

**International Liability Regime for Biodiversity Damage:
The Nagoya-Kuala Lumpur Supplementary Protocol**
Editor: Akiho SHIBATA

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INTRODUCTION

The adoption of *Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety* on 15 October 2010 in Nagoya, Japan, was an epoch-making event both for the field of environmental diplomacy and for academia interested in the study of international environmental law generally and environmental liability in particular. The Supplementary Protocol provides international rules and procedures in the field of liability and redress relating to living modified organisms (LMOs) in response to damage caused by those LMOs to the conservation and sustainable use of biological diversity, taking into account risks to human health.¹

The adoption of the Supplementary Protocol came when the international community was still suffering from the Copenhagen disaster in December 2009, where climate change negotiations collapsed, and was losing confidence in multilateral environmental diplomacy. Indeed, the Supplementary Protocol was the first universal environmental treaty adopted since the Stockholm Convention on Persistent Organic Pollutants in 2001. The political configuration of environmental treaty negotiations had undergone a significant change in the first decade of the twenty-first century, and the international community was searching for new ways to effectively create international environmental law.² Similar to the climate change negotiations, the issue of LMOs in general and the legal design for liability arising from them in particular could no longer be seen as a simple north-south divide, as had previously been the case in 2000 when the Cartagena Protocol on Biosafety (with its controversial Article 27) was adopted.³

¹ Art. 1 (objective) and Art.2 (2) (b) (definition of damage), Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety, adopted by decision BS-V/11 in its Annex on 15 October 2010, UNEP/CBD/BS/COP-MOP/5/17 (29 November 2010), pp.68-75. A certified true copy is available at:

< http://treaties.un.org/doc/Treaties/2010/12/20101215%2005-26%20PM/Ch_27_8_c.pdf >

² Akiho Shibata, "International Environmental Lawmaking in the First Decade of the Twenty-First Century: The Form and Process," *The Japanese Yearbook of International Law*, Vol.54, Year 2011 (2012), pp.31-34.

³ Kate Cook, "Liability: 'No Liability, No Protocol'," in Christoph Bail, Robert Falkner and Helen Marquard eds., *The Cartagena Protocol on Biosafety: Reconciling Trade in Biotechnology with Environment and Development?* (Earthscan Pub., 2002), pp.371-384.

Article 27 of the Cartagena Protocol (Liability and Redress): "The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first meeting, adopt a process with respect to the appropriate elaboration of international rules and procedures in the field of liability

How was the adoption by consensus of the Supplementary Protocol at Nagoya possible both substantively and procedurally? By inviting the Co-Chairs of the negotiating group and the negotiators and advisors from the key negotiating Parties, including the African Union, the European Union, Japan, Malaysia, Mexico, Namibia, and South Africa to contribute, this book delves into the minds of those who were at the forefront of the extremely intricate negotiations.

On a more profound, theoretical level, the Supplementary Protocol was negotiated and adopted when, within the academia, the ‘sensitivity’ of negotiating an international environmental liability regime was seriously questioned.⁴ The Protocol on Liability and Compensation for Damage resulting from Transboundary Movement of Hazardous Wastes and Their Disposal under the Basel Convention (Basel Liability Protocol), adopted in 1999, has not attracted many ratifications from the Parties to the Basel Convention and still has not entered into force.⁵ The same is true for liability regimes negotiated and adopted within the European context in previous decades.⁶ The United Nations’ International Law Commission (ILC) has been wandering over the concept of ‘international liability’ since 1978⁷ and in 2006, adopted instead the ‘Principles on allocation of loss in the case of transboundary harm arising out of hazardous activities.’⁸

and redress for damage resulting from transboundary movements of living modified organisms, analysing and taking due account of the ongoing processes in international law on these matters, and shall endeavour to complete whit process within four years.” For legal and diplomatic effects of this article on the negotiation of the Supplementary Protocol, *see* Chapter 1 of this Book by Akiho Shibata.

⁴ Jutta Brunnée, “Of Sense and Sensibility: Reflections on International Liability Regimes as Tools for Environmental Protection,” *International and Comparative Law Quarterly*, Vol.53, No.2 (2004), pp.351-368. *See also*, Anne Daniel, “Civil Liability Regimes as a Complement to Multilateral Environmental Agreements: Sound International Policy or False Comfort?” *Review of European Community and International Environmental Law*, Vol. 12, No. 3 (2003), pp. 225-241; Malgosia Fitzmaurice, “Chapter 14: International Responsibility and Liability,” in D. Bodansky, J. Brunée, and E. Hey eds., *The Oxford Handbook of International Environmental Law* (Oxford UP, 2007), pp.1010-1035.

⁵ As of 1 January 2013, ten Parties deposited their instruments of ratifications, etc. out of twenty necessary to bring the Protocol into force. See the Basel Convention Secretariat homepage:

<<http://www.basel.int/Countries/StatusofRatifications/TheProtocol/tabid/1345/Default.aspx>>

⁶ 1993 Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment; 2003 Kiev Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters.

⁷ A.E. Boyle, “Globalising Environmental Liability: The Interplay of National and International Law,” *Journal of Environmental Law*, Vol. 17, No. 1 (2005), pp.3-26.

⁸ Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities: Text of the draft principles and commentaries thereto, *ILC Report 2006*, UN

The initial enthusiasm for developing international civil liability regimes, forcibly urged in Principle 13 of the 1992 Rio Declaration on Environment and Development,⁹ seemed to fade. As an attempt to find a way out of this liability occlusion, the Supplementary Protocol, while retaining the concept of liability and redress,¹⁰ has taken an innovative approach that is now widely called the ‘administrative approach’ to liability. The legal structure of this new liability regime that commanded consensus of the negotiating Parties at Nagoya needs detailed and critical examination; this is the primary aim of this book.

The Supplementary Protocol deals with damage caused by LMOs, a politically and socially sensitive issue.¹¹ A LMO is defined in the Cartagena Protocol as ‘any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology’. The term ‘modern biotechnology’ in turn is defined as the:

application of (a) in vitro nucleic acid technique, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or (b) fusion of cells beyond the taxonomic family, that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection.¹²

The international community acknowledges both the benefits and the risks of biotechnology,¹³ which is still developing and progressing. By addressing LMOs, the

Doc. A/61/10 (2006) [hereinafter ILC Principles on the Allocation of Loss].

⁹ Principle 13 of the Rio Declaration states: “States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.” See also Rüdiger Wolfrum, “Liability for Environmental Damage: A Means to Enforce Environmental Standards?” in Karel Wellens ed., *International Law: Theory and Practice: Essays in Honour of Eric Suy* (Martinus Nijhoff, 1998), pp.565-578.

¹⁰ Thus, the Supplementary Protocol in its preamble does “take in account” Principle 13 of the Rio Declaration on Environment and Development. This preambular paragraph was inserted over an initial reluctance expressed by Japan, indicating the substantive difference between Principle 13 which refers to “liability and compensation” and “environmental damage ...to areas beyond their jurisdiction” and the Supplementary Protocol which intentionally avoided in using the concept of “compensation” and dealt only with “damage that occurred in areas within the limits of the national jurisdiction of Parties” (Art. 3 (5)).

¹¹ See generally, Mark A. Pollack and Gregory C. Shaffer, *When Cooperation Fails: The International Law and Politics of Genetically Modified Foods* (Oxford UP, 2009).

¹² Cartagena Protocol on Biosafety, Art. 3 (g), (h) and (i).

¹³ Agenda 21, Chapter 16, para.16.1, adopted at Rio Conference on Environment and Development,

new treaty intends to regulate certain consequences arising from the utilization of biotechnology for both research and commercial purposes, particularly in the agricultural sector. Thus, the Supplementary Protocol is at the forefront of science and technology and their applications. At the same time, genetically modified (GM) crops like GM soybeans and GM canola have already been produced in large quantities and marketed globally. The area and the number of countries producing such GM crops and vegetables/fruits are steadily increasing across all five continents¹⁴. If one includes LMOs used in laboratory research, field trials for public health purposes,¹⁵ and industrial applications,¹⁶ the use of LMOs can now be considered as ubiquitous in modern society. However, unlike oil spills polluting the ocean or nuclear power plant accidents spreading radioactive material, there has not yet been a scientifically confirmed case of environmental damage caused by LMOs. The treaty negotiators were tackling a hypothetical problem of environmental damage that may eventually be caused by LMOs without any actual experience of it.

1992: The biotechnology “promises to make a significant contribution in enabling the development of, for example, better health care, enhanced food security through sustainable agricultural practices, improved supplies of potable water, more efficient industrial development processes for transforming raw materials, support for sustainable methods of afforestation and reforestation, and detoxification of hazardous wastes.”

Cartagena Protocol on Biosafety to the Convention on Biological Diversity (2000), 5th preambular paragraph: “Aware of the rapid expansion of modern biotechnology and the growing public concern over its potential adverse effects on biological diversity, taking also into account risks to human health”.

For general overview of the development of biotechnology and its implications for international law, see Francesco Francioni and Tullio Scovazzi eds., *Biotechnology and International Law* (Hart Pub., 2006). More particularly on the genetic engineering and its implications on trade law, see Daniel Wüger and Thomas Cottier eds., *Genetic Engineering and the World Trade System: World Trade Forum* (Cambridge UP, 2008).

¹⁴ The information provided by International Service for Acquisition of Agri-biotech Applications (IASSS) and compiled by Japan’s Ministry of Agriculture, Forestry and Fisheries indicates that, as of 2010, there are 29 countries producing GM crops with the total area of 148 million hectares. Those producing countries now include several developing countries in Africa (Egypt, Burkina Faso and South Africa) and Asia (China, India, the Philippines, and Myanmar). <http://www.maff.go.jp/j/syouan/nouan/carta/c_data/index.html>

¹⁵ Cf. genetically modified mosquitoes developed and approved for field trial in Malaysia. Data available from Biosafety Clearing House of the CBD Secretariat: <<http://bch.cbd.int/about/>>

¹⁶ For example in Japan, since 2004 (the year Japan’s Cartagena Law has been enacted) and up until July 2009, 912 LMOs for scientific research purposes, 726 LMOs for mining and manufacturing purposes, 124 LMOs in medical and pharmaceutical purposes, and 98 LMOs for agricultural, forestry and fishery purposes have been approved for contained use. Report of the Subcommittee on Genetically Modified Organisms, Central Environment Council of Japan, on the Examination of Implementation of the Cartagena Law, August 2009, p.12. Available at <<http://www.env.go.jp/press/press.php?serial=11502>> (as of March 20, 2012)

The state-of-the-art science and technology involved in LMOs, their already complex global supply chains, and the lack of actual environmental damage caused by them to date have been identified as formidable challenges in designing a liability regime involving LMOs, for which existing liability regimes may not serve as a complete model.¹⁷

During the negotiation of the Supplementary Protocol, some participants (some with good and some with bad intentions) tried to revive the political, social and even emotional divide over LMOs that had been partially sealed off by the Cartagena Protocol. A lack of actual cases of environmental damage caused by LMOs allowed, on the one hand, idealistic and sometimes emotional claims of establishing an impenetrable liability regime responding to all hypothetically conceivable scenarios including catastrophic events. On the other hand, it also prompted conservative and sometimes hostile attitudes towards the practical necessity of such a regime. However, the adept Co-Chairs of the negotiating group steered the discussion toward a focus on the technicalities of the legal structure of an acceptable liability regime, taking full account of the realities of the 'GM world' as described above. Unlike the negotiations over a climate change regime or the Nagoya Protocol on access and benefit-sharing (ABS) relating to genetic resources,¹⁸ the substantive negotiation of the Supplementary Protocol rarely involved ministers or other political figures. It was conducted mostly by those officers responsible for administrative management of LMOs and their legal advisors who knew the substantive issues the best. Pragmatism prevailed in the negotiation. The non-politicization of the negotiation achieved by focusing on the practical and legal issues of a liability regime for biodiversity damage was one important factor in the successful adoption of the Supplementary Protocol. The Supplementary Protocol keeps a fair distance from potentially divisive issues related to LMOs themselves, essentially by freezing the controversy and leaving them to the

¹⁷ Cf. Kareen L. Holtby, William A. Kerr and Jill E. Hobbs, *International Environmental Liability and Barriers to Trade: Market Access and Biodiversity in the Biosafety Protocol* (Edward Elgar, 2007), pp.87-88.

¹⁸ The 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 was adopted on 29 October 2010 in the same city of Nagoya, two weeks after the adoption of the Supplementary Protocol.

determination of each State. The result was the insertion in eighteen places in the Supplementary Protocol of the famous phrase: ‘in accordance with its domestic law’.¹⁹ Thus, the Supplementary Protocol is innovative in establishing an international liability regime for biodiversity damage, and this aspect of the Supplementary Protocol may have profound precedential and theoretical implications that go beyond the LMOs and biotechnology.

The Supplementary Protocol addresses damage that is defined as ‘an adverse effect on conservation and sustainable use of biological diversity, taking also into account risks to human health’ (Art.2 (2) (b)).²⁰ This is the first-ever global treaty that defines ‘biodiversity damage’ and establishes the legal consequences arising from such damage. As international law continues to grapple with a generally acceptable concept of environmental damage,²¹ the agreement on the concept of biodiversity damage and, more significantly, on its legal consequences was almost a miracle, especially in the

¹⁹ Thus, many of the difficulties and complexities specifically related to biotechnology in general and LMOs in particular, for example the issues of patent liability and socio-economic aspect of LMOs as identified by Cullet in 2004, had not become the stumbling blocks in the establishment of an international liability regime for biodiversity damage. Philippe Cullet, “Liability and Redress for Modern Biotechnology,” *Yearbook of International Environmental Law*, Vol.15 (2004), pp.165-177.

²⁰ Supplementary Protocol Art. 2 (2) (b): “Damage” means an adverse effect on the conservation and sustainable use of biological diversity, taking into account risks to human health, that: (i) Is measurable or otherwise observable taking into account, wherever available, scientifically-established baselines recognized by a competent authority that takes into account any other human induced variation and natural variation; and (ii) Is significant as set out in paragraph 3 below;”

Art. 2 (3): A “significant” adverse effect is to be determined on the basis of factors, such as: (a) The long-term or permanent change, to be understood as change that will not be redressed through natural recovery within a reasonable period of time; (b) The extent of the qualitative or quantitative changes that adversely affect the components of biological diversity; (c) The reduction of the ability of components of biological diversity to provide goods and services; (d) The extent of any adverse effects on human health in the context of the Protocol.

²¹ See Francesco Francioni ed., *International Responsibility for Environmental Harm* (Kluwer Academic Pub., 1991); Peter Wetterstein ed., *Harm to the Environment: The Right to Compensation and the Assessment of Damages* (Clarendon Press, 1997); Michael Bowman and Alan Boyle eds., *Environmental Damage in International and Comparative Law: Problems of Definition and Valuation* (Oxford UP, 2002). On the jurisprudence of the United Nations Compensation Commission, see Cymie R. Payne and Peter H. Sand eds., *Gulf War Reparations and the UN Compensation Commission: Environmental Liability* (Oxford UP, 2011). For a historical development on the concept of environmental damage under international law, see Yukari Takamura, “Liability Regimes for Environmental Damage under International Law: Developments and Problems [Kankyo Songai ni taisuru Kokusaihojo no Sekinin Seido],” in T. Otsuka, et.al eds., *Social Development and Creation of Rights [Shakai no Hatten to Kenri no Souzo]* (Yuhikaku, February 2012), pp.711-736.

context of the treaty negotiated under the United Nations auspices by one hundred sixty or so Parties to the Cartagena Protocol. This miracle, however, had been achieved by extensive political compromise and adept drafting technique, making the Supplementary Protocol difficult to comprehend for first-time readers. This book will shed light on some of the most controversial, and thus most difficult-to-read, provisions of the Supplemental Protocol.

This book does not intend to be a comprehensive commentary on all twenty-one articles and five preambular paragraphs of the Supplementary Protocol. Instead, this book examines in-depth the highlights of the Supplementary Protocol from the perspective of both the negotiators and academia. The most significant feature of the Supplementary Protocol from the perspective of both diplomacy and academic study is its incorporation of an administrative approach to liability for biodiversity damage, rather than a fully-fledged civil liability regime. Three chapters examine the prelude to, the negotiation over, and the legal significance of this core feature of the Supplementary Protocol that underlies all other issues examined in this book.

This book is composed of four parts. Part I addresses the international legal context and the negotiating history underlying the Supplementary Protocol. In Chapter 1 (*A New Dimension in International Environmental Liability Regimes: A Prelude to the Supplementary Protocol*), **Akiho Shibata**, a professor of public international law at Kobe University, Japan, and legal advisor to the Japanese delegation negotiating the Supplementary Protocol from 2006 to 2010, examines the legal structure of the Supplementary Protocol and questions whether its conceptual underpinnings that lay the foundation of ‘administrative approach to liability’ have any preludes in international law practice (as opposed to US, EU and other domestic practices). He analyses some of the international treaties, including for example Annex VI Liability Arising from Environmental Emergencies (2005) to the Antarctic Environmental Protection Protocol that do provide for ‘response measures’ to environmental damage or emergencies. After meticulous examination of the discussion in the International Law Commission (ILC) under the agenda item ‘international liability’, he concludes that the two-tiered structure of the ILC Principles on Allocation of Loss (2006) was the true prelude at the international level to the administrative approach to liability for environmental damage.

As such, the ILC's draft was based on (1) a clear distinction between damage to persons and property on the one hand and damage to the environment *per se* on the other and (2) the concept of obliging the operators to take response measures as a legal consequence of causing the said damage to the environment *per se*.

In Chapter 2 (*An Overview of the Negotiating Process of the Supplementary Protocol: A Perspective from the Co-Chairs*), **Jimena Nieto Carrato** and **René Lefeber**, the Co-Chairs of the ad hoc working group on legal and technical experts on liability and redress from 2004 to 2008 and of the Group of Friends of Co-Chairs from 2009 to 2010 briefly explain the history of the six year negotiation leading to the adoption of the Supplementary Protocol. They touch upon the innovative initiatives such as 'Core Element Paper' tabled by the Co-Chairs in March 2008 and the leadership they exemplified (or the pressures for some negotiating Parties they exerted) at pivotal moments of the negotiation. They now reveal the purposes and intentions of those initiatives and evaluate their effectiveness.

In Part II, this book analyses both the significance and critiques of the Supplementary Protocol. In Chapter 3 ("*Administrative Approach*" to Liability: *Its Origin, Negotiation and Outcome*), **Alejandro Lago Candeira**, the UNESCO Chair at Juan Carlos University in Spain and a leading negotiator of the EU delegation, examines how the EU position during the negotiation influenced not only some specific provisions of the Supplementary Protocol but also the overall legal framework of the liability instrument under the Cartagena Protocol. He explains how the adoption in 2004 of the EU Directive on Environmental Liability based on an administrative approach and occurring just after the initiation of the negotiation process in the context of Article 27 of the Cartagena Protocol, entirely conditioned the approach of the EU to this negotiation. After the rejection of the EU's 'two-stage approach' of first adopting non-legally binding guidelines in order to gain experience before considering a legally binding instrument and after the agreement at the 2008 Bonn meeting to 'work towards' a legally binding treaty, he argues, the degree of flexibility for the EU was strictly reduced to the limits of its internal legislation, namely the 2004 EU directive. According to his evaluation, the final outcome is a mixed interaction of different situations and

contexts during the negotiation and not a comprehensive ‘exportation’ of EU internal law to the international sphere; the EU position had clearly been driving the outcome.

In Chapter 4 (*A Scientific Perspective on the Supplementary Protocol*), **Reynaldo Ariel Alvarez-Morales**, the Executive Secretary of the Mexican Intersecretarial Commission of Biosafety and Genetically Modified Organisms and head of the Mexican delegation to the Supplementary Protocol negotiations, examines two of the most controversial issues related to the Supplementary Protocol: the claim to include in addition to LMOs themselves the ‘products thereof’ in the scope of the Supplementary Protocol (Art.3) and the definition of ‘operator’ (Art.2 (2) (c)). These provisions on the scope of the Supplementary Protocol and the definition of an ‘operator’ as a liable entity constitute the legal foundation of the international liability regime structure for biodiversity damage established by the Supplementary Protocol. Against the expectation that these issues were a lawyer’s niche, the contribution by Ariel Alvarez-Morales is extremely informative in understanding the scientific justifications behind those provisions, justifications Ariel Alvarez-Morales himself advocated very effectively during the negotiation. He identifies special features of biodiversity damage that may be caused by LMOs and argues that the relevant provisions of the Supplementary Protocol are the proper reflection of a scientific understanding of the issue. He concludes by highlighting the continuing important role of science and scientist in the implementation process of the Supplementary Protocol.

As highlighted by Shibata and Lago Candeira, some leading negotiating Parties from developed countries were unwilling to establish a legally binding civil liability regime for biodiversity damage caused by LMOs that would involve a fundamental change to their domestic legal systems and, consequently, would leave little chance for them to ratify the outcome. However, in Chapter 5 (*One Legally-Binding Provision on Civil Liability: Why Was It So Important? A Negotiator’s Perspective*), **Elmo Thomas** from Namibia, one of the negotiators of the African Group, and **Mahlet Teshome Kebede**, an African Union lawyer who provided legal advice to the Group during the negotiation, argue that for many African Parties that had just begun to establish their administrative apparatus to implement the Cartagena Protocol, the administrative approach to liability would mean additional responsibilities for the still fragile national

authorities and, therefore, African nations were in favour of a legally binding civil liability regime that would make use of their existing judicial systems. In their view, the rules on civil liability enter into the picture when administrative regulations have proved ineffective in preventing damage and, as this is the case in national laws of most African and other developing countries, an adequate civil liability system recognized in the international arena in the form of binding treaty would allow the claimant to obtain compensation through due process of law.

Gurdial Singh Nijar from Malaysia, probably the most influential negotiator and the leader of the 'Like-Minded Friends' campaigning for a legally binding instrument, composed of eighty-two countries,²² corroborates this plea of developing countries by confirming in Chapter 6 (*Civil Liability in the Supplementary Protocol*) that, for many developing countries, the adoption of an international civil liability treaty was the whole purpose of negotiation under Article 27 of the Cartagena Protocol. The grudging compromise, on both sides, was an anomalous and self-standing provision in Article 12 entitled 'Implementation and Relation to Civil Liability'. Paragraph 1 of Article 12 was intended to say two things;²³ first to give a confirmation that the Parties shall provide for response measures in accordance with the Supplementary Protocol by way of an administrative approach; second, to give permission for the Parties to apply their civil liability laws to address biodiversity damage, if they choose to do so. Nijar tells his story of how this Article came about and interprets the first half of paragraph 1 of Article 12 by linking it with the second; that is to say that, it leaves it to Parties to implement their existing or new civil liability laws to take response measures. In addition, as Nijar points out regarding paragraph 2 of Article 12, it only requires the Parties to 'aim' to provide for remedies under their civil liability laws in respect of material or personal damage associated with adverse effects on the conservation and sustainable use of biodiversity. Although the civil liability provision in the

²² Gurdial Sign Nijar, Sarah Lawson-Stopps and Gan Pei Fern, *Liability and Redress under the Cartagena Protocol on Biosafety: A Record of the Negotiations for Developing International Rules, Vol.I* (2008), p.387.

²³ Article 12 (1) : Parties shall provide, in their domestic law, for rules and procedures that address damage. To implement this obligation, Parties shall provide for response measures in accordance with this Supplementary Protocol and may, as appropriate: (a) Apply their existing law, including, where applicable, general rules and procedures on civil liability; (b) Apply or develop civil liability rules and procedures specifically for this purpose; or (c) Apply or develop a combination of both.

Supplementary Protocol is ‘spectacularly deficient’, Nijar sees the potential, with the review provision under Article 13 and with experience and in the ripeness of time, that the process established by the Supplementary Protocol could well lead to the establishment of a mature regime incorporating substantive international rules on liability and redress for damage caused by LMOs. Thus, in Nijar’s view, eschewing any reference to civil liability when discussing the Supplementary Protocol, is ‘woefully inaccurate’.

In the traditional international regimes of civil liability, a provision on financial security to cover the potential liabilities of operators with an established financial limit of the liabilities in order for them to be insurable had always become one of the most complex and controversial issues in negotiations.²⁴ Even after the adoption of the treaty, the provisions on financial security remained one of the thorniest issues for many States in their consideration of whether to ratify the regime. Under the Supplementary Protocol, although it does not directly oblige the liable operator to pay compensation for the damage but, instead, oblige it to take reasonable response measures, the operator may still be financially liable to reimburse the ‘costs and expenses of, and incidental to, the evaluation of the damage and the implementation of any such appropriate response measures’ taken by the competent authority if the competent authority has exercised its discretion to implement the required response measures (Art.3 (4), Art.3 (5) and Art.8). Accordingly, a possibility of requiring some kind of financial security of the operators to cover this indirect liability had also become a controversial issue under the Supplementary Protocol. Article 10 of the Supplementary Protocol on financial security uniquely stipulates that the Parties ‘retain the right to provide, in their domestic law, for financial security’, instead of the usual provision under civil liability conventions obliging the operators to establish such financial security.²⁵

In Chapter 7 (*Trade and the Supplementary Protocol: How to Achieve Mutual Supportiveness*), **Rodrigo C. A. Lima** of the Institute for International Trade

²⁴ Fitzmaurice, *supra* note 4, at p.1031.

²⁵ For example, Article 14 (1) of the Basel Liability Protocol provides in part: “The persons liable under Article 4 shall establish and maintain during the period of the time limit of liability, insurance, bonds or other financial guarantees covering their liability under Article 4 of the Protocol for amounts not less than the minimum limits specified in paragraph 2 of Annex B.”

Negotiations (ICONE), Brazil, who has been providing legal advice to the Brazilian government including in the negotiation of the Supplementary Protocol, objectively and critically examines the legal implications of Article 10 of the Supplementary Protocol in light of the WTO rules, particularly the national treatment principle, the general exception provision under GATT Art. XX (b), the rules under the Agreements on technical barriers to trade (TBT), and the application of sanitary and phytosanitary measures (SPS). As Article 10 (2) requires the Parties to the Supplementary Protocol to exercise the right referred to in paragraph 1 above ‘in a manner consistent with their rights and obligations under international law, taking into account the final three preambular paragraphs of the (Cartagena) Protocol’, he sets forth clear requirements established by the WTO rules and its precedents, taking into account also the precautionary approach under the Cartagena Protocol. He also argues that, if a Party to the Supplementary Protocol chooses to adopt a financial measure on imported LMOs generally, without scientific evidence to justify such measure to protect biodiversity, we may expect cases that can reach the Dispute Settlement Body of the WTO.

The analysis in Chapter 8 (*The Supplementary Protocol: A Treaty Subject to Domestic Law?*) of the Supplementary Protocol by **Worku Damena Yifru** and **Kathryn Garforth** from the Biosafety Unit of the CBD Secretariat, who provided valuable logistical and legal support to the negotiation, is much more critical. They argue that the Supplementary Protocol does not in its core provisions on the definition, the scope, the response measures and their implementation actually establish binding international obligations upon its Parties, because the treaty is fundamentally subjected to the domestic law of each Party. They claim that this situation could perhaps be attributed to the nature of rules based on an administrative approach. They suggest that some negotiating Parties were more concerned with the retention of their existing domestic legal systems than establishing true international rules, and the core provisions of the Supplementary Protocol, when examined with a critical eye, actually reflect this leeway in the name of flexibility. This sober view is a strong reminder to those States considering the ratification of the Supplementary Protocol to interpret it in good faith and implement it in a way that will contribute to the conservation and sustainable use of biological diversity by providing appropriate response measures where there is damage

or sufficient likelihood of damage caused by LMOs (Art.1 and the fourth preambular paragraph of the Supplementary Protocol). In this context, Damena Yifru and Garforth's characterization of the Supplementary Protocol as 'a more cooperative approach' to ensuring that biodiversity is restored following an occurrence of damage should be particularly noted.

It is clear that the true legal value of the Supplementary Protocol can only be assessed by examining its (future) implementation at the domestic level. Part III of this book addresses this important issue in the implementation of the Supplementary Protocol at both the international and domestic level.

Dire Tladi, currently a member of the International Law Commission and formerly a member of the South African delegation to negotiate the Supplementary Protocol, foreshadows in Chapter 9 (*Challenges and Opportunities in the Implementation of the Supplementary Protocol: Reinterpretation and Re-imagination*) a situation in which the hard fought compromises in the Supplementary Protocol may be reopened in the form of its re-interpretation and re-imagination, potentially affecting its implementation. Defining re-interpretation and re-imagination as tools that States and other actors may use to mould their rights and obligations under a treaty in a manner that is more favourable for them, Tladi identifies the opportunities for such re-interpretation and re-imagination in the process of a State' drafting its implementation laws, in the process of its review in the Conference of the Parties serving as the Meeting of the Parties to the Supplementary Protocol (COP-MOP), and in the dispute settlement process under the WTO. Both the discretion explicitly provided under the Supplementary Protocol and the ambiguity that allows national implementers the license of re-interpretation and re-imagination permit such moulding of rights and obligations under the Supplementary Protocol, and he identifies provisions on the definitions of damage and operator, on financial security, and on civil liability as the primary targets of such re-interpretation and re-imagination. However, he cautions that the transboundary character of the Supplementary Protocol may pose an implementation challenge in that, while a country of import (where the damage is most likely to occur) is free, within certain constraints, to apply the Supplementary Protocol as it has re-interpreted or re-imagined,

enforcement in the country of export or third country may prove difficult if such re-interpretation or re-imagination is not acceptable to the latter.

On the issue of domestic implementation, this book invites ‘outsiders’ to the negotiation with expertise on domestic laws to gain an objective analysis of the Supplementary Protocol from the perspective of domestic lawyers.

In Chapter 10, **Edward Brans** and **Dorith Dongelman**, Dutch practicing lawyers with extensive research experience in EU environmental liability law, examines meticulously the details of the Supplementary Protocol and compares them with the relevant provisions of the EU Environmental Liability Directive. Their analysis highlights both the merits and demerits of ‘flexibilities’ provided in the Supplementary Protocol in light of its incorporation into EU law, and in the process of this examination, they point out some of the issues that the negotiators were unaware of. For example, Brans and Dongelman interpret Article 5, paragraphs 1 and 6 as requiring the competent authority to ‘order’ the operator to take response measures, instead of directly obliging the operators to take such measures under the comparable provisions of the EU Directive. When the negotiators revised the phrase ‘The operator shall take...’ into ‘The Parties shall require the operators to take...’, they did not intend to make an administrative order a prerequisite under the Supplementary Protocol to oblige the operator to take response measures. Brans and Dongelman emphasize that, even though there are similarities between the EU Directive and the Supplementary Protocol, there are more fundamental differences, in particular the scope of the EU Directive being more limited than that of the Supplementary Protocol in that the Directive does not explicitly cover ‘biodiversity damage’. This is an important indication that, despite the negotiators’ efforts to the contrary, an objective reading of the Supplementary Protocol may require some amendments to some Parties’ existing legislation in order to effectively implement the Supplementary Protocol.

In Chapter 11 (*A Japanese Approach to the Domestic Implementation of the Supplementary Protocol*), **Eriko Futami**, a post-graduate student, and **Tadashi Ohtsuka**, a professor of environmental law at Waseda University School of Law, Japan, who have written extensively in the field of environmental liability law, examine

objectively the provisions of the Supplementary Protocol to see whether the current Japanese Cartagena Law adequately responds to the legal requirements of the Supplementary Protocol and to what extent, if any, it needs to be amended to effectively implement its provisions. As Futami and Ohtsuka state, the Japanese implementing legislation of the Supplementary Protocol will establish the first-ever liability system in Japan for environmental damage *per se*, including the biodiversity damage. Futami and Ohtsuka introduce the main features of the current Japanese Cartagena Law, which implements the Cartagena Protocol, and identify both the merits and drawbacks in using this legislation to implement the Supplementary Protocol. As the Japanese Cartagena Law explicitly addresses the adverse effect of LMOs on the biological diversity, for Japan, the concept of biodiversity damage is much easier to swallow as long as it can be addressed through existing administrative legislation specifically dealing with the LMOs and their negative impact on biodiversity, and not by general tort law under its civil code. On the other hand, Futami and Ohtsuka identify a major gap in the Law's current scope of possible measures that could be ordered against 'users of LMOs', who will be equivalent to the 'operators' under the Supplementary Protocol. As the current Japanese Cartagena Law is premised on the prevention of adverse effects from LMOs, it allows the competent authority either to 'suspend' the use of LMOs or 'remove' (or 'recall' in certain other situations) the LMOs. According to Futami and Ohtsuka, these measures would not include 'restoration measures' as required under the Supplementary Protocol. They also identify the difference between the threshold of 'adverse effects on biodiversity' under the current Cartagena Law and the 'biodiversity damage' under the Supplementary Protocol, suggesting incorporation of the concept of biodiversity damage into the Cartagena Law, with the changes necessary to allow precautionary measures in cases where the expected damage is not 'significant'.

Chapter 12 (*The Industry's Compact and Its Implication for the Supplementary Protocol*) by **J. Thomas Carrato**, **John Barkett**, and **Phil Goldberg** does not relate directly to the implementation of the Supplementary Protocol but to an industry's instrument called 'The Compact: A Contractual Mechanism for Response in The Event of Damage To Biological Diversity Caused the Release of a Living Modified Organism' that, according to the authors, can complement the Supplementary Protocol by more

effectively protecting biodiversity from potential damage caused by LMOs. The Compact is a private sector mechanism that States can use to assure that a person or business responsible for releasing an LMO that causes damage to biological diversity remediates that damage. After recapping the biotech industry's engagement in the negotiation of the Supplementary Protocol and how this Compact came about, they explain how it works and how it can be used to complement the liability and redress remedies available to a State under the Supplementary Protocol. They argue that the Compact and Supplementary Protocol provide States with two viable options for assuring that a responsible party will remediate damage to biological diversity caused by its release of a LMO. The authors also suggest that the Compact, which is based on a similar platform and common concepts, can be a resource for States in completing their task of implementing the Supplementary Protocol, including the Compact's detailed definitions of key terms, such as damage to biological diversity, causation, and determinations pursuant to science-based evidence.

In Part IV, as the concluding Chapter 13 (*The Legal Significance of the Supplementary Protocol: The Result of a Paradigm Evolution*), René Lefeber, a professor of International Environmental Law at the University of Amsterdam in the Netherlands and legal counsel to the Dutch Ministry of Foreign Affairs, argues that the Supplementary Protocol was a result of a paradigm evolution, rather than a paradigm change, as its administrative approach to liability or, in his terminology, 'regulatory liability' for environmental damage was a gradual and incremental evolution from domestic and regional precedents. He posits the liability approach of the Supplementary Protocol in the historical development of States' obligations under international law to address transboundary harm caused by activities within their jurisdictions or under their control. He interprets the core obligation under the Supplementary Protocol, namely Article 5 (1), as the State's obligation (usually the importing State's obligation) to ensure that response measures be taken in the event of biodiversity damage caused by a transboundary movement of LMOs. Noting its narrow scope and possible difficulties including the burden on the importing States, he does see in the Supplementary Protocol the potential to provide insights into pending issues such as the damage to biological diversity caused by other activities like the transboundary movement of invasive alien

species under the Convention on Biological Diversity; the damage to the environment under other multilateral environmental agreements; or other types of damage, such as public health costs resulting from unexpected negative effects of the introduction of medicines.

This book is dedicated to all those who made the adoption of this new international liability regime for biodiversity damage, The Nagoya-Kuala Lumpur Supplementary Protocol, possible.