Management and Control Pilot Project: Request for Inspection - Inspection Panel Report and Recommendation, Report 31862 (2005); Chad-Cameroon Pipeline Project - Outcome of the Inspection Panel's Investigation, Report 36569-TD (2006).

⁴⁶ See *Marena Renovables Wind Project Review*, Case No. ME-MICI002-2012 (2016); *Panama Canal Expansion Program*, Case No. PN-MICI002-2011-31 (2011).

⁴⁷ Decision 1 (68) (United States of America) (2014).

⁴⁸ *Ilmari Lansman v Finland*, U.N. Doc. CCPR/C/83/D/1023/2001 (2015); *Ivan Kitok v Sweden*, Communication No. 197/1985, CCPR/C/33/D/197/1985 (1988); *Jouni E. Lämsman et al. v Finland*, Communication No. 671/1995, U.N. Doc. CCPR/C/58/D/671/1995 (1996).

⁴⁹ Aarhus Convention Compliance Committee Case Concerning Armenia, ACCC/C/2016/138 Armenia (2016); Aarhus Convention Compliance Committee Case Concerning the European Union, ACCC/M/2017/3 European Union (2018); Aarhus Convention Compliance Committee Case Concerning France, ACCC/C/2007/22 France (2009); Aarhus Convention Compliance Committee Case Concerning Romania, ACCC/C/2012/69 Romania (2015).

⁵⁰ *BC Salmon Farms*, SEM-12-001 (2014); *Metales y Derivados*, SEM-97-007 (1998); *Migratory Birds*, SEM-99-002 (2001); *Ontario Logging II*, SEM-04-006 (2007).

⁵¹ See MC Cordonier Segger, *Crafting Trade and Investment Agreements for Sustainable Development: Athena's Treaties* (OUP, 2021); M W Gehring and E Morison (2020), *Climate and Energy Provisions in Trade Agreements with Relevance to the Commonwealth*, International Trade Working Paper 2020/11, The Commonwealth Secretariat; E Blot and M Kettunen (2021), *Environmental Credentials of EU Trade Policy: A Comparative Analysis of EU Free Trade Agreements*, Institute for European Environmental Policy Report.

⁵² See, for instance, the modernization process of the Energy Charter Treaty, online: https://trade.ec.europa.eu/doclib/docs/2020/may/tradoc_158754.pdf.

Settlement of Investment Disputes, notably *Chevron Corporation and Texaco Petroleum Corporation v Ecuador*, relating to the ability of States to abrogate contracts relating to the exploitation of national oil resources, and *Gauff (Tanzania) Ltd v United Republic of Tanzania*, relating to contractual obligations of a State stemming from water and sewerage contracts with foreign entities.

Such developments can be supported by the growing willingness on the part of international courts and tribunals to recognize the need for sustainable management of natural resources in principle, as an aspect of sovereign State responsibilities that are increasingly justiciable across a variety of jurisdictions. This is reflected not only in the decisions of the International Court of Justice, but also the Permanent Court of Arbitration (e.g. *Abey-Sudan, Iron Rhine*) and the International Tribunal of the Law of the Sea (e.g. *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*).

Finally, but not least importantly, other noticeable trends include the incorporation and combination of progressive, epistemic and inter-actional scientific collaboration; increasingly effective international finance mechanisms; and transparency and stakeholder engagement mechanisms in MEAs and other treaties for sustainable resources management. These measures have the potential to strengthen our global and regional scientific knowledge base, while also providing crucial resources and building public awareness and engagement – not just to understand potential impacts of activities, but to form partnerships for practical, cooperative solutions. For example, the *Minamata Convention*, one of the newest MEA instruments in international law, requires States to generate information on mercury stocks and mercury production in their territories, as well as to regulate these production and storage of mercury in their jurisdiction. At the same time, it provides for significant control and oversight of mercury transportation, import and export within and between States.

As mentioned, it is noticeable that the scientific collaboration mechanisms are being activated and improved under key international law treaties, focusing on understanding and resolving quickly changing environmental problems and related opportunities for sustainable natural resources management.⁵³ They play a crucial role in building on the foundations of inter-governmental and also independent scientific collaboration mechanisms, such as the Intergovernmental Panel on Climate Change (IPCC), under the *CBD*; the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), under the *UNFCCC*; the UNCCD Science-Policy Interface (SPI), the Intergovernmental Technical Panel on Soils (ITPS), and the World Ocean Assessment (WOA) to generate new and innovative solutions to persistent and emerging issues on the international scale.⁵⁴

As another example, increasingly ambitious financial mechanisms are being established under international treaties, as there is a tendency for States and others to allocate financial resources for addressing environmental problems and compliance with treaty provisions related to sustainable management of natural resources.⁵⁵ Examples include the Global Environment Facility (GEF), which has supported large projects on sustainable resources use, as well as the Green Climate Fund (GCF), which has supported important climate related projects.

Ultimately, transparency and, accordingly, stakeholder engagement mechanisms, especially of civil society members, have become a major concern for the implementation of international agreements on sustainable development. The creation of an inclusive and transparent treaty environment, through reports, regulatory processes and public engagement, fosters partnerships for a treaty's implementation. In this way TRAFFIC, for instance, is a partnership devoted to supporting the enforcement of *CITES*, the multi-stakeholder Communities of Ocean Action (COA) are dedicated to the implementation of *UNCLOS* provisions, and the ABS Clearing-House is a key tool for facilitating the implementation of the *Nagoya Protocol*.

⁵³ Committee on the Role of International Law in Sustainable Natural Resources Management for Development International Law Association, 'The role of international law in sustainable natural resources management for development' in International Law Association Final Report of the 79th Biennial Conference (Kyoto 2020) (International Law Association Kyoto 2020)

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*

Future Law & Policy Directions: Capacity through Research, Education & Partnerships

In summary, through this careful and detailed survey of instruments, implementation trends and innovative techniques, conducted over eight years by a circle of highly qualified jurists, several key findings can be highlighted.

First, international law has the potential to shape the principles, regulatory frameworks, institutions, standards and incentives for natural resource management on multiple levels. International law both reflects and also catalyses the design, adoption, and implementation of sustainable natural resource management and resolution of disputes in relation to use of natural resources. Indeed, international law and non-binding international and national instruments such as standards and guidelines function as a baseline for States and others, shaping operating environments in which sustainable development will either be fostered, or frustrated.

Second, it is clear that concepts of sovereignty and territory are evolving to accommodate new scientific understanding of interrelated ecological systems and conditions, and notions of custodial sovereignty may offer useful insights. Sovereignty, of key importance to international law from its inception, is becoming more fluid in the face of shared responsibilities for the sustainable use of transboundary, regional, and global international natural resources, and collaborative regimes for management. Tensions continue, especially for nationally based natural resources, and international legal regimes may offer options to reconcile key concerns, avoiding or reducing potential for conflicts over resource use, as well as defusing potential clashes between resource conservation and exploitation goals.

Third, international natural resources management systems could make a vital contribution to the achievement of the Sustainable Development Goals and the 2030 Agenda worldwide, but how these regimes are governed will be crucial for implementation and enforcement. Natural resources are essential to advance nearly all 17 Sustainable Development Goals, and many of the 169 targets, from poverty elimination, to ending hunger, to access to water and energy, to combatting climate change and promoting peace, justice and security. A range of governance mechanisms, from formalized compliance mechanisms to informal industrial and sectoral oversight procedures, offer essential tools for sustainable natural resources management and the sustainable use of natural resources.

And finally, the new 2020 *ILA Guidelines on the Role of International Law in Sustainable Natural Resources Management for Development* were adopted, to define and guide, and also to provide a roadmap for the progressive development of international law on the sustainable management of natural resources for development. These can be offered to international community as an invitation and contribution to guide and encourage upcoming efforts to re-open the world economy after the global pandemic in a manner that fosters, rather than frustrates, global commitments and obligations towards sustainable development.

Future Law & Policy Directions: Capacity through Research, Education & Partnerships

It is possible to conclude with a second invitation - to make a commitment, as academic and educational institutions capable of great understanding, wisdom and long-term thinking, as international organizations committed to science-based decision-making, to sound policy advice, and to rule of law, and as brilliant students, interested in a career and life path that can contribute to resolving the current global crisis. This invitation involves strengthening sustainable natural resources management awareness, education and career skills, in light of the global SDGs. In this context, educational institutions are changing. As law schools, natural resources management faculties and many disciplines engage, both widening participation but also new forms of legal education shaped for diverse stakeholders and perspectives, are needed. Further, graduates are seeking opportunities. Thousands qualify for forestry, fisheries, oceans and other resources management degrees each year, in all countries of the world. Many of these graduates, especially those with the best qualifications, are seeking 'green jobs', and entrepreneurship 'incubators' are becoming more common. More is needed, however,

especially in least developed countries. In addition, professionals are also ready to contribute. Lawyers, also engineers, scientists, communications and humanities graduates, among others, are needed to deliver the SDGs, particularly for sustainable resources management. Continuing and professional development offerings are needed, however, and there is an important role for professional associations and other bodies. Most importantly, there is a need to open thousands, indeed millions, more opportunities for these brilliant, newly capable graduates and professionals for careers in achieving any of the 17 SDGs, post-pandemic, to build back better or – *build forward*. An equally important element of this second invitation involves the need to scale up relevant research, engaging stakeholders and ensuring impact for sustainability. Global spending on research and development has reached a record high of almost US \$1.7 trillion in 2018. But only 10 countries account for 80% of spending. More investment is needed in research, especially in making sustainable natural resources management more effective. Further, 48.9% of the world have access to Internet – as potential rises, new minds and voices can participate in networks of researchers, policy-makers and stakeholders, and creative digital solutions, including across global supply chains, can integrate environmental and social values into economic development of resources. It should be possible to mobilise this research, widening participation to engage new voices and perspectives, to convince and involve stakeholders, to create the new vehicles that are needed to carry the world economy forward in a different, better manner that is more respectful of our rights, and our responsibilities to humanity, the natural world, and future generations. Finally, as an important corollary to this invitation, there is a critical need for researchers and experts to provide better, more independent advice to law and policy-makers. Scholars and jurists can convene public events and engage media to raise awareness, and share scientific data and analysis on the SDGs and sustainable natural resources management, across law, policy and science. It is also possible to advise policy leaders, law-makers and business on rules, standards and methods to assess and align pandemic recovery measures with SDG targets and related legal obligations, addressing key local gaps and priorities, and helping, rather than hindering, efforts to use natural resources more sustainably. The academic community is invited to take up the challenge to pilot and analyse innovative solutions across environmental sciences, natural and social sciences, engineering, medicine, public policy and law.

International law on natural resources management has been steadily evolving to better promote more sustainable use of natural resources at the global, regional and transboundary, and national levels, particularly with regards to common concerns and the common heritage of humankind. International courts and tribunals are, on key occasions, offered the opportunity to strengthen the international system, building on the foundations laid by careful conservation science, and by the emerging rules of international law, and as the studies leading to the ILA Sustainable Natural Resources Guidelines have demonstrated, they are increasingly responding. However, while innovative, inter-actional development of cooperative international regimes may hold real potential to support the seventeen global Sustainable Development Goals (SDGs), actual progress in achieving their 169 targets, and compliance with the international legal instruments that support them, still falls far short of what is necessary. New post-pandemic economic stimulus measures may represent “the global investment opportunity of a millennium” for sustainable development,⁵⁶ but more can and must be done to ensure a more sustainable recovery and re-opening of the world economy. Great progress is possible, including for countries and communities in implementing our treaty obligations, and for courts and tribunals in peacefully resolving international disputes, but also there is also an important role for the research and educational institutions, and for every individual. These contributions are imperative, not just to re-open the world economy, but to build back better or indeed, to ‘build forward’. By advancing knowledge and respect for the *ILA Sustainable Natural Resources Guidelines*, we contribute an important strand in the tapestry of solving these crucial global challenges.

⁵⁶ MC Cordonier Segger, *supra* note 3.