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COMMENTARY:
THE ANTHROPOCENE, AUTOPOIESIS
AND THE DISINGENUOUSNESS OF THE
GENUINE LINK: ADDRESSING ENFORCEMENT
GAPS IN THE LEGAL REGIME FOR AREAS
BEYOND NATIONAL JURISDICTION

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1. *Introduction*

The Netherlands has a long and proud tradition of scholarship in the law of the sea that traces its roots back to Hugo de Groot. This tradition is exemplified by the work carried out over the last two decades by the Netherlands Institute for the Law of the Sea and the name of the institute is now synonymous with excellence in its field of research and learning. Against this background, I am privileged to participate at this year's J.H.W. Verzijl Memorial Symposium and delighted to comment upon Professor Rosemary Rayfuse's concise and thought-provoking paper which has an extraordinary title that draws inspiration from two scientific terms.

Perhaps it is appropriate to commence my contribution by making some brief observations about the title and to follow this with some general comments on the subject matter of compliance and enforcement of the law in areas beyond national jurisdiction (ABNJ). This includes a brief review of some of the reasons why the law of the sea is fragmented and why new approaches are required to improve compliance and enforcement at global, regional and national levels. My comments conclude by emphasising some positive features in the 1982 United Nations Convention on the Law of the Sea (LOS Convention)¹ which make it a solid normative basis for the adoption of new measures aimed at the conservation of marine biodiversity in ABNJ and managing its resources in a sustainable manner. The word 'measures' in this instance is chosen carefully as it signifies both coercive legally binding obligations backed by sanctions as well as a range of incentives aimed at inducing

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¹ Adopted on 10 December 1982; 1833 UNTS 296.

compliance by governments, industry and individuals. In other words, it is not limited to hard law options but also includes softer and more flexible instruments.

2. Terminology

Professor Rayfuse uses a number of very interesting scientific terms to give clarity and structure to the arguments she presents in her paper. As far as I can ascertain the term ‘anthropocene’ is attributed to Nobel Laureate Paul Crutzen who first used it as a term of art to describe the influence of human behaviour on the Earth since the industrial revolution which he identified as constituting a “new geological era of our own making”.² There is little doubt that we are now firmly in this era and the future of the planet is irreversibly linked to how we manage the ocean as a source for food, minerals and new scientific discoveries, a medium for transport and communication, as well as a major provider of ecosystem services. In addition, the ocean has a major bearing on the world’s climate and it are perhaps issues such as climate change and transnational uses of the marine environment such as carbon sequestration which will ultimately test whether the law of the sea can adapt to changing circumstances without leading to uncertainty and conflict about how the law is interpreted and applied in ABNJ.

This leads to a central theme in Professor Rayfuse’s paper which revolves around the clever use of a second scientific term, ‘autopoietic system’, which was originally used by two Chilean biologists—Humberto Maturana and Francisco J. Varela—to describe the processes occurring at the level of the biological cell where cells regenerate within a closed system.³ This theory has since been applied by sociologists and legal scholars to explain how social systems such as law self-perpetuate.⁴ Significantly, the use of ‘autopoiesis’ to describe social systems has been criticised on the grounds that such systems arise as a result of the ongoing autopoiesis of the individual biological components of the systems, not as things that are themselves autopoietic.⁵ Nevertheless, this term is clearly germane to the subject matter of Professor Rayfuse’s paper as it allows her to emphasise that the law must change and adapt to new realities

² P.J. Crutzen and E.F. Stoermer “The ‘Anthropocene’” (2000) *Global Change Newsletter* 41: 17–18.

³ F. Varela, H. Maturana and R. Uribe (1974) “Autopoiesis: the Organization of Living systems, Its Characterization and a Model” 5 *Biosystems* 187–196.

⁴ G. Teubner (ed.) *Autopoietic Law: A New Approach to Law and Society* (European University Institute: 1987) *passim*.

⁵ T. Quick “A short Introductory Overview of Autopoiesis” (available at (www.cs.ucl.ac.uk)).

and new contexts, just as these realities and contexts must change and adapt to new laws. In the law enforcement context, this demands careful consideration of how the law protects the interests of the international community in ABNJ and how best to improve compliance with international treaty obligations.

One final point about terminology relates to the term ‘areas beyond national jurisdiction’ which for the purpose of this commentary is understood to refer to the Area and the high seas as defined under the LOS Convention.⁶ This includes the air space over the high seas, as well as the high seas over the continental shelf where this extends more than 200 nautical miles (nm) from the baseline of the coastal State. The latter however is not entirely ‘beyond national jurisdiction’ *strictu sensu* as the coastal State has sovereign rights over certain resources of the shelf under international law where it extends beyond 200 nm.⁷ Suffice to note here that activities in the water column which impinge on the resources of the extended continental shelf raise different compliance and enforcement issues and must therefore be distinguished very carefully from the high seas over the deep sea-bed which is more clearly beyond national jurisdiction.⁸ In addition, it should also be borne in mind that the international legal regime governing the Area has very specific compliance and enforcement provisions including an enhanced enforcement role for the International Sea-Bed Authority (ISA) which is reviewed briefly below. For that reason, addressing compliance and enforcement gaps in ABNJ will often require careful consideration of the role and mandate of this organisation as is evident from the discussion in Judge Treves’ paper, as well as the legal rights and duties of the coastal State over the extended continental shelf.⁹

3. *Compliance and Enforcement in ABNJ*

This session is concerned with addressing enforcement gaps in the legal regime for ABNJ. However, any discussion of law enforcement has to start with the subject of compliance which has been defined in the context of international environmental law as “the behaviour of a state, ascribed thereto by reason of and derived from the behaviour of its nationals, which conforms to a treaty’s primary rules”.¹⁰ Compliance and enforcement are inextricably linked in so

⁶ Articles 1(1)(1) and 86.

⁷ Article 77.

⁸ See paper by D. Owen in this volume at 27–31.

⁹ See paper by T. Treves in this volume at 17.

¹⁰ R.B. Mitchell “Compliance Theory: An Overview” in J. Cameron, J. Werksman and P. Roderrick (ed.) *Improving Compliance with International Environmental Law* (Earthscan, London: 1996) 5–6.

far as compliance is rarely achieved without some degree of enforcement. In order to achieve compliance with its international obligations, a State must adopt national measures and ensure that these are complied with by those who are subject to its jurisdiction and control. The principal reason for studying compliance is to ensure that the law is working in practice and to determine whether State practice is leading to a new rule in customary international law.

In reviewing compliance with international law it is always a useful exercise to look at compliance with rights conferred on States parties by treaty and compliance with duties imposed thereunder.¹¹ Rights as a general rule are permissive in nature and are only effective if they are invoked in practice.¹² In contrast to rights, duties are by their very nature obligatory and will often entail States taking action at a national level. Rights and duties go hand-in-hand under the LOS Convention and this is emphasised by its article 300, which mandates good faith in the fulfilment of duties and proscribes the abuse of rights. In spite of the harmonious equilibrium between rights and duties under the LOS Convention, some States have shown a willingness to claim a right without discharging the correlative duties. This is most evident in high seas fisheries and the development of illegal, unreported and unregulated (IUU) fishing. Abuse of a right or failure by a State to comply with a duty undermines the efficacy of international law. Our knowledge of compliance is therefore crucial in assessing the efficacy of law and this in turn is very much dependent on national willingness to assume and report on the enforcement of international obligations through their domestic legal systems. In other words, there appears to be little value in any law enforcement model unless you can effectively monitor compliance with international obligations at a national level. Disappointingly, our knowledge of compliance with international regulation of ABNJ outside the domain of high seas fisheries is poor.¹³ International law is not unique in this respect and it is pertinent to recall that knowledge of compliance with European Community law in the member States was described as a “black hole” nearly two decades ago.¹⁴ One regional organisation which has gone a long way to closing both the knowledge and the compliance deficit is

¹¹ One authority makes the same argument regarding the implementation of the LOS Convention see R.R. Churchill “Levels of Implementation of the Law of the Sea Convention: An Overview” in D. Vidas and W. Østreng (eds) *Order for the Oceans at the Turn of the Century* (Kluwer Law International, The Hague/London/Boston: 1999) 317–323.

¹² For example the elaborate provisions on vessel source pollution in international law which are very much dependent on flag state, port state and coastal state enforcement jurisdiction.

¹³ See paper by R. Rayfuse in this volume at 165–190.

¹⁴ J. Weiler “The White Paper and the Application of Community Law” in R. Bieder, R. Dehousse, J. Pinder and J. Weiler (eds) 1992: *One European Market?* (Nomos Verlagsgesellschaft, Baden-Baden: 1988).

the OSPAR Commission which has a formal role under the 1992 OSPAR Convention¹⁵ in ensuring compliance by States parties with obligations to protect and preserve the marine environment and marine biodiversity of the North-East Atlantic. More specifically, the Commission must “assess” the compliance by States parties with the Convention on the basis of the reports they submit.¹⁶ When appropriate the Commission may decide upon and call for steps to bring about full compliance with the Convention.¹⁷ This is a potent measure for ensuring compliance even if it falls short of empowering the Commission to take enforcement proceedings in national courts or through international dispute settlement procedures. Importantly, the OSPAR maritime area extends beyond national jurisdiction and includes a large area of the North-East Atlantic and Arctic waters.¹⁸

The reasons for non-compliance with international obligations in ABNJ are numerous and may include a lack of resources, inadvertence and because the benefits of non-compliance may outweigh its costs.¹⁹ Measures to achieve compliance with international obligations in ABNJ appear to fall into two categories: sanctions and incentives. Significantly, compliance can be improved through the process of ‘naming and shaming’ as is evident from a number of examples enumerated by Professor Rayfuse.²⁰ In light of this, there appears to be a strong case supporting the use of both methods to close enforcement gaps in the legal regime applicable to ABNJ. One of the principal reasons why both methods are required relates to the cost of compliance which rises sharply when regulatory standards get stricter and are enforced more vigorously. A similar trend is evident in environmental law where there is an increasing tendency for the law to focus on compliance incentives in response

¹⁵ Convention for the Protection of the Marine Environment of the North-East Atlantic (the OSPAR Convention) of 22 September 1992 ((1993) 32 ILM 1072); Annex 5 of 23 September 1998 (amended and updated text available at www.ospar.org).

¹⁶ OSPAR Convention, Article 23. For commentaries on the Convention, see, *inter alia*, E. Hey, T. IJlstra and A. Nollkaemper “The 1992 Paris Convention for the Protection of the Marine Environment of the North-East Atlantic: A Critical Analysis” (1993) 8 *International Journal of Marine and Coastal Law* 1–76; L. de La Fayette “The OSPAR Convention Comes into Force: Continuity and Progress” (1999) 14 *International Journal of Marine and Coastal Law* 247–297; W. Heintschel v. Heinegg “The Development of Environmental Standards for the North-East Atlantic, including the North Sea” in E. Mann-Borgese and R. Wolfrum (ed.) *Marine Issues* (Kluwer Law International, The Hague: 2002) 35–153. For a discussion of monitoring and compliance under the OSPAR framework see, R. Lagoni “Monitoring, Compliance and Enforcement of Compliance Through the OSPAR Commission” in *ibid.*, 155–163.

¹⁷ Article 23(b) of the OSPAR Convention.

¹⁸ Article 1(a) of the 1992 OSPAR Convention.

¹⁹ For a discussion of why states often fail to comply with international environmental obligations see Mitchell, note 10 *supra*.

²⁰ Paper by R. Rayfuse in this volume at 179–189.

to greater awareness of environmental issues and the cost of compliance on the part of the public, environmental groups, green consumers and industry investors.²¹

Having noted the importance of compliance we can move to the topic of enforcement which for the purpose of this commentary is understood as the process of invoking and applying authoritative prescription.²² The LOS Convention has a broad range of provisions that provide for flag State, port State, coastal State and universal enforcement jurisdiction in different circumstances.²³ The rules in the LOS Convention are also the basis for the allocation of enforcement jurisdiction in other agreements. Clearly, once an international measure has been implemented domestically then enforcement poses different challenges at sea and on land. At sea, the range of operations includes surveillance, stopping and boarding vessels, detention, and on land it also includes the formal application of the law by judicial or other means, including the imposition of sanctions.²⁴ From both a legal and practical perspective, law enforcement in ABNJ cannot be compared with enforcement in other maritime jurisdictional zones within national jurisdiction where the coastal State has considerable more scope under the LOS Convention to detect and penalise deviant behaviour. In ABNJ the traditional starting point of any discussion is the primacy of the high seas freedoms coupled with the rule of flag State jurisdiction. Professor Rayfuse gets straight to the crux of the problem when she argues that the most significant enforcement gap in the legal regime for the high seas is the rules on nationality of ships coupled with the rule of flag State jurisdiction. Simply stated, these rules are sometimes manipulated to gain advantage or avoid disadvantage under a given legal regime.²⁵ Indeed, one peculiarity about flag State jurisdiction is that States that comply assiduously with their international obligations very often do not monitor or enforce against others. Outside the domain of international trade law, few States have individual incentives to commence action for non-compliance and there has been a marked reluctance to empower other bodies such as treaty secretariats with enforcement powers. For that reason, if anything characterises the weakness of international law of the sea as it applies to ABNJ, it is the absence of an effective and centralised enforcement system. Several initiatives, some of which are

²¹ S. Bell and D. McGilivray *Environmental Law* (Oxford University Press, Oxford: 2006) 40–42.

²² W. Burke *The New International Law of Fisheries: UNCLOS 1982 and Beyond* (Clarendon Press, Oxford: 1994) 303.

²³ Articles 62(4)(k), 66(3)(d), 73, 217, 218, 219, 220, 224, 225, 233, 234 and 298(1)(b).

²⁴ See Burke, note 22 at 304.

²⁵ *Ibid.*, 335.

reviewed by Professor Rayfuse, have been taken at global and regional levels to address this shortcoming, including measures within the framework of, *inter alia*: regional high seas fishery agreements; agreements concerning cooperation in suppressing the smuggling of drugs; and agreements concerning unlawful acts which threaten the safety of ships and the security of their passengers and crews.²⁶ What is important in this context is that these initiatives indicate that law enforcement in ABNJ is evolving at global and regional levels and moving away from reliance on the flag State as the sole enforcer of international obligations.

The legal regime that applies in ABNJ is important for many reasons, including world security, international trade, international communications including the internet, overflight, scientific research, as well as for the exploration and exploitation of non-living resources of the seabed. Professor Rayfuse's paper focuses on high seas fishing and dumping at sea as a means to illustrate the matters under consideration and to test the efficacy of current measures. This is entirely correct in my view as international law has evolved considerably on these topics since the coming into force of the LOS Convention and we therefore stand to learn a great deal from her discussion and analysis. Moreover, fishing and dumping at sea are two areas where we face the greatest threats in protecting the marine environment in ABNJ and managing its resources.²⁷ In time, the lessons we learn about the enforcement of the law on high seas fishing and dumping at sea may well be applied to other activities that are currently unregulated in ABNJ.

Permit me to draw attention to one key issue which is highlighted in Professor Rayfuse's paper and this concerns the diffuse nature of the various legal and enforcement obligations that apply to ABNJ. In her words:

the law of the sea regime is fragmented both sectorally and geographically, leaving a large range of [...] gaps which serve to limit its effectiveness in securing an orderly and sustainable future for the high seas and ocean in ABNJ.²⁸

In responding to her call for the development of legal solutions to fill the gaps, it may be relevant to briefly consider the reasons why the law is fragmented and why new solutions are required to address the compliance and enforcement challenges we face in protecting the marine environment and its biodiversity in ABNJ and managing its resources in a sustainable manner. This is an important consideration as Judge Treves expresses the view in his paper that

²⁶ See paper by R. Rayfuse in this volume at 165–190.

²⁷ E.J. Molenaar “Managing Biodiversity in Areas Beyond National Jurisdiction” (2007) 22(1) *International Journal of Marine and Coastal Law* 89–123 at 90.

²⁸ R. Rayfuse at 169.

we must live with the “plurality of regimes” and that the best way forward is the development of separate regimes to solve specific problems and to regulate specific activities.²⁹

4. Fragmentation and the Need for New Approaches to Compliance and Enforcement

The reasons for fragmentation in the law are numerous and may be traced back in some instances to a number of *lacunae* in the LOS Convention. Thus, for example, the LOS Convention did not adequately address the management of straddling and highly migratory fish stocks and this issue has since been addressed by means of an implementation agreement—the Fish Stocks Agreement³⁰—which clarifies and elaborates upon the relevant provisions of the LOS Convention. Another reason for fragmentation is the exponential growth in our knowledge of the marine environment and its resources. Few of the participants at the Third United Nations Conference on the Law of the Sea (UNCLOS III) could have foreseen the importance of the exploration of the deep sea-bed for marine genetic resources, or the interest in carbon sequestration in the ocean. Therefore it is unsurprising that the precise legal regime applicable to these resources and to new issues under the LOS Convention is now the subject of controversy.³¹ Similarly, it was not possible for the architects

²⁹ See the paper by T. Treves in this volume at pp. 20–21.

³⁰ Agreement for the implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 August 1995 ((1995) 24 ILM 1542).

³¹ Paper by T. Scovazzi in this volume at pp. 53–60. Different views have been expressed on marine genetic resources in ABNJ at the United Nations, see UN Docs. A/59/122 of 1 July 2004 and A/61/65 of 20 March 2006. On the inapplicability of the common heritage of mankind see M.F. Hayes “Charismatic Microfauna: Marine Genetic Resources and the Law of the Sea” in M. Nordquist, R. Long, T. Heidar and J. Norton Moore (eds) *Law, Science and Ocean Management* (Martinus/Nijhoff, Boston/Leiden: 2007) 683–700. For a detailed articulation of this view see, *inter alia*, F.M. Armas Pfrirter “The Management of Seabed Living Resources in ‘the Area’ under UNCLOS” (2006) 11 *Revista Electrónica de Estudios Internacionales*; F. Millicay “Legal Principles Applicable to the Biodiversity of the Area” in M. Nordquist, R. Long, T. Heidar and J. Norton Moore (eds) *Law, Science and Ocean Management* (Martinus/Nijhoff, Boston/Leiden: 2007) 739–850. At the Ad Hoc Open-ended Informal Working Group of the UN General Assembly which convened in February 2006 to study issues relating to the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction, the G-77/China argued that while the principle of the common heritage of mankind applies to all resources of the deep sea-bed, norms could be developed to implement access to, and benefit-sharing from, genetic resources beyond areas of national jurisdiction. This approach applies considerable emphasis on

of the LOS Convention to foresee the shift towards new concepts in resource management such as the precautionary principle, the ecosystem approach and the polluter-pays principle.³² Managing complex marine ecosystems requires an integrated approach to the management of human activities in the marine environment and it is questionable whether the relatively simple jurisdictional model advanced by the LOS Convention—which allocates the rights and duties of States on a spatial basis—is adequate to a task which now demands integration at normative, ecological and institutional levels.³³ Again there is an obvious *lacuna* in the LOS Convention in relation to the protection of biodiversity in ABNJ.³⁴ Several attempts have been made in recent years to address this omission.³⁵ Indeed, the European Community has called for the negotiation of a new multilateral agreement addressing biodiversity in ABNJ. In parallel with these developments, new targets have been set by the World Summit on Sustainable Development to protect biodiversity including the call for the establishment of representative networks of marine protected areas (MPAs) by 2012 which extend to the high seas. All of these developments are testing the jurisdictional framework established by the LOS Convention and it is now apparent that the rules on nationality of ships coupled with the rule of flag State jurisdiction are no longer adequate under the changing structure of the international legal order. However, in considering this development we should not conceal the many positive aspects to the LOS Convention which make it a suitable normative framework for addressing enforcement gaps in the legal regime for ABNJ.

the role of the ISA and the contextual nature of the LOS Convention. The G-77/China also called for consideration of new or improved implementation mechanisms and options for institutional arrangements, including expanding the ISA's existing capacity.

³² See, *inter alia*, D. Freestone "Modern Principles of High Seas Governance—The Legal Underpinnings" (2009) 39 (1) *Environmental Policy and Law* 44–49; D. Freestone, K.M. Gjerde, R. Rayfuse and D. VanderZwaag, "Workshop on High Seas Governance for the 21st Century" (2008) 23 *International Journal of Marine & Coastal Law* 359–363; R. Rayfuse and R. Warner "Securing a Sustainable Future for the Oceans Beyond National Jurisdiction: The Legal Basis for an Integrated Cross-Sectoral Regime for High Seas Governance for the 21st Century" (2008) 23(3) *International Journal of Marine and Coastal Law* 385–422.

³³ Y. Tanaka "Zonal and Integrated Management Approaches to Ocean Governance: Reflections on a Dual Approach in International Law of the Sea" (2004) 19 *International Journal of Marine and Coastal Law* 483–514.

³⁴ Articles 61 and 145.

³⁵ For an account see Molenaar, note 27 at 92–96.

5. *The Convention as a Normative
Basis for Addressing Enforcement Gaps*

The first positive aspect of the LOS Convention is its almost universal acceptance by States as a normative basis for regulating current and future uses of the ocean. Although there are several claims to maritime jurisdiction by States which are clearly inconsistent with both the letter and the spirit of the LOS Convention, there is in general a high level of uniformity and consistency in the application of its provisions by States. Moreover, it is easy to understate the contribution the LOS Convention has made to the maintenance of international peace and security by replacing a plethora of conflicting claims by coastal States with agreed limits on those maritime areas that come within national jurisdiction and by setting down agreed rules regarding the delineation of ABNJ. Indeed, without the benefit of these rules it would be impossible to identify precisely the geographical areas where States may validly exercise legislative and enforcement jurisdiction in conformity with international law.

The second positive aspect of the Convention that is relevant to this discussion is that it is the outcome of a process which advances the consensus approach to international law-making by accommodating the competing interests of all States and the international community. This achievement is all the more impressive when one considers that the LOS Convention and the implementation agreements were negotiated over a period of 20 years and at a time when there was a serious crisis in international cooperation and a decline in the use of international machinery to resolve global problems.³⁶ This approach is important when one considers that some States have on occasion resorted to unilateral measures to address enforcement issues in ABNJ. A notable example was the detention of the Spanish fishing vessel *Estai* by the Canadian enforcement agencies in the NAFO Regulatory Area in 1994 and the subsequent influence of that action on the negotiation of the Fish Stocks Agreement.³⁷ Plainly, improving compliance with international regulation is

³⁶ Statement by Javier Pérez de Cuéllar, Secretary General of the UN “International Law is Irrevocably Transformed” (10 December 1982) after the LOS Convention was opened for signature.

³⁷ See *inter alia*: P. Curran and R. Long “Fishery Law, Unilateral Enforcement in International Waters: the case of the *Estai*” (1996) 5(2) *Irish Journal of European Law* 123–163; D.M. Kedziora “Gunboat Diplomacy in the Northwest Atlantic: The 1995 Canada-EU Fishing Dispute and the United Nations Agreement on Straddling and Highly Migratory Fish Stocks” (1996–1997) 17 *Northwestern Journal of International Law and Business* 1132–1162; C. Joyner and A. von Gustedt “The Turbot War of 1995: Lessons for the Law of the Sea” (1996) 11 *International Journal of Marine and Coastal Law* 425–458; D. Freestone “Canada and the EU Reach Agreement to Settle the *Estai* Dispute” (1995) 10 *International Journal of Marine and Coastal Law* 397–411.

best achieved in a multilateral setting and with a system of enforcement which is not dependent solely on the willingness of the flag State to implement and enforce international obligations.

The third aspect of the LOS Convention which is important to keep in mind is that one of the principal goals of UNCLOS III was to establish a stable legal framework for the mining of the deep sea-bed. This has largely been achieved by the LOS Convention and the 1994 Implementation Agreement³⁸ which provide a legal basis for the adoption of regulations applicable to the exploitation and exploration for minerals on the deep seabed. In time, these regulations will form the cornerstone of a comprehensive mining code covering all aspects of prospecting, exploration for and exploitation of sea-bed minerals, including polymetallic sulphides and cobalt-rich crusts. Although commercial seabed mining in the Area has not commenced, the ISA has issued exploration licences to 8 State-backed entities and received 2 new applications for exploration licenses from private-sector interests sponsored by developing States in 2008.³⁹ Most notably and despite the misgivings of many of those that participated at UNCLOS III, no State or private entity has attempted to mine the resources of the deep sea-bed in contravention with the provisions of the LOS Convention. One can therefore say that the LOS Convention supplemented by the 1994 Implementation Agreement has achieved one its principal objectives and prevented the unilateral exploitation of sea-bed minerals in the Area. This is of course subject to the caveat that mining the sea-bed for minerals has not been commercially feasible. For this reason, compliance and enforcement of the legal regime applicable to the Area has not posed any particular difficulty to date primarily because commercial mining of the deep-seabed is some way off. There is, however, general acceptance that the common heritage will be exploited for the benefit of mankind as a whole and through the procedures administered by the ISA. This reduces the possibilities for future conflict and removes any doubt regarding title over mineral resources in the Area. In the context of enforcement and compliance, what is significant is that States parties to the LOS Convention are responsible for ensuring that their activities, or the activities of their nationals or activities effectively controlled by them or their nationals, are carried out in conformity with Part XI of the LOS Convention as modified by the 1994 Implementation Agreement. States parties are subject to any rules that are adopted by the Authority concerning pollution and other hazards to the marine environment, as well as conservation of

³⁸ Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 of 28 July 1994 ((1994) 33 ILM 1309).

³⁹ S. Nandan *The successes of the United Nations Convention on the Law of the Sea and some Future Challenges* (October 17–18, 2008, ABLOS Conference, Monaco).

natural resources.⁴⁰ The Council of the ISA is vested with considerable powers including the power to: “supervise and coordinate the implementation” of Part XI of the LOS Convention and “invite the attention of the Assembly to cases of non-compliance”; institute proceedings on behalf of the Authority before the Sea-Bed Dispute Chamber of the International Tribunal for the Law of the Sea (ITLOS); issue emergency orders “to prevent serious harm to the marine environment arising out of activities of the Area” and to direct and supervise inspectors to ensure compliance.⁴¹ A Legal and Technical Commission is vested with powers to make recommendations to the Council on the institution of proceedings and measures to be taken following and decision by the Sea-Bed Dispute Chamber.⁴² How these provisions will operate in practice will only become evident when deep sea-bed mining commences. At this point in time what is relevant to this discussion is that these provisions are entirely premised on a compliance and enforcement model which is not dependent on the exclusive remit of the flag State. Moreover, although Judge Treves concludes that the expansion or the adaptation of the Area regime may not be the most promising way to address the management of new activities in ABNJ, there is little doubt that any future measures will have to be reconciled with the elaborate arrangement and institutional structures that are already in place for the Area.

6. *Concluding Remarks*

In conclusion, I wish to congratulate Professor Rayfuse on her paper which conveys very clearly that the effectiveness of the law of the sea is very much dependent on the extent of compliance with the rules that are in place. This is a matter of increasing concern to the international community as is evident from the wide-ranging and innovative measures that are now in place for high seas fisheries. There is also evidence that new trends in the law of the sea such as the shift towards integrated management and the application of the ecosystem approach require a fundamental rethink about improving compliance and enforcement of the law in ABNJ. In particular, consideration needs to be given on how to improve domestic implementation of international legal obligations governing activities in ABNJ. States are clearly unwilling to take enforcement proceedings against other States for failure to implement international obliga-

⁴⁰ LOS Convention, Articles 139(1) and 145.

⁴¹ *Ibid.*, Article 162(2)(a), (u), (v), (w) and (z).

⁴² *Ibid.*, Article 165(2)(i) and (j).

tions with a number of notable exceptions.⁴³ There is nothing unusual in this when one considers that in 50 years of European Community (EC) law we have had only two cases of a member State taking enforcement proceedings against another member State for failure to implement an EC obligation.⁴⁴ One reason for this is the positive role played by the European Commission in taking enforcement proceedings against member States.⁴⁵ Indeed, the European Court of Justice (ECJ) has ruled in several hundred cases concerning member States failure to uphold their EC legal obligations as a result of legal proceedings initiated by the European Commission. Several of these cases concern a failure by member States to implement appropriate measures aimed at preserving and protecting the marine environment.⁴⁶ In many instances, the European Commission has received the initial information on non-compliance from non-governmental organizations (NGOs) or other public-interest groups. At the end of 2007, for example, the European Commission was investigating several hundred complaints from various interest groups concerning the failure of member States to implement their environmental obligations.⁴⁷ Many of these investigations were initiated on the basis of information obtained from diverse sources including petitions to the European Parliament, reports in the press, and as result of the work undertaken by NGOs. The European Commission has focused on identifying cases involving widespread and persistent breaches of EC law. In view of the European experience, there appears to be a strong case for strengthening the legal basis for the involvement of non-State

⁴³ There have been a number of proceedings at the ITLOS which have not reached the merits phase. This includes *The Mox Plant* case (Ireland v. United Kingdom) (2002) 41 ILM 405. For a detailed analysis of this case see R.R. Churchill and J. Scott "The Mox Plant Litigation: The First Half-Life" (2004) 53(3) *International and Comparative Law Quarterly* 643-676; M. Tanaka "Lessons from the Protracted Mox Plant Dispute: A Proposed Protocol on Environmental Impact Assessment to the United Nations Convention on the Law of the Sea" (2004) 25(2) *Michigan Journal of International Law* 337-428; Y. Shany "The first Mox Plant Award: the Need to Harmonise Competing Environmental Regimes and Dispute Settlement Procedures" (2004) 17(4) *Leiden Journal of International Law* 815-827; B. Kwiatkowska "The Ireland v. United Kingdom (Mox Plant) Case: Applying the Doctrine of Treaty Parallelism" (2003) 18(1) *The International Journal of Marine and Coastal Law* 1-58; D.J. Devine "Provisional measures ordered by the International Tribunal for the Law of the Sea in the Area of Pollution, the Mox Plant Case (Ireland v. United Kingdom) ITLOS Case No 10, 3 December 2001" (2003) 28 *South African Yearbook of International Law* 263-275; R. Nadelson "After Mox: The Contemporary Shipment of Radioactive Substances in the Law of the Sea" (2000) 15(2) *The International Journal of Marine and Coastal Law* 193-244.

⁴⁴ Case 141/78 *France v United Kingdom* [1979] ECR 2923; Case C-145/04 *Spain v United Kingdom* [2006] ECR I-7917.

⁴⁵ EC Treaty, Article 226.

⁴⁶ See, for example, *Commission of the European Communities v. United Kingdom* Case C-6/04 [2006] ECR [0000].

⁴⁷ European Commission *25th Annual Report from the Commission on Monitoring the Application of Community Law* (Brussels COM (2008) 777/9).

actors (such as NGOs and international bodies) in the law enforcement process and this may be one way to improve compliance with international regulation in ABNJ. At a European level, the European Commission can play a key role in ensuring member State compliance with their international obligations in ABNJ by resorting to enforcement proceedings in the ECJ. At an international level, however, emphasis must now be placed on enhancing the role of international organizations and NGOs in the enforcement process, as well as flag States, port States and the international community acting collectively.