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上智大学法学会

論 説

Protection of the Atmosphere and International Law: Rationale for Codification and Progressive Development

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1. Introduction

Soon after the present writer was elected to the UN International Law Commission (ILC) in 2009, he tabled a possible future topic—the topic on the “Protection of the Atmosphere”—at the ILC’s Working Group on the Long-term Programme of Work. At its sixty-third session in 2011, the International Law Commission, on the recommendation of the Planning Group, endorsed the inclusion of the topic in its long-term programme of work. The syllabus with a brief outline of the topic and a selected bibliography was annexed to the report of the Commission to the General Assembly at its sixty-sixth session in 2011⁽²⁾. The General Assembly, after deliberation at the Sixth Committee, “took note of” the topic at that session⁽³⁾, and it is now expected that the Commission will include the topic in the current programme of work in 2012 and embark on the work of codification and progressive development of international law on that topic.

The ILC is unique for an organ of the United Nations, as it is composed of members who act not as State representatives, but in their individual capacity. The members of the Commission work in the collegial spirit based on mutual respect and solidarity as lawyers, though each of them represent his or her unique legal culture and background. The ILC is emphatically not a *political* organ that makes new law. Instead, it is a *legal* organ charged with the

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- (1) The writer acknowledges with gratitude the valuable assistance of Ms. Maya Inuzuka, JD, Osgoode Hall School of Law, and Mr. Masayuki Hiromi and Ms. Mariko Fukasaka of Sophia University Graduate School of Law, in preparing this paper.
 - (2) General Assembly Official Records, Sixty-sixth session, Supplement (A/66/10 and Add. 1), Annex B: Shinya Murase, “Protection of the Atmosphere,” pp. 315–329.
 - (3) Summary records of the Sixth Committee of the General Assembly and the resolution of its 66th session are not yet available at this writing (5 December 2011).

codification and progressive development of international law on the basis of existing or emerging customary international law (Articles 1 and 15 of the Statute of ILC). The nature of work of the Commission is supposed to be an objective, almost scientific, research rather than political negotiation. Therefore, members are meant to apply their legal expertise in their individual capacity rather than merely represent the political interests of their States, and this neutrality is important to maintain the basic character of the Commission. It is the firm belief of the present writer that the topic on the Protection of the Atmosphere is most suited for the ILC to take up.

At this writing, the author is more than conscious of the nuclear disaster caused by the historic mega earthquake and tsunamis of 11 March 2011 in the northeastern Japan. It is not yet clear to what extent the radioactive substances exhausted into the atmosphere from the damaged reactors have had the actual impact on the quality of the atmosphere, but it has certainly posed a number of important legal questions relevant to the safety of nuclear facilities which should be considered from the viewpoint of the protection of the atmosphere.

In light of these developments, this paper tries to clarify the rationale of the topic and to justify that this is an important area of international law with which the ILC should be fully engaged. It will first discuss what the role of the International Law Commission today is and then why the proposed topic on the protection of the atmosphere is necessary. It will then clarify the physical characteristics of the atmosphere which will help legally define the atmosphere for the future instrument. It will also be necessary to define the scope of the draft articles as well as the codification's ultimate objective. Finally, the crucial question is to determine the legal status of the atmosphere, which is the cornerstone of the whole project of formulating the law of the atmosphere.

The "Protection of the Atmosphere" may sound like a rather vague and hazy topic on first hearing. Understanding this topic may seem to be like "trying

to grasp a cloud". The writer hopes, however, that this paper will clear up such a misty impression and convince the readers that the atmosphere presents an important legal topic in today's world.

2. International Law Commission at a Crossroads

(1) Brief Historical Sketch of ILC

To give a brief historical sketch of the Commission, it had a marvelous record in the 1950s and 60s. The ILC produced a number of influential codification conventions, such as the four Geneva Conventions on the Law of the Sea, the Vienna Conventions on Diplomatic and Consular Relations and the Vienna Convention on the Law of Treaties, just to name a few. However, in the 1970s and 80s, the ILC's work gradually became difficult, because it started dealing with topics of progressive development which inevitably contained certain elements of new lawmaking and thus created some tensions within the Commission as well as in the Sixth Committee of the General Assembly. The ILC's productivity declined during these years. The 1990s witnessed the ILC's revival, which was well demonstrated by the completion of the Draft Articles on State Responsibility in 2001. However, during the past decade, it appears that the ILC slowed down again as far as the production of draft articles for future conventions is concerned⁽⁴⁾.

There seem to be several problems that the ILC is facing at present. The composition of membership has changed over time, with an increasing number of members coming from diplomatic or bureaucratic circles rather than

(4) See generally, Shinya Murase and Koji Tsuruoka, eds., *Henkakuki no Kokusaiho Inikai* (International Law Commission at a Crossroads, Festschrift for Ambassador Chusei Yamada), Shinzansha, 2011.

academia. The Sixth Committee of the General Assembly cannot be said to have performed its function properly to oversee the activities of the Commission. The method of work of the Commission is not most efficient. Most importantly, however, the ILC does not have good, attractive topics to work on, which seems to the writer the most serious problem of this organ.

(2) Special Regimes and General International Law

The ILC is at a crossroads today. However, the present writer considers that it still has a very important role to play. Since the ILC has exhausted during the last century most of the traditional topics, it needs to go into the areas of special regimes such as human rights law, environmental law and economic law. Given that the ILC is a body composed primarily of experts of general international law, some may see here a dilemma between general international law and special fields of international law. On the contrary, however, the present writer sees new challenges and new possibilities for the Commission in this new century.

In recent decades, there has evidently been a mushroom growth of treaties in each of these special fields, which is sometimes called a “treaty congestion” and “treaty inflation”. A great number of conventions in each field notwithstanding, there are significant gaps as well as overlaps, because there has been little coordination or harmonization, and therefore, no coherence among them. This is precisely the pathological phenomenon that has been characterized as “compartmentalization” (or fragmentation) of international law ⁽⁵⁾.

This is precisely where the great opportunities for the ILC should be recognized today. In its exercise of progressive development and codification of international law, the ILC will deal with the proposed new topics of special

(5) Shinya Murase, *International Law: An Integrative Perspective on Transboundary Issues*, Sophia University Press, 2011.

fields from the perspective of general international law in order to fill the gaps or solve the overlaps of the existing treaties and to ensure coordination among various compartments of international law. The ILC is virtually the only organ that can play such a role under the UN system.

3. Rationale for Codification and Progressive Development of International Law Relating to the Protection of the Atmosphere

(1) Criteria for Topic Selection by ILC

The following three feasibility tests have been suggested for topic selection: the first is the *practical* consideration as to whether there is any pressing need in the international community as a whole; the second is the *technical* feasibility of the topic, i. e. whether the topic is “ripe” enough in light of the relevant State practice and literature; and the third is the *political* feasibility, i. e. whether dealing with the proposed topic might or might not meet strong political resistance from States ⁽⁶⁾. In the same line, the Commission elaborated in 1997 and 98 that, in selecting a new topic, it should be guided by the following criteria, namely: that the topic should reflect the needs of the States in respect to the progressive development and codification of international law; that the topic should be at a sufficiently advanced stage in terms of State practice to permit progressive development and codification; and that the topic is settled and feasible enough for progressive development and

(6) B. G. Ramcharan, *The International Law Commission: Its Approach to the Codification and Progressive Development of International Law*, 1977, pp. 60–63; Shinya Murase, *Kokusai Rippo* (International Lawmaking), Toshindo, 2002 [Chinese translation, forthcoming, to be published by Chinese People’s Public Security University Press, 2012], pp. 217–221.

codification⁽⁷⁾. It should be stressed that the Commission further agreed that it should not restrict itself to *traditional topics*, but could also consider those that reflect “*new developments in international law and pressing concerns of the international community as a whole*”⁽⁸⁾ (author’s emphasis).

The topic of the protection of the atmosphere will clearly satisfy these tests. Environmental protection of the atmosphere is a pressing concern of today’s international community; it is essentially a legal question instead of a political issue; and there is abundant evidence of State practice including judicial precedents, treaties, and other normative documents (see below 4. on Relevant Sources).

(2) Background

The 1960s saw not only the repetition of traditional transboundary environmental problems but also the appearance of new challenges in international environmental law. These challenges came from two angles as they concern the atmosphere. One was the broadening of environmental damage both in terms of its causes and effects, as in the case of acid rain, which made it difficult to identify distinct point-sources of pollution as well as specifically affected locations. The cumulative nature of the damage makes it particularly difficult to allocate blame. The ECE (United Nations Economic Commission for Europe) Convention on Long-Range Transboundary Air Pollution (LRTAP) (1979) was concluded in response to such problems. The other challenge was the rapid development of so-called “ultra-hazardous activities” such as operations of oil tankers, aircrafts and, most notably, nuclear power plants. While these activities are generally beneficial for the welfare of people, they

(7) *Yearbook of the International Law Commission*, 1997, vol. II, Part Two, para. 238; *Ibid.*, 1998, Part Two, para. 553.

(8) *Ibid.*

carry the potential for tremendous damage to human life in the event of accidents, and accidents do actually occur. The Vienna Conventions on Nuclear Damage were concluded to cope with such situations by establishing a special regime of liability. Joint Protocol Relating to the Application of the Vienna Convention and Paris Convention (Joint Protocol) (1988, entered into force 1992; 1997 Protocol to Amend the Vienna Convention and the Convention Supplementary Compensation for Nuclear Damage (1997) detail the limits of the operator's liability and define the additional amounts to be provided through contributions by States.

Since the 1980s, the world has witnessed the rapid deterioration of the global environment in the form of ozone depletion and climate change. The initial response by the international legal community comprised the Vienna Convention for the Protection of the Ozone Layer (1985) and the Montreal Protocol on Substances that Deplete the Ozone Layer (1987). The UN Framework Convention on Climate Change (UNFCCC, 1992) and the Kyoto Protocol to the UNFCCC (1997) were later concluded to meet the challenge of climate change. In response to these global issues, international law has developed a number of new techniques to cope with the scientific uncertainty associated with such environmental problems. Adoption of precautionary approaches, a combination of framework conventions and protocols, unique non-compliance procedures and flexible mechanisms can be counted among these techniques.

It may be noted that in the late 1980s there were certain significant movements promoting the idea of the "Law of the Atmosphere" aimed at the adoption of a comprehensive approach to combating the problems of the atmosphere. The Canadian government was groundbreaking in this respect ⁽⁹⁾

(9) See, for the 1988 and 1989 Conferences, "International Conference on the Changing Atmosphere: Implications for Global Security, Conference Statement, Toronto, 27-30 June

and there was certain link with ILC in such efforts⁽¹⁰⁾. The UN Commission on Sustainable Development conducted a study on the “Protection of the Atmosphere”⁽¹¹⁾ during the preparatory process of the Johannesburg Summit Declaration in 2002⁽¹²⁾. These efforts have not yet materialized into a hard-law

1988”, 18 *Environmental Policy and Law*, 1988, pp. 155, 187–189; “Protection of the Atmosphere: Statement of the International Meeting of Legal and Policy Experts, Ottawa, February 22, 1989”, *American University Journal of International Law and Policy*, pp. 529–542; Jim Bruce, “Law of the Air: A Conceptual Outline”, 18 *Environmental Policy and Law*, 1988, p. 5; Peter Sand, “UNCED and the Development of International Environmental Law”, *Yearbook of International Environmental Law*, vol. 3, 1992, pp. 3–17; See also, M. Soroos, *The Endangered Atmosphere: Preserving a Global Commons*, 1997.

- (10) Professor Donald McRae recalls that the topic of the protection of the atmosphere has had a link with the ILC since the late 1980s, as follows: “In June 1988 Canada hosted a conference in Toronto on the Changing Atmosphere, which engaged scientists and officials from governments, the UN and other intergovernmental and non-governmental organizations. That conference called on governments to work with urgency toward an Action Plan for the Protection of the Atmosphere, which would include an international framework convention. The next year in February 1989 a meeting of legal and policy experts was held in Ottawa. The meeting endorsed the idea of a framework convention on the protection of the atmosphere and set out the elements that would be needed in such a framework convention. Of course, events moved on, climate change became a more major focus and while some of the ideas at that meeting of experts were incorporated into other conventions, no framework convention on the protection of the atmosphere was concluded. I mentioned that one could draw a link between the 1989 meeting and the ILC. A leading participant in that meeting of legal and policy experts was Alan Beesley, the Canadian international lawyer and diplomat who had been a central figure in the LOS negotiations and played a role at Stockholm as well, and was at that time a member of the ILC. Beesley spoke at the opening of the meeting about the need for creative solutions to be adopted by lawyers and how lawyers had to take a lead in policy development in this field. And on the list of invitees were Julio Barboza, at that time a member of the ILC, and Vaclav Mikulka, Hanqin Xue and myself, all later to become members of the ILC. So, in some sense, Professor Murase’ proposal that the ILC take up the topic of the “Protection of the Atmosphere” reaches back to a challenge of twenty years ago. And, if it was ripe as a topic then, it is certainly ripe today.” (Donald McRae, paper presented to the workshop on the Protection of the Atmosphere, held on 26 October 2011, at the Permanent Mission of Japan to the United Nations in New York. The workshop was organized jointly by the Government of Japan and UNEP.)
- (11) “Protection of the Atmosphere”, Report of the Secretary-General, E/CN. 17/2001/PC/12, 2 March 2001.
- (12) See, the Johannesburg Declaration, adopted on 4 September 2002, para. 13.

convention. Yet, in recent years, there appears to be a revival of enthusiasm for a comprehensive multilateral convention on the atmosphere. For instance, the 15th World Clean Air Congress held in Vancouver, Canada, in September 2010, adopted its final declaration entitled “One Atmosphere” which sought to encourage the “integration of climate and pollution policies” and called for a new “Law of the Atmosphere” which would parallel the UN Convention on Law of the Sea (UNCLOS)⁽¹³⁾. It may be a little too ambitious to talk about the “Law of the Atmosphere” just yet. It appears more realistic to consider the “Law on the Protection of the Atmosphere” with a narrower focus and with parallel drawn from UNCLOS Part XII on the Protection and Preservation of the Marine Environment rather than the entire UNCLOS. It is nonetheless encouraging to see that momentum appears to be mounting for a comprehensive exercise of codification and progressive development of international law on the subject.

(3) Basic Approaches

a. Avoiding political debates

There are at least three points that need to be stressed. First, it is important that the work of the Commission should focus on legal issues and avoid entering into political controversies. The Commission, charged with the work of codification and progressive development of international law, will not directly engage political issues. While topics such as climate change often inspire impassioned political and policy debate, the Commission, composed as it is of legal experts, will deal only with the *legal* principles and rules pertaining to the protection of the atmosphere and not the development of policy proposals.⁽¹⁴⁾ All issues in international law have both legal and political

(13) <http://www.iuappa.com/newsletters/VancouverDeclaration.pdf> The World Clean Air Congress is organized by the International Union of Air Pollution Prevention and Environmental Protection Associations—IUAPPA, which is composed of non-governmental organizations of 40 countries.

aspects. Judge Robert Jennings as President of the International Court of Justice once defended the ICJ's position of taking up disputes of a political nature: He said that all international disputes have both political and legal characteristics, but the Court can and should take up the legal aspects of a given dispute on which a judgment is properly rendered.⁽¹⁵⁾ If it is possible for ICJ to take up a

(14) In this context, it may be noted that the Committee on Legal Principles Relating to Climate Change of the International Law Association (Shinya Murase as Chair and Lavanya Rajamani as Rapporteur) has adopted a disciplined methodology for strictly adhering to *legal* analysis of the problem by avoiding political debates as much as possible. It stressed, *inter alia*, that: "it is critical to distinguish arguments based on *lex lata* (law as it is) from those based on *lex ferenda* (law as it ought to be). In the field of international environmental law in general and of climate change in particular, *lex ferenda* proposals and preferences are often smuggled into the process of "interpretation" of *lex lata*, which should be avoided." It was also stated that "the Committee should adopt a cautious approach to elaborating "legal principles" on climate change. First, it should seek to clarify the meaning and function of the existing legal principles in their interpretation and application *de lege lata*. Next, should the existing law be found lacking, it could offer a re-interpretation of the existing principles or legal concepts. Finally, it may, after careful analysis of the possibilities and boundaries of existing principles, make *de lege ferenda* proposals on the progressive development of new legal principles." ILA, *Report of the Seventy-Fourth Conference*, The Hague, 2010, pp. 352–353.

(15) The Court is, as a judicial organ, competent to deal with only the legal dispute. In the cases relating to the use of force, it has often been required to examine the nature of the dispute before it because the political nature of the dispute is emphasized in the arguments of the admissibility of the claims. In the *Hostages* case, Iran took the view that the dispute brought by the United States to the Court was just a part of the "overall problem" between the Parties and that the Court should not deal with the violations of diplomatic and consular law alleged by the United States separately from such an "overall problem". The Court noted that Iran did not submit evidence and arguments in support of its contention because of its absence. The Court took the view that the explanation of the legal or factual connection between the "overall problem" of its grievances against the United States and the particular events that gave rise to the United States' claims in the case should be required. It stated that "[t]his was the more necessary because legal disputes between sovereign States by their very nature are likely to occur in political contexts, and often form only one element in a wider and longstanding political dispute between the States concerned". Thus, according to the Court, "never has the view been put forward before that, because a legal dispute submitted to the Court is only one aspect of a political dispute, the Court should have declined to resolve for the parties the legal questions at issue between them". It further stated that no basis for such a view of its functions or jurisdiction could be found in the Charter or the Statute of the Court. It pointed out that "if the Court were, contrary to its settled jurisprudence, to adopt such a

seemingly political dispute, it should also be possible for the ILC to take up a similar problem by focusing on its legal aspects and avoiding political controversies. In so doing, the Commission's product will take the uncoordinated legal frameworks that have heretofore been set up to handle only discrete and specific atmospheric problems and rationalize them into a single,

view, it would impose a far-reaching and unwarranted restriction upon the role of the Court in the peaceful solution of international disputes". Consequently, it concluded that "the considerations and arguments put forward in the Iranian Government's letters of 9 December 1979 and 16 March 1980 do not, in the opinion of the Court, disclose any ground on which it should conclude that it cannot or ought not to take cognizance of the present case". (*Case Concerning United States Diplomatic and Consular Staff in Tehran* (United States of America v. Iran), 1980 ICJ Reports 20, para. 37). The Court also stated, in the jurisdiction phase of the *Nicaragua* case, that "the Court has never shied away from a case brought before it merely because it had political implications..." (*Case Concerning Military and Paramilitary Activities in and against Nicaragua* (Nicaragua v. United States of America), Jurisdiction and Admissibility, 1984 ICJ Reports 435, para. 96). In the *Border and Transborder Armed Actions* case (Nicaragua v. Honduras), Honduras raised four preliminary objections regarding the admissibility of the claim. The first one was that it was politically-inspired, ...and that the Court, consistent with its judicial character, should not entertain and that Nicaragua was attempting to use the Court, ... as means of exerting political pressure on the other Central American States. The Court stated in this regard that: "the Court is aware that political aspects may be present in any legal dispute brought before it. The Court, as a judicial organ, is however only concerned to establish, first, that the dispute before it is a legal dispute, in the sense of a dispute capable of being settled by the application of principles and rules of international law, and second, that the Court has jurisdiction to deal with it, and that that jurisdiction is not fettered by any circumstance rendering the application inadmissible. The purpose of recourse to the Court is the peaceful settlement of such dispute; the Court's judgment is a legal pronouncement, and it cannot concern itself with the political motivation which may lead a State at a particular time, or in particular circumstances, to choose judicial settlement." (1988 ICJ Reports, p. 91, para. 52). It should be suggested that it is the established view of the Court that claims are admissible as far as they contain legal issues, regardless of the highly political factual situations of those claims. See, Sir Robert Jennings, "International Courts and International Politics", *Collected Writings of Sir Robert Jennings*, Vol. 1, Kluwer Law International, 1998, pp. 466-480; Christopher Greenwood, "The International Court of Justice and the use of force", Vaughan Lowe & Malgosia Fitzmaurice, eds., *Fifty Years of the International Court of Justice; Essays in honour of Sir Robert Jennings*, 1996, pp. 373-385, p. 375; Rosalyn Higgins, "Policy Considerations and the International Judicial Process", *International and Comparative Law Quarterly*, Vol. 17 (1968), pp. 58-84; Mariko Kawano, "The Role of Judicial Procedures in the Process of the Pacific Settlement of Disputes", *Recueil des cours*, vol. 346 (2011), pp. 263-266.

flexible code. This synthesis will hopefully lay the groundwork for a future convention covering substantive issues, and in the meantime help States, international organizations, and civil society at large in clarifying the legal implications of their activities in this field.

b. Referring to general international law

Second, it is important, as mentioned above, that the Commission consider the legal principles and rules on the subject within the framework of *general international law*. Obviously, the fundamental issues to be dealt with by the Commission on the topic involve such questions as jurisdiction of States, implementation of obligations by States, responsibility and liability of States, dispute settlement as well as the sources of international law— classic issues for international lawyers in general and for the Commission in particular. This implies that the Commission should resist the tendency toward “compartmentalization (or fragmentation)” caused by dominant “single-issue” approaches to international environmental law⁽¹⁶⁾. In other words, the legal principles and

(16) See, Shinya Murase, *International Law: An Integrative Perspective on Transboundary Issues*, Sophia University Press, 2011. Professor Martti Koskenniemi, former member of the Commission, challenges the very raison d'être of the International Law Commission by stating as follows: “Old law-making bodies, such as the United Nation’s International Law Commission, find themselves increasingly jobless. Unable to identify stakeholder interests or regulatory objectives, ‘generalist’ law-making bodies will wither away to the extent that political commitment to that which is merely general seems pointless. If human rights interests can best be advanced in human rights bodies, environmental interests in environmental bodies and trade interests in trade bodies, while transnational activities create de facto practices that are as good (or even better) than formal law in regulatory efficiency, why bother with ‘the codification and progressive development of international law’ (Statute of the International Law Commission Article 1) beyond tinkering with diplomatic immunities or technical treaty law?”, Martti Koskenniemi, “International Law and Hegemony: a Reconfiguration”, 17 *Cambridge Review of International Affairs*, 2004, pp. 197–218, reproduced in his *The Politics of International Law*, Hart Publishing, 2011, pp. 219–240, p. 237. It seems, however, that Professor Koskenniemi’s assertion here is contradictory of his own idea, and the international community’s general desire, to avoid fragmentation of international law. Naturally, human rights bodies will be able to

rules on the atmosphere should, as far as possible, be considered in relation to the doctrines and jurisprudence of general international law⁽¹⁷⁾. It also implies that the work of the Commission should extend to applying the principles and rules of general international law to various aspects of the problem pertaining to the protection of the atmosphere. In fact, the present writer believes that this sort of “generalist” approach should be the new trend for the Commission’s future work. The ILC must look to new topics for the codification and progressive development of international law in specialized fields, and it is true to some extent that the development of these laws would be better carried out by specialized lawmaking bodies and experts with specialized knowledge. However, that would serve to further enhancement of the compartmentalization of international law. It is absolutely necessary, therefore, to place each isolated compartment within the framework of general international law in order to establish coherent links among them. The ‘generalist’ or ‘integrative’ approach, which cuts across the boundaries of special regimes is thus indispensable to today’s lawmaking activities, and, efforts to codify and progressively develop international law by the International Law Commission are even more important than before.

advance human rights interests more efficiently by any other bodies, and so will environmental bodies environmental interests and trade bodies trade interests. The overall consequence of such a development will, however, be a fragmentation of international law in the international society where there is neither supreme legislature nor constitutional court to ensure coordination among the conflicting interests.

(17) Just to give one example to illustrate the point, use of the concept of “equity” in the context of climate change—often ambiguous and arbitrary—clearly demonstrates the need to refer to the 1985 Chamber judgment of the International Court of Justice in the *Frontier Dispute* case between Burkina Faso and Mali, in which the Court indicated that there were three categories of equity in international law: equity *infra legem* (within the law), equity *praeter legem* (outside, but close to, the law) and equity *contra legem* (contrary to law). See, Prosper Weil, “L’équité dans la jurisprudence de la Cour Internationale de Justice: Un mystère en voie de dissipation?,” Vaughan Lowe and Malgosia Fitzmaurice, eds., *Fifty Years of the International Court of Justice: Essays in Honour of Sir Robert Jennings*, Cambridge University Press, 1996, pp. 121–144.

c. Consulting with scientific institutions and experts

Thirdly, embarking on a subject such as the protection of the atmosphere requires the Commission to have a certain level of understanding of the scientific and technical aspects of the problem such as the sources and effects of the damage in question. It is therefore necessary for the Commission to reach out to the international environmental organizations and to the scientific community. The Statute of the ILC authorizes the Commission in Article 16 (e) “to consult with scientific institutions and individual experts” for the progressive development of international law. There are also comparable precedents: Mr. Chusei Yamada, as Special Rapporteur for the topic on the law of transboundary aquifers, engaged UNESCO’s experts on the hydrology of aquifers for successful completion of the draft articles on the subject.⁽¹⁸⁾ In case of the present topic, steps have already been taken to reach out to the relevant international organizations as well as the scientific/technical community⁽¹⁹⁾ whose advice and expertise is needed for the Commission to understand what has to be regulated.

(18) Mr. Eduardo Valencia-Ospina, Special Rapporteur for the topic on the protection of persons in the event of disasters, is also following a similar course to a certain extent.

(19) A two-day workshop was held for the present writer’s benefit at the UNEP Headquarters in Nairobi on 17–18 January 2011 on the topic “Protection of the Atmosphere,” organized by the UNEP Division of Environmental Law and Conventions. He wishes to express his deep appreciation to Mr. Masaharu Nagai, Acting Deputy Director of the Division for organizing the workshop. A similar workshop was organized on the topic, “Protection of the Atmosphere,” at the International Environment House in Geneva, on 15 July 2011, attended by the experts of the Geneva-based international environmental organizations such as the UNEP Regional Office for Europe, the World Meteorological Organization and the UN Economic Commission for Europe. The writer wishes to thank the organizer of the workshop, Ms. Barbara Ruis of the UNEP Regional Office for Europe. Finally, the workshop on the “Protection of the Atmosphere” was held in New York on 26 October 2011 at the Permanent Mission of Japan to the United Nations which was jointly organized by UNEP and the Government of Japan. The writer wishes to express his deep gratitude to Ambassador Tsuneo Nishida for hosting this workshop.

(4) Rationale

The rationale for codification and progressive development of international law on the protection of the atmosphere is fourfold: First and foremost, the number of relevant conventions notwithstanding, they have remained merely a patchwork of instruments, leaving substantial gaps and loopholes in terms of geographical coverage, regulated activities, controlled substances and, most importantly, the applicable principles and rules for the protection of the atmosphere. Regrettably, there is at present no convention which covers the whole range of environmental problems of the atmosphere in a comprehensive and systematic manner. The piecemeal approach has its particular limitations for the atmospheric environment, which by its very nature warrants holistic treatment. Thus, the present proposal envisages an instrument similar to Part XII of the United Nations Law of the Sea Convention (UNCLOS) on the Protection and the Preservation of the Marine Environment. Second, the Commission will be expected to provide appropriate guidelines for harmonization and coordination with other treaty regimes outside international environmental law, which may come in conflict with the proposed convention on the compliance and implementation phases. The issue on “trade and environment” is a most challenging problem in this area⁽²⁰⁾. Third, it is also important that the proposed draft articles help to provide the framework for harmonizing national laws and regulations with international rules, standards, and recommended practices and procedures relating to the environmental protection of the atmosphere. Fourth, it is hoped that the proposed project will

(20) See Shinya Murase, “Perspectives from International Economic Law on Transnational Environmental Issues”, *Recueil des cours of the Hague Academy of International Law*, vol. 253, 1995, pp. 283-431, reproduced in Shinya Murase, *International Law: An Integrative Perspective on Transboundary Issues*, Sophia University Press, 2011, pp. 1-127.

establish guidelines on the mechanisms and procedures for cooperation among States in order to facilitate capacity-building in the field of the environmental protection of the atmosphere, whether transboundary or global.

It may be reminded that the present proposal does not merely repeat the previous work of the Commission. The ILC adopted Draft Articles on the Prevention of Transboundary Harm in 2001 and the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities in 2006. Both drafts contain important provisions potentially applicable to atmospheric environmental damage. However, the scope of application of these drafts is, on the one hand, too broad: they are intended to cover all types of environmental harm, and, on the other hand, they are too limited in their focus on the questions related to prevention and allocation of loss of the transboundary harm caused by hazardous activities. Since they do not adequately address the proactive protection of the environment in the atmosphere, it is proposed that the Commission tackle the problem in a comprehensive and systematic manner that extends the two instruments above, but with a special focus on the atmosphere.

4. Relevant Sources for Codification and Progressive Development

Several sources relevant to the protection of the atmosphere can be cited. The relevant multilateral conventions can be roughly classified into those primarily for regional application and those for universal application. In contrast to the number of multilateral conventions, bilateral conventions are few, evincing the essentially regional and global character of the majority of problems relating to the atmosphere. Principles and rules of customary international law must be ascertained in light of *opinio juris* and general practice

of States. Jurisprudence of international courts and tribunals is no doubt the important source for determining the customary law status of the relevant rules and principles relating to the protection of the atmosphere. Non-treaty instruments, domestic legislation and jurisprudence of domestic courts are also important sources for the exercise of codification and progressive development of the subject. The following is a list of the relevant multilateral and bilateral conventions (which is not intended to be exhaustive).

(1) Treaty Practice

a. Multilateral conventions and Binding Instruments on transboundary air pollution

- ECE Convention on Long-Range Transboundary Air Pollution (1979, entered into force 1983); Monitoring and Evaluation Protocol (1984); Sulphur Protocol (1985); NO_x Protocol (1988); Volatile Organic Compounds Protocol (1991); Sulphur Protocol (1994); Aarhus Protocol on Heavy Metals (1998); Aarhus Protocol on Persistent Organic Pollutants (1998); Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone (1999)
- European Communities Council Directive No. 80/779 on Air Quality Limit Values (15 July 1980) (Article 1: The purpose of this Directive is to fix limit values (Annex I) and guide values (Annex II) for sulphur dioxide and suspended particulates in the atmosphere and the conditions for their application in order to improve: the protection of human health; the protection of the environment)
- ECE Convention on Environmental Impact Assessment in a Transboundary Context (1991)
- ECE Convention on the Transboundary Effects of Industrial Accidents (1992, 2000)

- EC Large Combustion Directive (1988/2001/EC)
- EU National Emission Ceilings Directive (2001/81/EC) (Article 1: The purpose of this Directive is to fix limit values (Annex I) and guide values (Annex II) for sulphur dioxide and suspended particulates in the atmosphere and the conditions for their application in order to improve: the protection of human health; the protection of the environment)
- European Communities Council Directive No. 85/203 on Air Quality Standards for Nitrogen Dioxide (7 March 1985)
- The ASEAN Agreement on Transboundary Haze Pollution (2002) ⁽²¹⁾
- Stockholm Convention on Persistent Organic Pollutants (POPs) (2004)

b. Bilateral conventions on transboundary air pollution

- Canada-U. S. Memorandum of Intent concerning Transboundary Air Pollution (1980)
- Mexico-U. S. Agreement to Cooperate in the Solution on Environmental Problems in the Border Area (1983) ⁽²²⁾
- Canada-U. S. Air Quality Agreement (1991)
- Czech-German Agreements (1992, 1994, 2000 and 2004)

c. Multilateral conventions on global atmospheric problems

- Vienna Convention for the Protection of the Ozone Layer (1985); Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
- UN Framework Convention on Climate Change (UNFCCC, 1992); The Kyoto Protocol to the UNFCCC (1997)

(21) See, Rodziana Mohamed Razali, "The Shortcomings of the ASEAN's Legal Mechanisms to Address Transboundary Haze Pollution and Proposal for Improvement", paper submitted to the 3rd Biannual Conference of the Asian Society of International Law, Beijing, 28 August 2011, available at: http://a10014931063.oinsite.cn/_d271634123.htm

(22) ILM, Vol. 22 (1983), pp. 1025ff.

To highlight some of the conventions above, the 1979 Geneva Convention on Long-Range Transboundary Air Pollution (LRTAP Convention) was formulated under the auspices of the United Nations Economic Commission for Europe (ECE) in the form of a framework agreement to meet the major concerns about acid rain and other dispersed pollutants in Europe. “Long-range transboundary air pollution” is defined as pollution having effects at such a distance that “it is not generally possible to distinguish the contributions of individual emission sources or groups of sources” (Article 1 (b)). While the Convention did not stipulate specific limits on emissions of industrial pollutants, it nevertheless established a regime for continued consideration of the issue. It is noted that, “[d]espite its evident weaknesses, the Geneva Convention’s real value is that it has provided a successful framework for cooperation and the development of further measures of pollution control.”⁽²³⁾ A series of eight separate protocols have been subsequently negotiated and agreed upon.

The Protocols to the 1979 LRTAP Convention reveal significant innovative developments in rule-making. The first Sulphur Protocol of 1985 required parties to reduce their sulphur emissions or transboundary fluxes by at least 30 per cent by 1993, applying a single flat rate to all parties. In contrast, the second Sulphur Protocol of 1994 applied the “critical loads” concept to set differentiated emissions targets for each party. Targets range from an 80 per cent reduction target for Germany to a 49 per cent increase for Greece for an overall collective emissions reduction of 50.8 per cent. While the first Sulphur Protocol’s emissions reduction target of 30 per cent was arrived at essentially arbitrarily, the second Sulphur Protocol’s differentiated targets were arrived at using the critical loads approach, the product of a high degree of scientific

(23) Patricia Birnie, Alan Boyle & Catherine Redgewell, eds., *International Law and the Environment*, 3rd ed., 2008, p. 345.

knowledge.⁽²⁴⁾ The resulting commitments are fairer to all parties, given that they are based on calculations of actual sources and effects. The NOx Protocol of 1988 requires parties to stabilize their NOx emissions or their transboundary fluxes at 1987 levels by 1994. The Protocol covers both major stationary sources, such as power plants, and mobile sources, such as vehicle emissions, and provides for the eventual negotiation of internationally accepted “critical loads” for NOx pollution to take effect after 1996. This approach is considered better suited to regional environmental protection than flat-rate emission reductions⁽²⁵⁾. Between 1991 and 1998, various protocols were adopted to regulate pollution from low-level ozone, volatile organic compounds, persistent organic pollutants, lead, cadmium and mercury. Finally, in 1998, the ECE adopted the Gothenburg Protocol to abate the adverse effects of acidification, eutrophication and ground-level ozone on human health, natural ecosystems and crops resulting from transboundary air pollution. The need for a precautionary approach is recognized, and emissions must not exceed critical loads stipulated in the annexes. It should be noted that, with regard to the scientific research and resulting policy on black carbon (BC), tropospheric ozone and methane (as a precursor of tropospheric ozone); in December 2010, the Parties of the LRTAP Convention made historic decisions in response to an important report, the 2010 Hemispheric Transport of Air Pollution,⁽²⁶⁾ to: (1) include BC -- as a component of particulate matter -- in the ongoing revision of the Gothenburg Protocol, and (2) include BC, ozone and methane in the medium and long-term work-plans of the Conventions as important air pollutants and short lived climate forcers (SLCFs).

(24) For this reason, it is noted that, though the Protocol’s preamble acknowledges scientific uncertainty and precautionary principle, it does not need to apply a precautionary principle. *Ibid.*, p. 346.

(25) *Ibid.*, p. 347.

(26) available at: http://www.htap.org/activities/2010_Final_Report.htm

With regard to the conventions and protocols for global protection of the atmosphere such as the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol and the UN Framework Convention on Climate Change and the Kyoto Protocol, their significance as well as their problems are well known, which should no doubt be considered carefully by the Commission in the course of the study under the present project.

(2) Jurisprudence of International Courts and Tribunals

There are several judicial decisions by international courts and tribunals which should be examined carefully in the course of our study on the subject. As mentioned above, *Trail Smelter* laid the ground for the law of transboundary air pollution. Following the *Trail Smelter* arbitration, the *Nuclear Tests* case (Australia v. France; New Zealand v. France, 1973) before the International Court of Justice (ICJ) sparked heated discussions relating to possible atmospheric pollution.⁽²⁷⁾ The ICJ also referred, in its advisory opinion on the *Legality of the Use of Nuclear Weapons* in 1996, to the obligation of States to refrain from causing significant environmental damage beyond their borders through transboundary pollution, including atmospheric pollution.⁽²⁸⁾ Though not directly related to pollution of the atmosphere, the *Gabčíkovo-Nagymaros Project* case (Slovakia v. Hungary, 1997) addressed the issue of environmental harm in a broader perspective⁽²⁹⁾. In the recent judgment of the *Pulp Mills on the River Uruguay* case (Argentina v. Uruguay) rendered in April 2010, the Court referred in part to the issue of alleged air pollution (to the extent relevant to the river's aquatic environment).⁽³⁰⁾ Furthermore, the *Aerial Herbicide*

(27) *Nuclear Tests* case (Australia v. France) (Interim Measure) 1973 ICJ Reports 99; (Jurisdiction) 1974 ICJ Reports 253; (New Zealand v. France) (Interim Measures) 1973 ICJ Reports 135; (Jurisdiction) 1974 ICJ Reports 457.

(28) 1996 ICJ Reports 241.

(29) 1997 ICJ Reports 7.

Spraying case (Ecuador v. Colombia) currently pending before the ICJ may also address the subject. The WTO case on the *United States—Standards for Reformulated and Conventional Gasoline* (1996) posed the important question of the compatibility of a country's domestic law (in this case, the U. S. Clean Air Act of 1990) with the trade provisions of the WTO/GATT.⁽³¹⁾

A brief preliminary account of each of these cases may be appropriate here to the extent that it is relevant to the topic of atmospheric protection. The *Trail Smelter* case was concerned with the cross-border damage in the State of Washington, USA, caused by smelting operations in Trail, British Columbia, Canada. At the smelting plant, zinc and lead-bearing ores were roasted to extract their metals. The ores also contained sulphur, which was discharged into the atmosphere as sulphur dioxide. Due to the physical and meteorological conditions prevalent in the area, the smelter's sulphur dioxide clouds moved southwards over the United States, causing extensive damage to crops, timber, pasture, livestock and buildings. The arbitral tribunal established pursuant to the UK-USA Convention for Settlement of Difficulties arising from Operation of Smelter at Trail, BC, of 1935, was required by Article IV of the Convention to apply "the law and practice followed in dealing with cognate questions in the United States of America as well as international law and practice, and [to] give consideration to the desire of the high contracting parties to reach a solution just to all parties concerned". A frequently quoted passage of the award reads as follows: "... under the principles of international law, as well as of the law of the United States, no state has the right to use or permit the use of territory in such a manner as to cause injury by fumes in or to the territory of another or the

(30) 2010 ICJ Reports 75, paras. 263-264.

(31) *United States—Standards for Reformulated and Conventional Gasoline*, Report of the Appellate Body, 29 April 1996, WT/052/8, pp. 16-17; Shinya Murase, "Unilateral Measures and the WTO Dispute Settlement", Simon S. C. Tay & Daniel C. Esty, eds., *Asian Dragons and Green Trade*, Times Academic Press, 1996, pp. 137-144.

properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence”⁽³²⁾. *Trail Smelter* involved a traditional type of disputes on transboundary air pollution dispute in the sense that the cause of the damage as well as its effect was sufficiently identifiable. This award is frequently cited in support of the view that under international law States have the duty to ensure that activities within their jurisdiction and control do not cause transboundary damage when the injury is foreseeable, supported “by clear and convincing evidence”⁽³³⁾. The standard of proof is to be established on the basis of empirical probability. It is important to note that the tribunal affirmed the “preventive principle” based on scientific evidence, and that it adopted a corresponding “regime” to maintain a certain level of emissions. The precedential value of the award, however, cannot be upheld completely unqualified:⁽³⁴⁾ while the tribunal relied on the principles of United States law in accordance with the *compromis*, the principles referred to in the award such as nuisance, trespass and strict liability, cannot always be easily equated with what are considered the established principles of international law⁽³⁵⁾. What is significant in this arbitration is that the tribunal achieved a proper balancing of interests between industry and agriculture,⁽³⁶⁾ and by analogy, between economic development and environment, which is in line with today’s concept of sustainable development.

(32) *Reports of International Arbitral Awards*, vol. 3, pp. 1907 ff (Award of 1941). p. 1965; A. K. Kurn, “The Trail Smelter Arbitration, United States and Canada,” *American Journal of International Law*, Vol. 32, 1938, pp. 785–788; Vol. 35, 1941, pp. 665–666; J. Read, “The Trail Smelter Dispute”, *Canadian Year Book of International Law*, Vol. 1, 1963, pp. 213–229.

(33) *Trail Smelter* case, *op. cit.*, *supra* note 32.

(34) Kevin J. Madders, “Trail Smelter Arbitration”, in: R. Bernhardt (ed.), *Encyclopedia of Public International Law*, Volume IV, (2000), pp. 900f, p. 903.

(35) A. P. Rubin, “Pollution by Analogy. The Trail Smelter Arbitration”, *Oregon Law Review*, Vol. 50 (1971), pp. 259–282.

(36) G. Handl, “Balancing of Interests and International Liability for the Pollution of International Watercourses”, *Canadian Year Book of International Law*, Vol. 13, 1975, pp. 156–194.

In the *Nuclear Tests* cases (Australia v. France; New Zealand v. France, 1973), Australia asked the Court in its application “to adjudge and declare that ... the carrying out of further atmospheric nuclear weapon tests in the South Pacific Ocean is not consistent with applicable rules of international law and to order that the French Republic shall not carry out further such tests”⁽³⁷⁾. While the Court indicated provisional measures on 22 June 1973, it rendered a judgment on 20 December 1974. It held that the objective pursued by the applicants, namely the cessation of the nuclear tests, had been achieved by French declarations not to continue atmospheric tests and that therefore the Court was not called upon to give a decision on the claims put forward by the applicants⁽³⁸⁾. It may be noted that Australia filed this case on the grounds of protecting not only its own legal interests but also the interests of *other* States since it considered French nuclear tests a violation of the freedom of the high seas. Its memorial stated, *inter alia*, that “[t]he sea is not static; its life systems are complex and closely interrelated. It is evident, therefore, that no one can say that pollution— especially pollution involving radioactivity— in one place cannot eventually have consequences in another. It would, indeed, be quite out of keeping with the function of the Court to protect by judicial means the

(37) Memorial by Australia, Pleadings, 1973 ICJ Reports, pp. 338–343, paras. 462–485.

(38) *Nuclear Tests* case (Australia v. France) (Interim Measures) 1973 ICJ Reports 99; (Jurisdiction) 1974 ICJ Reports 253; (New Zealand v. France) (Interim Measures) 1973 ICJ Reports 135; (Jurisdiction) 1974 ICJ Reports 457. See, H. Thierry, “Les arrêtés du 20 décembre 1974 et les relations de la France avec la Cour internationale de Justice”, *Annuaire français de droit international*, Tom. 20, 1974, pp. 286–298; T. M. Franck, “Word-made Law, The Decision of the ICJ in the Nuclear Tests Cases”, *American Journal of International Law*, Vol. 69, 1975, pp. 612–620; P. Lellouche, “The International Court of Justice, The Nuclear Tests Cases”, *Harvard International Law Journal*, Vol. 16, , 1975, pp. 614–637; E. McWhinney, “International law-Making and the Judicial Process, The World Court and the French Nuclear Tests Case”, *Syracuse Journal of International law and Commerce*, Vol. 3, 1975, pp. 9–46; S. Sur, “Les affaires des essais nucléaires”, *Revue general de droit international public*, Tom. 79, 1975, pp. 972–1027; R. S. J. MacDonald and B. Hough, “The Nuclear Tests Case Revisited”, *German Yearbook of International Law*, Vol. 20, 1977, pp. 337–357.

interests of the international community, if it were to disregard considerations of this character.”⁽³⁹⁾ On this point, the joint dissenting opinion of Judges Onyeama, Dillard, Jiménez de Aréchaga and Waldock, stated: “With regard to the right to be free from atmospheric tests, said to be possessed by Australia in common with other States, the question of “legal interest” again appears to us to be part of the general legal merits of the case. If the materials adduced by Australia were to convince the Court of the existence of a general rule of international law, prohibiting atmospheric nuclear tests, the Court would at the same time have to determine what is the precise character and content of that rule and, in particular, whether it confers a right on every State individually to prosecute a claim to secure respect for the rule. In short, the question of “legal interest” cannot be separated from the substantive legal issue of the existence and scope of the alleged rule of customary international law. Although we recognize that the existence of a so-called *actio popularis* in international law is a matter of controversy, the observations of this Court in the *Barcelona Traction, Light and Power Company, Limited* case (*Second Phase, I. C. J. Reports 1970, at p. 32*) suffice to show that the question is one that may be considered as capable of rational legal argument and a proper subject of litigation before this Court.”⁽⁴⁰⁾

In the ICJ’s advisory proceedings of the *Legality of the Use of Nuclear Weapons* (Request by the General Assembly 1996) case⁽⁴¹⁾, it was questioned whether the use of nuclear weapons would lead to any damage to the environment, presumably including the atmospheric environment. The Court recognized “that the environment is under daily threat and that the use of nuclear

(39) Memorial on Jurisdiction and Admissibility submitted by the Government of Australia, *ICJ Pleadings, Nuclear Tests Cases*, Vol. 1, pp. 337–338.

(40) 1974 ICJ Reports 312; paras. 116–117 (pp. 369–370).

(41) 1996 ICJ Reports 241.

weapons could constitute a catastrophe for the environment [and] ... that the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn." The Court pronounced that: "[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment" (para. 29). However, it qualified its position by saying: "The Court does not consider that the treaties in question could have intended to deprive a State of the exercise of its right of self-defense under international law because of its obligations to protect the environment. Nonetheless, States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives. Respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality" (para. 30). The Court noted, furthermore, that: "Articles 35, paragraph 3, and 55 of Additional Protocol I provide additional protection for the environment. Taken together, these provisions embody a general obligation to protect the natural environment against widespread, long-term and severe environmental damage; the prohibition of methods and means of warfare which are intended, or may be expected, to cause such damage; and the prohibition of attacks against the natural environment by way of reprisals. These are powerful constraints for all the States having subscribed to these provisions" (para. 31). Judge Weeramantry in his dissenting opinion elaborated at length on the effects of nuclear weapons, especially damage to the environment and the ecosystem, and to future generations ⁽⁴²⁾.

(42) *Ibid.*, pp. 429–555. See Edith Brown Weiss, "Opening the Door to the Environment and to Future Generations" L. Boisson de Chazournes and Philippe Sands, eds., *International Law, the*

The *Gabčíkovo-Nagymaros Project* case (Slovakia v. Hungary, 1997) was essentially concerned with the use of an international watercourse and not directly related to the atmosphere. The Court nonetheless touched on several issues relevant to the protection of the environment, the findings of which could also be applicable to the protection of the atmosphere. While Hungary essentially relied on a “state of ecological necessity” to justify the suspension or abandonment of certain works necessary for building the planned dams, Slovakia argued that the alleged state of necessity had not existed, and that, regardless, it did not constitute a reason for the suspension of the party’s treaty obligations. The Court supported this latter position. With regard to the measures taken by Slovakia to divert water, the Court concluded that they could not be considered a lawful countermeasure, and that Slovakia was not entitled to put the diversion installations into operation.⁽⁴³⁾ During the proceedings, Hungary presented several arguments in support of the lawfulness of its action, including impossibility of performance of the 1977 Treaty (due in part to ecological imperatives), a fundamental change of circumstances (due in part to the progress of environmental knowledge) and the development of new norms and prescriptions in international environmental law. As is generally noted, however, the Court, in rejecting the Hungarian contention, relied largely on the law of treaties embodied in the 1969 Vienna Convention and the law of State responsibility reflected in the 2001 ILC Draft Articles rather than the principles and rules of international environmental law⁽⁴⁴⁾. It may be noted that Judge

International Court of Justice and Nuclear Weapons, Cambridge University Press, 1999, pp. 338-353; Djamchid Momtaz, “The Use of Nuclear Weapons and the Protection of the Environment: The Contribution of the International Court of Justice”, *Ibid.*, pp. 354-374.

(43) 1997 ICJ Reports 52-53 (paras. 82-87).

(44) See “Symposium: The Case Concerning the Gabčíkovo-Nagymaros Project”, in *Yearbook of International Environmental Law*, Vol. 8, 1997, pp. 3-118; Malgosia Fitzmaurice, “The Gabčíkovo-Nagymaros Case: The Law of Treaties,” 11 *Leiden Journal of International Law*, 321-344 (1998); René Lefeber, “The *Gabčíkovo-Nagymaros Project* and the Law of State

Weeramantry discussed at length the concept of sustainable development in his separate opinion ⁽⁴⁵⁾.

In the *Pulp Mills on the River Uruguay* case (Argentina v. Uruguay, 2010), a case primarily concerned with the river water quality, the Court referred in part to the issue of alleged air pollution to the extent relevant to the river's aquatic environment ⁽⁴⁶⁾. Argentina contended that emissions from the plant's stacks have deposited substances with harmful effects into the aquatic environment. The Court found, however, that "the record does not show any clear evidence that substances with harmful effects have been introduced into the aquatic environment of the river through the emissions of the ... mill into the air." ⁽⁴⁷⁾ What is striking about this judgment is the Court's dismissal of virtually every argument made by Argentina concerning Uruguay's alleged breach of the latter's substantive obligations, on the ground of lack of evidence, with little elaboration of the substantive issues. This was met with criticism in a joint dissenting opinion, a separate opinion, and a declaration that the Court should have adopted inquisitorial methods (such as entrusting an enquiry to a commission), and not depended solely on evidence produced by the parties ⁽⁴⁸⁾. One of the distinctive features of environmental disputes, such as the case at hand is that they are often fact-intensive, and accordingly, the gathering and evaluation of scientific evidence is crucial. The *Pulp Mills* case thus posed the further question of what role the Court should play in the assessment of technical scientific evidence when settling environmental disputes.

Responsibility," *Ibid.*, 609–623.

(45) 1997 ICJ Reports 88.

(46) 2010 ICJ Reports 75, paras. 263–264. The issue was raised during the oral proceedings: See *Pulp Mills* case (Argentina v. Uruguay), Oral proceedings, 2006/47, paras. 22, 28 & 34.

(47) 2010 ICJ Reports, para. 264.

(48) See, Joint Dissenting Opinion of Judges Al-Khasawneh and Simma, *Ibid.*, pp. 1–6; Separate Opinion of Judge Cançado-Trindade, *Ibid.*, para. 151; Declaration of Judge Yusuf, *Ibid.*, paras. 1–14.

The *Aerial Herbicide Spraying* case (Ecuador v. Colombia) is pending before the ICJ. The case is squarely concerned with alleged transboundary air pollution. In March 2008, Ecuador instituted proceedings against Colombia with respect to the “aerial spraying [by Colombia] of toxic herbicides at locations near, at and across its border with Ecuador.”⁽⁴⁹⁾ In its Application, Ecuador stated that “the spraying has already caused serious damage to people, to crops, to animals, and to the natural environment on the Ecuadorian side of the frontier, and poses a grave risk of further damage over time,” and requested the Court “adjudge and declare that: (a) Colombia has violated its obligations under international law by causing or allowing the deposit on the territory of Ecuador of toxic herbicides that have caused damage to human health, property and the environment; and that (b) Colombia shall indemnify Ecuador for any loss or damage caused by its internationally unlawful acts, namely the use of herbicides, including by aerial dispersion.”⁽⁵⁰⁾ The decision of the Court is awaited with great interest.

It may be added that the government of Palau has initiated a proposal in the UN General Assembly in its 66th session in 2011 to seek an advisory opinion of the International Court of Justice on the question what the obligations and responsibilities are under international law of a State for ensuring that activities under its jurisdiction or control that emit greenhouse gases do not cause, or substantially contributed to, damage to another State or States. The present writer considers that this is a welcome initiative in view of the fact that the climate change issues have become excessively politicized with the result of apparent deadlock in the current negotiations of the Conference of the Parties. Legal opinions given by the Court will at least help clarify what the pertinent *legal* issues are which need to be clarified in the context of the law on climate

(49) Application by Ecuador, 31 March 2008, para 37, 38.

(50) Ibid.

change. The General Assembly's decision on the request for the ICJ's advisory opinion is yet to be reached at this writing.

Finally, the WTO Dispute Settlement case on the *United States—Standards for Reformulated and Conventional Gasoline* (1996)⁽⁵¹⁾ presented a number of important issues on the protection of the atmosphere. This was the first ruling in which the WTO dispute settlement procedures were employed⁽⁵²⁾. In this case, Venezuela and Brazil requested the Dispute Settlement Body examine the compatibility of the Clean Air Act of the United States and the “baseline establishment methods” of the “Gasoline Rule” promulgated by the US Environmental Protection Agency (EPA) with the relevant WTO provisions. The Clean Air Act and its regulations are intended to prevent and control air pollution in the United States by setting standards for gasoline quality and motor vehicle emissions. Under the 1990 amendment to the Act, new regulations were promulgated in order to improve air quality in the most polluted areas of the country by reducing vehicular emissions of toxic air pollutants and ozone-forming volatile organic compounds. These new regulations applied to US refiners, lenders and importers. The Panel concluded that the baseline establishment methods were not consistent with Article III. 4 of GATT and could not be justified under Article XX (b) (d) and (g). The Panel found that imported and domestic gasoline were “like products” and that imported gasoline was treated less favourably than domestic gasoline. The United States appealed to the Appellate Body, arguing that the Panel erred in ruling that the baseline did

(51) Decision of the panel: 35 ILM 274 (1966); Decision of the Appellate Body: 35 ILM 603 (1966).

(52) See generally, Shinya Murase, “Unilateral Measures and the WTO Dispute Settlement”, in S. C. Tay and D. C. Esty, eds., *Asian Dragons and Green Trade: Environment, Economics and International Law*, Times Academic Press, 1966, pp. 137–144, reproduced in Shinya Murase, *International Law: An Integrative Perspective on Transboundary Issues*, Sophia University Press, 2011, pp. 268–275.

not constitute a measure relating to the conservation of clean air within the meaning of Article XX (g) GATT. The Appellate Body found that the US Gasoline Rule was within the scope of the Article XX (g) GATT exemption, but that the US measure constituted an “arbitrary” or “unjustifiable” discrimination or a “disguised restriction” on international trade and thus, failed to meet the requirements of the chapeau of Article XX GATT. Thus, the Gasoline case demonstrated a conflict between a domestic law for protecting clean air and an international regime for free trade, on which the Appellate Body decided in favour of the latter.

(3) Customary International Law

In addition to multilateral and bilateral conventions as shown above, there is abundant State practice and literature on the subject. The frequently cited *Trail Smelter* arbitration⁽⁵³⁾ (United States v. Canada, 1938, 1941) continues to be the leading case on transboundary air pollution. The principle of *sic utere tuo ut alienum non laedas* (use your own property so as not to injure that of another) applied in the award is now generally recognized as part of customary international law. However, a careful study is required in each case to determine whether and to what extent a principle or rule is established as customary international law in light of *opinio juris sive necessitatis* and general State practice. There are cases where customary law is in the making, which may be termed as “emergent principles of customary international law” on the basis of which progressive development of international law is to be achieved. Clearly, mere *opinio* not supported by custom (usage) nor mere custom not supported by *opinio* does not qualify as customary law. It is well anticipated that a great part of the Commission’s work on the present project should be devoted

(53) *Trail Smelter* case (USA v. UK) (Final Award of 1941). *Reports of International Arbitral Awards*, vol. 3, pp. 1907 ff.

to the determination of the customary law status of given principles and rules relating to the protection of the atmosphere.

a. Non-binding instruments

Non-binding (soft-law) instruments are important source for determining *opinio juris*. They include:

- Council of Europe Committee of Ministers Resolution on Air Pollution in Frontier Areas (1971)
- Stockholm Declaration on Human Environment (1972)
- OECD Council Recommendation on Principles concerning Transfrontier Pollution (1974)
- OECD Council Recommendation for the Implementation of a Regime of Equal Right of Access and Non-Discrimination in Relation to Transfrontier Pollution (1974)
- Institut de droit international, Resolution on Transboundary Air Pollution (1987) ⁽⁵⁴⁾
- Rio Declaration on Environment and Development (1992)
- Guidelines for Acid Deposition Monitoring Network in East Asia (EANET, 2000) ⁽⁵⁵⁾
- ILC Draft Articles on the Prevention of Transboundary Harm (2001)
- ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development (Resolution No. 6/2002)

(54) Article 2 provides: "In the exercise of their sovereign right to exploit their resources pursuant to their own environment policies, states shall be under a duty to take all appropriate and effective measures to ensure that their activities or those conducted within their jurisdiction or under their control cause no transboundary air pollution".

(55) Adopted in Jakarta in March 2000. Ten countries, namely, China, Indonesia, Japan, Malaysia, Mongolia, the Philippines, Republic of Korea, Russia, Thailand and Vietnam then participated in the EANET. Cambodia, Laos and Myanmar joined later, making the number of participants 13.

- ILC Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities (2006)
- ILA Resolution on Transnational Enforcement of Environmental Law (Resolution No. 6/2006)

Though not binding in form, these non-binding instruments are very important as they reflect material sources of international law, and a brief account on some of these documents may be in order. The Stockholm Declaration on the Human Environment (1972) laid the ground for international environmental law in the twentieth century. It contains a set of “common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment,”⁽⁵⁶⁾ although it does not specifically refer to the protection of the atmosphere.⁽⁵⁷⁾ The most important provision of the Declaration is Principle 21 which asserts: “States have ... the responsibility to ensure that activities within their jurisdiction and control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.” While the word “responsibility (to ensure)” is somewhat ambiguous (the word “devoir” is used in the French text), this principle, having been incorporated in several conventions, is now widely considered to have acquired the status of customary international law.

The Institute of International Law (L’Institut de Droit International) adopted a resolution on «Air Pollution Across National Frontiers» at its Cairo session in 1987. Conducted against the backdrop of the disasters at Bhopal (1984) and Chernobyl (1986) and the conclusion of the Vienna Convention for

(56) L. Sohn, “The Stockholm Declaration on the Human Environment”, 14 *Harvard International Law Journal* 423 (1972).

(57) Principle 6 provided that “The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. ...”.

the Protection of the Ozone Layer (1985), its drafters were conscious not only of transboundary air pollution problems but also of global atmospheric problems.⁽⁵⁸⁾ The draft articles are composed of the preamble and 13 articles;⁽⁵⁹⁾ Definition of pollution (Art. 1),⁽⁶⁰⁾ Sovereign right of States to exploit their own resources (Art. 2),⁽⁶¹⁾ Duty to prevent and abate pollution (Art. 3), National and international means for the fulfilment of obligations (Art. 4), International liability (Art. 5), Ultra-hazardous activities (Art. 6), Prevention and compensation (Art. 7), Cooperation between States (Art. 8), Emergency situations (Art. 9), Nuclear pollution (Art. 10), Depletion of the ozone layer (Art. 11), Developing countries (Art. 12), and Pollution and human rights (Art. 13). From today's perspective, some of the provisions of the Resolution are outdated (for instance, no reference yet to climate change) and require re-drafting; nevertheless they provide important guidelines for future exercises in lawmaking on the subject.

b. Domestic legislations and jurisprudence of domestic courts

Domestic legislation is important in so far as it addresses issues of transboundary and global protection of the atmosphere. Inspiration may also be derived from domestic laws of purely domestic concern, which can be applied by analogy to the relevant international legal issues. Decisions of domestic

(58) Gerald E. do Nascimento e Silva, Provisional Report, "Air Pollution Across National Frontiers, *Yearbook of the Institute of International Law*, Vol. 62, Part I, Session of Cairo, pp. 159-187.

(59) *Ibid.*, pp. 188-269.

(60) "For the purposes of this Resolution, 'pollution' means any physical, chemical or biological alteration in the composition or quality of the atmosphere which results directly or indirectly from human action and produces injurious or deleterious effects across national frontiers".

(61) The core provision of the Resolution is Article 2 which provides: "... States shall be under a duty to ensure that their activities or those conducted within their jurisdiction or control cause no pollution in the atmosphere beyond their boundaries, or in the environment of other States or of areas beyond the limits of national jurisdiction."

courts are also instructive to the extent that they are relevant to the protection of the atmosphere. For example, *Massachusetts v. EPA*, (2 April 2007) which dealt with the issue of whether the EPA could decline to regulate carbon dioxide and other greenhouse gases.⁽⁶²⁾ Again, as with domestic legislation, inspiration may be derived from domestic court decisions that can be applicable to the international law context. Japan has had a number of court cases relating to air pollution⁽⁶³⁾ from which important lessons can be drawn on the protection of the atmosphere on an international law level. It is hoped that the Commission be supplied with the relevant information on domestic legislation as well as the judicial decisions of domestic courts from Member States.

c. Other relevant incidents

Incidents falling outside the named categories should also be collected and studied carefully as far as they are considered relevant to State practice. For instance, atmospheric nuclear testing in the 1950s manifested itself as one of the first environmental issues to be confronted by the international community.⁽⁶⁴⁾ Accidents at nuclear facilities can have direct impacts on the atmosphere, as has been demonstrated by the accidents at Three Mile Island in 1979 and Chernobyl in 1986, as well as the damage to the Fukushima nuclear power plants caused by the devastating earthquake and tsunami of 11 March 2011, currently a major

(62) See, e. g., *Massachusetts v. EPA*, U. S. Supreme Court decision of 2 April 2007 (549 U. S. 497; 127 S. Ct. 1438; 2007 U. S. LEXIS 3785) which was in part concerned with certain obligations of the Environmental Protection Agency (EPA) to regulate emissions of greenhouse gases.

(63) See, Eri Osaka, "Reevaluation of the Role of the Tort Liability System in Japan", 26 *Arizona Journal of International and Comparative Law* 392, pp. 413-423.

(64) See, for example, the *Daigo Fukuryūmaru* (Lucky Dragon No. 5) incident (Japan—United States) in 1954; Shigeru Oda, "The Hydrogen Bomb Tests and International Law", *Die Friedenswarte*, vol. 53, 1956; L. F. E. Goldie, "A General View of International Environmental Law", in A. C. Kiss, ed., *The Protection of the Environment and International Law*, Workshop 1973, The Hague Academy of International Law, 1975, pp. 72-73.

concern not only of Japan but also for the international community as a whole.

Having seen the material on which to work on codification and progressive development on the subject, it is now necessary to understand what the atmosphere is.

5. Characteristics of the Atmosphere and Its Definition

(1) Physical Characteristics of the Atmosphere

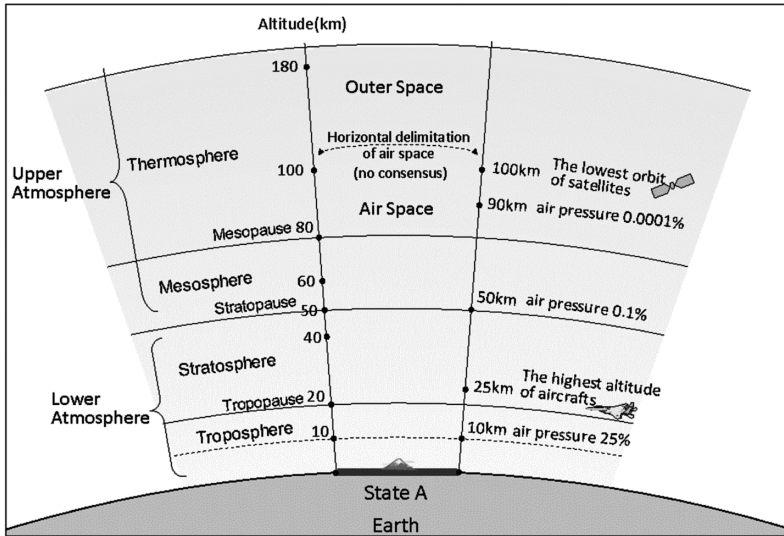
The “Atmosphere” is “the envelope of gases surrounding the earth”.⁽⁶⁵⁾ The average composition of the atmosphere, up to 25 kilometers is as follows: Nitrogen (78.08%), Oxygen (20.95%), Argon (0.93%), Carbon Dioxide (0.03%), trace gases (0.01%)⁽⁶⁶⁾ and water vapour in highly variable amounts. The atmosphere exists in what is called the atmospheric cell. It is divided vertically into four atmospheric spheres (from the lower to upper layers: troposphere, stratosphere, mesosphere and thermosphere) on the basis of temperature characteristics (see, the Diagram (1)⁽⁶⁷⁾).

As the altitude increases, the gases in the atmosphere gradually dilute. Approximately 80% of air mass exists in the troposphere and 20% in the stratosphere. The thin, white, hazy belt covering the globe that one sees when looking at the earth from a distance is the atmosphere. In the troposphere and the stratosphere, the relative proportions of most gases are fairly stable.

(65) *The Concise Oxford English Dictionary*, 12th ed., s. v. “atmosphere”.

(66) The concentrations of carbon dioxide, water vapour and trace gases such as methane, nitrous oxide and ozone are variable. The percentages do not add up to 100% due to round off and uncertainty. See “Earth Fact Sheet”, online: National Space Science Data Center, NASA: <http://nssdc.gsfc.nasa.gov/planetary/factsheet/earthfact.html>.

(67) The Diagrams 1 and 2 are intended only for illustrative purposes. The writer acknowledges with gratitude that they were drawn by Mr. Jun Okamoto, Captain of the Air Self-Defense Force of Japan and former student at Sophia University Graduate School of Law.



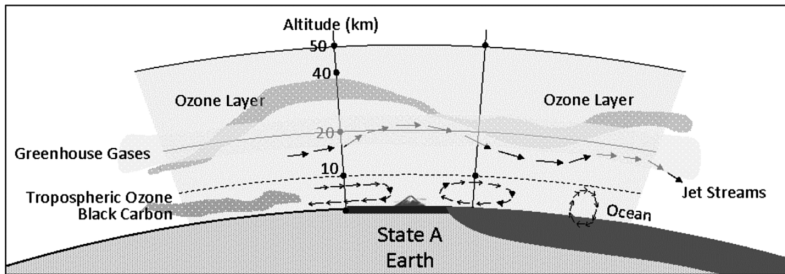
(Diagram 1: Spheres above the earth)

Scientifically these spheres are grouped together as the “*lower atmosphere*”, which extends to an average altitude of 50km, and distinguished from the “*upper atmosphere*”. The atmosphere moves and circulates around the earth in a complicated manner, called “*atmospheric circulation.*”⁽⁶⁸⁾ The gravitational influence of the sun and moon also affect its movements by creating “*atmospheric tides.*”⁽⁶⁹⁾ The Diagram 2 shows where the atmospheric problems such as transboundary air pollution, depletion of ozone layer and climate change occur.

Both human and natural environments can be adversely affected by certain changes in the condition of the atmosphere. There are three particularly

(68) Gareth Jones, Alan Robertson, Jean Forbes and Graham Hollier, *Collins Reference Dictionary of Environmental Science*, Collins, 1990, p. 40.

(69) Michael Allaby, *Dictionary of the Environment*, third edition, New York University Press, 1989, p. 34.



(Diagram 2: Atmospheric circulation)

important causes for the degradation of the atmosphere.⁽⁷⁰⁾ First, the introduction of harmful substances (i. e. air pollution) into the troposphere and lower stratosphere causes changes in atmospheric conditions. The major contributing causes of air pollution are acids, nitrous oxides (NO_x), sulfur oxides (SO_x) and hydrocarbon emissions such as carbon dioxide (CO₂). Strong horizontal winds, e. g. jet streams,⁽⁷¹⁾ can quickly transport and spread these trace gases horizontally all over the globe, far from their original sources (though vertical transport is very slow). Second, chlorofluorocarbons (CFCs) and halons emitted into the upper troposphere and stratosphere cause ozone depletion. The ozone layer, as its name implies, contains significant amounts of ozone (O₃), a form of oxygen. Ozone has the same chemical structure whether it occurs miles above the earth or at ground-level. It can be “good” or “bad,” depending on its location in the atmosphere. The main concentrations of ozone (“good” ozone) are at altitudes of 15–40 km (maximum concentrations occur between 20–25km). The ozone layer filters out ultraviolet radiation from the sun, which may cause skin cancer and other injury to life. Third, changes in the

(70) See, Hans-Jurgen Schlochauer, “Atmosphere, Protection”, in Rudolf Bernhardt, ed., *Encyclopedia of Public International Law*, vol. 1, 1997, p. 290.

(71) Jet streams are westerly winds (i. e. flowing from west to east) moving around the upper stratum of the troposphere. They move at a high speed of 240 to 720 kilometers per hour.

composition of the troposphere and lower stratosphere cause climate change. The main cause of human-induced climate change is the emission of gases (which already exist in trace amounts in the atmosphere), such as carbon dioxide (CO₂), nitrous oxide (NO_x), methane (CH₄), chlorofluorocarbons, and tropospheric ozone (“bad” ozone). These are called “greenhouse gases”.⁽⁷²⁾ Conditions within the troposphere heavily affect the weather on the earth’s surface, including cloud formation, haziness, and precipitation. Most gases and aerosols are expunged through a natural “cleansing process” in the troposphere, but when emissions overwhelm this process, climate change begins to occur.

These three core international issues concerning the atmosphere— air pollution, ozone depletion and climate change— relate to *the troposphere and the stratosphere*,⁽⁷³⁾ although the major contributing factors may differ in each case. The upper atmosphere, (i. e. the mesosphere and thermosphere), which comprises approximately 0.0002% of the atmosphere’s total mass, and outer space are of little concern in view of the environmental problems under consideration.

(2) Definition of the Atmosphere

Having briefly examined the unique physical character of the atmosphere, it is now necessary to formulate an appropriate legal definition that reasonably corresponds to the scientific definition. Most international treaties and documents do not define the “atmosphere”, even though it is the *object of protection* for the purpose of application of those treaties. Alternatively, such instruments tend to define the *causes* and *effects* of damage to the object that the

(72) In recent years, however, scientists are finding that black carbon and troposphere ozone are also responsible for climate change. See 6. (2) and footnote 85.

(73) Alexandre Kiss and Dinah Shelton, *International Environmental Law*, 3rd ed., pp. 556–562 (Chapter 12, “Atmosphere, Stratosphere and Climate”).

environmental treaties and documents purport to protect⁽⁷⁴⁾. It may nonetheless be noted that the *Fourth Assessment Report* of the Intergovernmental Panel on Climate Change (IPCC) of 2007 defines the “atmosphere” as follows:

“The gaseous envelope surrounding the Earth. The dry atmosphere consists almost entirely of nitrogen (78.1% volume mixing ratio) and oxygen (20.9% volume mixing ratio), together with a number of trace gases, such as argon (0.93% volume mixing ratio), helium and radiatively active *greenhouse gases* such as *carbon dioxide* (0.035%⁽⁷⁵⁾ volume mixing ratio) and *ozone*. In addition, the atmosphere contains the greenhouse gas water vapour, whose amounts are highly variable but typically around 1% volume mixing ratio. The atmosphere also contains clouds and *aerosols*”. [italics original].⁽⁷⁶⁾

(74) For instance, in the ECE Convention on Long-Range Transboundary Air Pollution (1979), “air” itself is not defined, and only the definition of “air pollution” is given (Article 1 (a) on the “Air Pollution” which means “the introduction by man, directly or indirectly, of substances or energy into the air resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems and material property and impair or interfere with amenities and other legitimate uses of the environment”, and (b) “Long-range transboundary air pollution” which means “air pollution whose physical origin is situated wholly or in part within the area under the national jurisdiction of one State and which has adverse effects in the area under the jurisdiction of another State at such a distance that it is not generally possible to distinguish the contribution of individual emission sources or groups of sources”). Some of the protocols to the convention, while referring to the “atmosphere” in the preambles, and the object and purpose clauses, no definition is given to its term, The definition of “emission” is given as meaning “the release of a substance from a point or diffuse source into the atmosphere”. The United Nations Framework Convention on Climate Change (UNFCCC, 1992) defines “climate change” (in Article 1, paragraph 2) as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere...”. The same article also defines “greenhouse gases” (paragraph 5) as “those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation”. These definitions refer to the *effects* and *causes* of damage to the object that the Convention aims to protect.

(75) ECE Convention on Long-Range Transboundary Air Pollution, Article 1 (a) refers to “substances or energy” in its definition of the air pollution.

(76) Intergovernmental Panel on Climate Change, *Fourth Assessment Report*, 2007, at Glossary, p.

Once it undertakes the task of codifying atmospheric law, the Commission will need to define the atmosphere. In so doing, it may need to address *both* the substantive aspect of the atmosphere constituting as the layer of gases and the functional aspect of the atmosphere as a medium within which the transport and dispersion of airborne pollutants occurs.

6. Work Plan for the Topic on the Protection of the Atmosphere

(1) Scope of the Draft Articles

a. Anthropogenic environmental degradation

In clarifying the scope of this project, it is necessary to address the main elements to be encompassed by the draft articles on the protection of the atmosphere, leaving no ambiguity as to its coverage. It may be useful to refer to the previous work of the Commission⁽⁷⁷⁾. Generally, the articles of multilateral environmental agreements (MEAs) relating to scope refer either to the “effects” of pollution (“significant adverse effects”) or to its “causes” (“human activities”). However, these two components are complementary to each other, with the “causes” of human activities resulting in certain effects⁽⁷⁸⁾, and *vice*

941, available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-annexes.pdf>.

(77) Draft Articles on the Law of Transboundary Aquifers (2008):

Article 1 (Scope): The present articles apply to:

(a) *Utilization* of transboundary aquifers or aquifer systems;

(b) *Other activities that* have or are likely to *have an impact* upon such aquifers or aquifer systems; and

(c) *Measures* for the protection, preservation and management of such aquifers or aquifer systems.

(78) For example, Article 1 of the ECE Convention on Long-Range Transboundary Air Pollution (1979) provides that “For the purpose of the present Convention: (a) “Air Pollution” means the introduction by man, directly or indirectly, of substances or energy into the air resulting in

versa ⁽⁷⁹⁾.

The draft articles should address only damage caused by human activities. Accordingly, their scope would not extend to, for instance, damage caused by volcanic eruption or desert sands (unless they are exacerbated by human activity). The term “human activities” includes not only the activities conducted by States but also those conducted by natural and juridical persons.

Obviously, most of the activities under consideration are those conducted without clear or concrete intention to affect the conditions of the atmosphere. There are, however, certain activities whose purpose is to alter the very conditions of the atmosphere, i. e., weather control (weather modification). While weather modification in warfare has been prohibited under the Environmental Modification Convention (Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques) of 1977, weather control has been experimented with and practiced widely in recent years to produce desirable changes in weather. The goals of weather control range from preventing the occurrence of damaging meteorological events, such as hurricanes or tornadoes, to causing beneficial weather, such as artificial rainfall in an area experiencing drought; or, conversely, stopping the rain in a designated area where an important event is scheduled to take place.

deleterious effects...”

Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities (2006):

Article 1 (Scope of application): The present draft principles apply to transboundary *damage caused by hazardous activities* not prohibited by international law.

Draft Articles on Prevention of Transboundary Harm from Hazardous Activities (2001):

Article 1 (Scope): The present articles apply to *activities* not prohibited by international law *which involve a risk of causing significant transboundary harm* through their physical consequences. (author’s emphases).

(79) For example, Article 1, Paragraph 2 of UNFCCC (1992) provides that “For the purpose of this convention: “Climate change” means a change of climate which is attributed directly or indirectly to human activities...”

Cloud seeding is a common technique to enhance precipitation; it entails spraying small particles such as dry ice and silver iodide into the sky in order to trigger cloud formation for eventual rainfall. Evidence of its safety is strong, but doubts remain as to its efficacy. However, if large-scale weather control were to become feasible in the future, there may be negative consequences. Potential negative implications may include unintended side effects, damage to existing ecosystems and health risks to humans. These effects if transboundary in nature could attract international liability for their injurious consequences⁽⁸⁰⁾.

b. Protection of natural and human environment

The draft articles should make clear the objects to be protected: natural and human environments. For the purpose of the present draft articles, the former is addressed as “the composition and quality of the atmosphere” and the latter as “human health or materials useful to mankind”. Since the present draft articles aim at protecting the atmosphere, the primary concern is obviously the natural environment. However, given the intrinsic relationship between the natural environment and the human environment (which include not only human health in a narrow sense but also vegetation and crops, materials, and historic heritage), the draft articles should include both. It should also be added that any adverse effects on the environment should be “significant”, warranting international regulation on the subject.

(80) Peter H. Sand, “Internationaler Umweltschutz und neue Rechtsfragen der Atmosphärennutzung”, *Zeitschrift für Luft- und Weltraumrecht* (German Air- and Space Law Journal, vol. 20, no. 2 (1971), pp. 109–133. See also, Ditto, “Atmospheric Water Resources for Agriculture: Law and Policy of Weather Control Operations”, FAO Contribution to the UN Panel of Experts on Water Resources Development Policies, Buenos Aires, 8–13 June 1970, mimeo on file with the present writer.

c. Different types of causes

While the present draft articles address transboundary air pollution, ozone depletion, and climate change, the causes of such environmental degradation in the atmosphere are diverse. Such causes generally fall into two categories, the first being “the introduction of (deleterious) substances into the atmosphere”⁽⁸¹⁾. The major pollutants are acids, nitrous oxide (NO_x), sulfur oxides (SO_x) and hydrocarbon emissions such as carbon dioxide (CO₂). Ozone depletion also occurs as a result of the introduction of (deleterious) substances⁽⁸²⁾, such as chlorofluorocarbons and halons, into the atmosphere. In contrast, the main cause of climate change is the emission of “greenhouse gases”, such as carbon dioxide (CO₂), nitrous oxide (NO_x), methane (CH₄), chlorofluorocarbons and tropospheric ozone (O₃). These gases are not always inherently deleterious to human health; rather, they have an indirect effect. They tend to cause climate change by altering the balance of composition of the atmosphere⁽⁸³⁾. Thus, the subject matter of the present draft articles, from a causal viewpoint, is defined as “the introduction of deleterious substances into

(81) For example, Article 1 of the ECE Convention on Long-Range Transboundary Air Pollution (1979) provides that “(a) ‘Air Pollution’ means *the introduction* by man, directly or indirectly, *of substances or energy into the air* resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems and material property and impair or interfere with amenities and other legitimate uses of the environment...” and Article 1 of the Agreement between the Government of the United States of America and the Government of Canada on Air Quality (1991) provides that “‘Air pollution’ means *the introduction* by man, directly or indirectly, *of substances into the air* resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems and material property and impair or interfere with amenities and other legitimate uses of the environment...”. (author’s emphases).

(82) The Vienna Convention for the Protection of the Ozone Layer (1985) only covers the “emissions of substances” for the prevention of the depletion of the ozone layer.

(83) For example, Article 1 of UNFCCC provides that “‘Climate change’ means a change of climate which is attributed directly or indirectly to human activities that *alters the composition of the global atmosphere* and which is in addition to natural climate variability observed over comparable time periods.” (author’s emphases).

the atmosphere or the alteration of the composition of the atmosphere”⁽⁸⁴⁾.

(2) Objective of the Draft Article

The atmosphere consists of a fluctuating and dynamic gaseous mass, most of which exists in the troposphere and stratosphere, with complicated movements around the earth. Because of its unique character, the atmosphere needs to be treated as *a single unit* for the purpose of environmental protection; this unitary nature should be clearly emphasized in the objectives article of the Draft Articles.

What is crucial is to recognize the *unity* as well as the *totality* of the atmosphere. Altogether, this proposed project fits in well with the Commission's mission for the codification and progressive development of international law: the multitude of relevant conventions notwithstanding, they have remained a mere patchwork of instruments, leaving substantial gaps and loopholes in terms of geographical coverage, regulated activities and regulated substances, and, most importantly, the applicable principles and rules for the protection of the atmosphere. As far as the atmosphere is concerned, there does not seem to be much sense in differentiating between “transboundary” and “global” damage caused by human activities. To illustrate, it may suffice to point out that the fumes emitted from a smelter may simultaneously cause injury to a neighboring country or countries and may contribute to global warming, yet these two types of damage would each require a separate legal response. Instead of applying separate legal responses to the root cause of a simultaneous transboundary air

(84) In this regard, reference to Article 1 of the Cairo Resolution on Air Pollution Across National Frontiers (Institut de droit international, 1987) should be made. Its paragraph 1 provides that “For the purpose of this Resolution, “Pollution” means any physical, chemical or biological *alteration in the composition or quality of the atmosphere* which results directly or indirectly from human action or omission and produces injurious or deleterious effects across national frontiers”. (author's emphasis)

pollution and global atmospheric problem, both types of damage should be treated within the same legal framework based on the functional notion of the atmosphere. In other words, the atmosphere should be treated comprehensively for the purposes of environmental protection. This should be the focus of codification and progressive development of international law on the subject.

To give other examples of *gaps* in the existing treaty regime, there is currently no treaty regime addressing the link between transboundary air pollution and climate change despite growing scientific evidence in recent years that so-called “tropospheric ozone” and “black carbon” in the atmosphere directly threaten *both* air quality and climate change. It is said that, for climate change, the so-called greenhouse gases identified in the UNFCCC are responsible for only 60 %, while these substances are responsible for some 40%. This clearly demonstrates the need for a comprehensive multilateral convention on the atmosphere⁽⁸⁵⁾. It may also be noted that, for instance, Europe now struggles to meet standards for air quality as a result of the pollutants carried from other regions of the world. This is also indicative of the fact that even regional air pollution problems cannot be solved without considering their causes and effects in a global framework.

It may be argued, however, that the exercise of filling gaps in the existing treaty regime would be better served by regional approaches rather than global, multilateral treaty-making, or supplementary conventions and protocols to existing treaties. In the opinion of the present writer, the choice should not be

(85) See, the UNEP study, “Measures to Limit Near-Term Climate Change and Improve Air Quality: An Integrated Assessment of Black Carbon and Tropospheric Ozone”, 2011, and also 2010 Hemispheric Transport of Air Pollution (available at: http://www.htap.org/activities/2010_Final_Report.htm). In December 2010–based on the results of this report–Parties of the LRTAP Convention made historic decisions to: - include black carbons (BC) - as a component of particulate matter–in the ongoing revision of the Gothenburg Protocol–include BC, ozone and methane in the medium and long-term work plans of the Conventions as important air pollutants and short lived climate forcers (SLCFs).

either regional and supplementary conventions or a multilateral framework convention. He considers *both* approaches are necessary and mutually supportive rather than exclusive of each other. On a regional level, incremental efforts have been made to conclude with respect to the intercontinental transport of ozone (O₃), particulate matter (PM), mercury (Hg) and persistent organic pollutants (POPs), etc. These efforts should further be continued. At the same time, however, it is desirable to make efforts to formulate a comprehensive multilateral convention as an umbrella for these regional instruments.

(3) Legal Status of the Atmosphere

There are five concepts that may be considered applicable to the legal status of the atmosphere: airspace, shared or common natural resources, common property, common heritage, and common concern (common interest)⁽⁸⁶⁾. Each of these concepts is briefly considered here as to whether and to what extent they are applicable to the protection of the atmosphere.

a. Differentiation between airspace and the atmosphere

The notion of “airspace” differs significantly from that of the “atmosphere”. They cannot be used interchangeably. Airspace is a concept used to signify the spatial dimension where States exercise their jurisdiction or control for aviation and defense⁽⁸⁷⁾. Thus, Article 1 of the Chicago Convention on International Civil Aviation (1944) provides that “... every State has

(86) Alan E. Boyle, “International Law and the Protection of the Global Atmosphere: Concepts, Categories and Principles”, Robin Churchill & David Freestone, eds., *International Law and Global Climate Change*, 1991, pp. 7-19; See also Jutta Brunée, “Common Areas, Common Heritage, and Common Concern”, in Daniel Bodansky, Jutta Brunée & Ellen Hey, eds., *Oxford Handbook of International Environmental Law*, 2007, pp. 550-573.

(87) Bin Cheng, “Air Law”, in Bernhardt, ed., *op. cit.*, *supra* note 25, vol. 1, pp. 66-72. See also Stephan Hobe, “Airspace” and Lisa Tomas, “Air Law” in *Max Planck Encyclopedia of Public International Law*, 2011, <http://www.mpepil.com/>.

complete and exclusive sovereignty over the *airspace* [*espace atmosphérique*] above its territory” [emphasis added]. Article 2 of the same Convention defines the territory of a State to include the land area and territorial waters adjacent thereto, while the airspace beyond the boundaries of the territorial sea is regarded as being outside the sovereignty of any State and is open for use by all States like the high seas (see also the reference to airspace in UNCLOS Article 2)⁽⁸⁸⁾.

Airspace refers to a domain⁽⁸⁹⁾, which is an area-based concept; the atmosphere, in contrast, is a natural resource that flows through national boundaries, and which warrants environmental protection. As regards the legal status of the atmosphere, a functional, non-territorial, approach is more appropriate because it is a dynamic and fluctuating substance. Obviously, (vertical) delimitation is possible in the case of airspace by drawing lines

(88) UNCLOS, Article 2 (Legal status of the territorial sea, of the air space over the territorial sea and of its bed and subsoil):

1. The sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea.

2. This sovereignty extends to the air space over the territorial sea as well as to its bed and subsoil.

3. The sovereignty over the territorial sea is exercised subject to this Convention and to other rules of international law.

(89) The strict (horizontal) delimitation between the airspace and the outer space seems currently to be difficult, if not impossible (whereas the differentiation between the atmosphere and the outer space is quite clear, by the simple fact that there is no air in outer space). There is no agreement as to where the airspace ends and the outer space begins. Traditionally, two schools of thought existed. First is the theory of the highest altitude of aircrafts and the second is the theory of the lowest orbit of satellites. See, Nicolas Mateesco Matte, “Space Law”, in Bernhardt, ed., *op. cit.*, *supra* note 5, Vol. 4, p. 555. Bin Cheng, for example, asserted that the airspace reaches as far as the atmosphere can be found, by interpreting French text “*espace atmosphérique*” in Article 1 of the Chicago Convention. In this theory, the delimitation between the airspace and the outer space coincides with the differentiation between the atmosphere and the outer space. E. R. C. van Bogaert, *Aspects of Space Law*, Kluwer Law and Taxation Publishers, 1986, p. 12. See also, Bin Cheng, *The Law of International Air Transport*, 1962, pp. 120–121.

vertically along territorial borders, but such artificial lines are not useful in the case of atmosphere (air), which moves beyond borders in line with “atmospheric circulations” and “jet streams”. Thus, the atmosphere is a fluid, single, and non-partitionable unit. Airspace, in contrast, is a static—and separable—spatial domain.

While this set of draft articles will take in part the model of the UNCLOS Part XII on the Preservation and Protection of the Marine Environment, the area-based approach adopted by the UNCLOS cannot be followed for the protection of the atmosphere. The environmental regulations of UNCLOS are predominantly based on spatial (territorial) criteria (territorial sea, contiguous zones, EEZ, high seas, etc.) for allocation of proper jurisdiction to control marine pollution, e. g. flag-State jurisdiction, coastal State-jurisdiction and port State-jurisdiction, etc.⁽⁹⁰⁾.

States may nonetheless feel it necessary to refer to the notion of airspace in the project, since Article 1 of the 1944 Chicago Convention on International Civil Aviation reaffirms the rule that “every State has complete and exclusive sovereignty over the airspace above its territory.” Although the legal principles, rules and regulations envisaged in the proposed draft articles are perhaps most applicable to certain activities conducted *on the ground* within a State’s territorial jurisdiction, there may be situations where the activities in question

(90) Myron H. Nordquist, Shabtai Rosenne & Alexander Yankov, eds., *United Nations Convention on Law of the Sea 1982: A Commentary*, Vol. IV, Nijhoff, 1991, pp. 3-22.

It may be noted, however, that the relevant Part contains a provision based on the functional notion of the sea as a common good: Article 216 (Enforcement with respect to pollution by dumping) provides for the so-called “loading State jurisdiction” in paragraph 1 that “... reduction and control of pollution of the marine environment by dumping shall be enforced: (c) by any State with regard to acts of loading of wastes or other matter occurring within its territory or at its offshore terminals”. It appears that the loading State jurisdiction has the same theoretical foundation as that of the State jurisdiction recognized for the protection of the atmosphere under the present draft articles.

may be conducted in the airspace⁽⁹¹⁾. It is therefore proposed to include a saving clause to the effect that nothing in the draft articles shall affect the legal status of airspace provided in other conventions.

b. Natural resources, shared or common

The atmosphere (air-mass) is the planet's largest single natural resource, and it is indispensable for sustaining life on earth, health, crops and integrity of ecosystems. The atmosphere is a limited resource with limited assimilation capacity. The atmosphere was long considered to be unlimited, non-exclusive, and neutral (simply not worth fighting over), since it was assumed that everyone could benefit from it without depriving others⁽⁹²⁾. That assumption is no longer valid. Though the atmosphere is not exploitable in the ordinary sense of the

(91) The 16th Annex of the 1944 Chicago Convention on International Civil Aviation is entitled "Environmental Protection". The ICAO has established rules on the "Aircraft Engine Emissions Standards and Recommended Practices" since 1980, with a view to achieving "maximum compatibility between the safe and orderly development of civil aviation and the quality of human environment" (ICAO Assembly Resolution A18-11, para. 2). These Emission Standards establish rules, *inter alia*, for vented fuel (Part II) and emission centrifugation (Part III), including emissions limits for smoke and certain chemical particles.

(92) This appears quite similar to the classical controversy of the 16-17th centuries between Hugo Grotius' *Mare Liberum* and John Selden's *Mare Clausum* over whether the ocean resources were to be regarded as unlimited or limited. Grotius advocated the freedom of the ocean by asserting that, in light of its nature, the ocean could not be the object of occupation or possession. Therefore, according to the author, a State was not able to assert an exclusive right for fishing, which, he thought, had to presuppose the *dominium* over the ocean. Moreover, in Grotius' view, there was no need to modify this historical construction, for he considered that the ocean resources were reproducible, and accordingly that everyone could exploit fish stocks without infringing on the interests of others under the regime of the freedom of the ocean. See, H. Grotius (trans. R. Hakluyt), *The Free Sea, Or a Disputation concerning the Right which the Hollanders Ought to Have to the Indian Trade* (Liberty Fund, 2004), Chapter 5. In contrast, Selden maintained that States had possessed and could possess a part of the ocean as long as they actually exercised their power over that part of the ocean. In addition, Selden contradicted the Grotius' view by saying that the ocean resources were exhaustible and the free use of the ocean would lead to a danger of their depletion. See, J. Selden (trans. M. Nedham), *Of the Dominion, Or, Ownership of the Sea* (Lawbook Exchange, 2004).

word, such as in the context of oil and gas resources, its proper maintenance is necessary for organisms to breathe and enjoy stable climatic conditions; thus, any polluting industry or polluting States in fact exploit the atmosphere by reducing its quality and its capacity to assimilate the pollutants of other industries or States⁽⁹³⁾. This rationale underlies the “Polluter Pays Principle” and “Trade in Emission Rights”. Accordingly, the concept of “shared natural resources” appears to be applicable in part to the problems of bilateral or regional transboundary air pollution, and “common natural resources” to global environmental issues relating to the atmosphere.

Assuming that the atmosphere is a natural resource, the term “protection” employed in this project may need to be clarified. In the context of the environment, the term “protection” is often used (consciously or unconsciously) in two ways: preservation and conservation. “Preservation” means the measures taken to maintain the original state of the nature as it has been from the beginning by requiring total restriction on human activities in a designated “off-limits” area. The measures contemplated under the Antarctic treaty regime are dominantly of the preservation approach. “Conservation” on the other hand means to maintain the state of the environment in a designated area through intentional human activities, the example of which may be a conservation zone for fisheries resources on the high seas. It appears that the protection of the atmosphere is predominantly regulated by the preservation approach in the sense that the international community will strive as much as possible not to change the components and the existing balance of the atmosphere.

(93) Frank Biermann, “‘Common Concern of Humankind’: The Emergence of a New Concept of International Environmental Law”, *Archiv des Völkerrechts*, 34. Band, 4. Heft, 1996, pp. 426-481, at 428.

c. Common property, common heritage and common concern

Common property, or *res communis*, refers to areas, such as the high seas, which are open for legitimate uses by all States, and which may not be appropriated to the sovereignty of any individual State. Airspace above the high seas is in this sense “common property”. But, like sovereign airspace, common property is fundamentally a spatial dimension, and is therefore insufficient to deal with the whole atmosphere as a global unit ⁽⁹⁴⁾, as described above.

The concept of common heritage was employed in UNCLOS Part XI on deep sea mining and in the Moon Treaty. However, Malta’s attempt at the UN General Assembly in 1988 to have the global atmosphere declared part of the common heritage of mankind was unsuccessful. Since ‘common heritage’ implies that a resource must be exploited and conserved for the benefit of mankind as a whole, such designation would usually require a far-reaching institutional apparatus to control the allocation of exploitation rights and benefits. To treat the atmosphere as part of the common heritage of mankind would, in effect, place atmospheric problems under collective management, which is widely considered premature ⁽⁹⁵⁾.

While the concepts of common property and common heritage may not be appropriate indicators of the legal status of the atmosphere, the notion of common concern is, and should be included in its legal status under international law. In 1988, the UN General Assembly declared in resolution 43/53 on the “Protection of global climate for the present and future generations of mankind” that climate change was a “common concern of mankind”, somewhat mitigating Malta’s proposal mentioned above. The same concept was incorporated in the 1992 UN Framework Convention on Climate Change (Preambular paragraph 1). In view of the growing recognition of the linkages

(94) Boyle, *op. cit. supra* note 86, p. 9.

(95) Boyle, *op. cit. supra* note 86, pp. 9–10.

between transboundary air pollution and global climate change, application of the concept of common concern to the whole of atmospheric problems should be considered appropriate ⁽⁹⁶⁾.

The legal content of the concept of common concern is that States can no longer claim that atmospheric problems are within the reserved domain of domestic jurisdiction, because the issues now legitimately fall under “matters of international concern”. It will certainly lead to the creation of substantive legal obligations on the part of all States to protect the global atmosphere as enforceable *erga omnes* ⁽⁹⁷⁾. It may be too early at present to interpret the concept of common concern as giving “all States a legal interest, or standing, in the enforcement of rules concerning protection of the global atmosphere,” ⁽⁹⁸⁾ in view of the absence of appropriate procedural law to implement such an interpretation. It may also be premature to consider that the concept of common concern creates rights for individuals and future generations.

Based on the foregoing analysis, it may be concluded that the atmosphere has the legal status of an international resource, whether shared or common, indispensable for sustaining life on earth, health, crops and integrity of ecosystems that it is a common concern of mankind. It may also be appropriate to provide for a saving clause in order to avoid any misunderstanding that the

(96) It may be noted that an application of the concept of common concern was explored in the context of the regional and watershed context from the viewpoint of ecosystem orientation of international law. See, Jutta Brunnée & Stephen J. Toope, “Environmental Security and Freshwater Resources: Ecosystem Regime Building”, 91 *American Journal of International Law*, 1997, pp. 26-59.

(97) As the judgment of the International Court of Justice indicated in the *Barcelona Traction* case, such obligations are owed to the international community as a whole; because of their importance, they are “the concern of all States”. 1970 *ICJ Reports*, p. 3. It may also be recalled in this context that the International Law Commission’s reference to “massive pollution of the atmosphere or of the seas” as an international crime in Article 19 of the Draft Articles on State Responsibility of its first reading, though the article disappeared in its final draft adopted by the second reading.

(98) Boyle, *op. cit. supra* note 86, pp. 11-13.

present draft articles do not prejudice in any way the status of airspace already established in international law.

(4) Outline of the Draft Articles

Having examined the basic issues pertaining to the atmosphere, the following is a tentative outline to be considered for draft articles on the “Protection of the Atmosphere”. This tentative outline is intended to give some broad ideas about the proposed project, which will be properly narrowed down if the Commission decides to embark on the concrete study and elaboration of draft articles on the topic.

I. General Provisions ⁽⁹⁹⁾

1. Use of terms

(99) The writer has so far drafted draft articles 1 to 4 on General Provisions, as follows:

Draft Article 1: Use of terms

For the purpose of the present draft articles,

1. “Atmosphere” means the layer of gases surrounding the earth in the troposphere and the stratosphere, within which the transport and dispersion of airborne pollutants occurs.

[Definitions of other terms will be proposed at later stages.]

Draft Article 2: Scope of application

The present articles apply to human activities that directly or indirectly introduce deleterious substances into the atmosphere or alter the composition of the atmosphere, and that have or are likely to have significant adverse effects on human life and health and the earth’s natural environment.

Draft Article 3: Objective

The objective of the present articles is to promote the protection of the atmosphere, including, but not limited to, transboundary air pollution, depletion of the ozone layer, and climate change. Such protection should be achieved by comprehensive approach that treats the atmosphere as a global single unit of natural resource.

Draft Article 4: Legal Status of the Atmosphere

1. The atmosphere is a natural resource essential for sustaining life on earth, health, crops and integrity of ecosystems; hence its protection is a common concern of humankind.
2. Nothing in the present draft articles shall affect the legal status of airspace provided in other conventions.

2. Scope of the Draft Articles
 3. Objective
 4. Legal Status of the Atmosphere
- II. Basic Principles for the Environmental Protection of the Atmosphere
1. General Obligations of States to Protect the Environment of the Atmosphere.
 2. Obligations of States vis-à-vis Other States Not to Cause Significant Harm to the Environment of the Transboundary Atmosphere
 3. Principle of *sic utere tuo ut alienum non laedas* to be applicable to the activities under the “Jurisdiction or Control” of a State
 4. General Obligations of States to Cooperate
 5. Principle of Equity
 6. Principle of Sustainable Development
- III. Measures of Prevention and Precaution to Protect the Environment of the Atmosphere
1. Preventive measures to be taken where the probable damage is foreseeable with clear causal links and proofs.
 2. Precautionary measures to be taken even where the damage is scientifically uncertain.
 3. Environmental Impact Assessment
- IV. Implementation of Obligations
1. Implementation by International Organizations and by the Conferences of the Parties
 2. Implementation through Domestic Law
 3. Unilateral Domestic Measures and the Effect of Extraterritorial Application
 4. Conflict and Coordination with Trade Law

V. Responsibility and Liability

1. Attribution of Responsibility
2. Due Diligence
3. Liability for High-Risk Activities
4. Civil Liability

VI. Mechanisms for Cooperation

1. Procedures for Cooperation
2. Technical and Other Forms of Cooperation
3. Capacity Building

VII. Procedural Rules for Compliance

1. Notification and Information
2. Consultation
3. Reporting System
4. Pledge and Review
5. Promotional and Enforcement Measures

VIII. Dispute Settlement

1. Jurisdiction
2. Admissibility and Standing
3. Proof of Scientific Evidence

7. Conclusion

The law of the sea no doubt stands as one of the most significant achievements in the field of international lawmaking of the twentieth century. It had long been considered necessary to create a single, comprehensive convention covering all aspects of the sea, which eventually came to pass in the United Nations Convention on the Law of the Sea (UNCLOS) in 1982. This is sometimes called the “Constitution of the Oceans”. If we are to envisage an

analogous exercise in international law in the twenty-first century, we submit that it must be the “Constitution of the Atmosphere”. While the oceans cover seventy per cent of the globe, the atmosphere (air mass) covers the whole of the earth.

It was Malta’s Ambassador Arvit Pardo’s untiring passion which paved the way for the lawmaking of the UN Convention on the Law of the Sea. The success in the codification and progressive development for a convention of the Protection of the Atmosphere may not at all be an unrealistic hope, if the dreams of the young, strength of the mature, and the wisdom of the aged are properly combined with maximum synergy for the project in the process of this “lofty” exercise. It is hoped that the International Law Commission will take on the topic in a positive manner and that the UN General Assembly will render strong support for the successful completion of the project.

It may be recalled that President John F Kennedy said in one of his famous speeches: “[W]e all inhabit this small planet. We all breathe the same air. We all cherish our children’s futures”.⁽¹⁰⁰⁾ After all, we all breathe the same air, and in this spirit, we hope that we can protect the atmosphere for all our children’s futures.

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(100) John F. Kennedy, Commencement address at American University, 10 June 1963. This was a historic speech, in which he announced his support for the Nuclear Test Ban Treaty (Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Underwater, signed on 5 August 1963), which is relevant to the present topic.