Precaution and Cooperation in the World Trade Organization: An Environmental Perspective

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I. Introduction: The Trade-Environment Nexus

> **Proposition 1**: Protection of the environment has become exceedingly important, and promises to be more important for the benefit of future generations. Protecting the environment involves [both national environmental regulation and] rules of international cooperation, sanction, or both, so that some government actions to enhance environmental protection will not be undermined by the actions of other governments. Sometimes such rules involve trade-restricting measures.
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> **Proposition 2**: Trade liberalisation is important for enhancing world economic welfare and for providing a greater opportunity for billions of individuals to lead satisfying lives. Measures that restrict trade will often decrease the achievement of this goal.[1]

The above propositions reflect one of the major tensions that governments and international society face today in promoting sustainable development. The principle of sustainable development,[2] a main organisational concept in

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1 J H Jackson, *The Jurisprudence of GATT and the WTO: Insights on Treaty Law and Economic Relations* (2000) ch 21, 414 (ch based on J H Jackson, 'World Trade Rules and Environmental Policies: Congruence or Conflict?' (1992) 49 *Washington and Lee Law Review* 1227-78).

2 Sustainable development became securely entrenched on the international agenda as a result of the Brundtland Commission Report: World Commission on the Environment and Development, *Our Common Future* (2nd Australian ed, 1990). It

international environmental law, seeks to integrate environmental and socio-economic considerations through the development of human systems capable of meeting the basic needs of all individuals, both now and in the future, whilst respecting ecological integrity.[3]

Traditionally, the trade and environment debate has been polarised, with environmentalists arguing that free trade threatens the environment and free trade advocates arguing the reverse. However, it has increasingly been recognised that sustainable development cannot be achieved without developing areas where environmental protection and trade can be mutually supportive and finding an appropriate balance in areas where they conflict.[4]

Three main arguments support positive synergies between free trade and environmental protection. First, liberalised trade encourages nations to specialise in the production of goods and services for which they have a comparative advantage. This can lead to more efficient use of natural resources. Second, exposure to international competition forces companies to innovate and anticipate demand, which may further improve efficiency. Finally, a correlation has been found between economic growth, generated by freer trade, and citizen demand for environmental protection.[5]

There are also three main ways in which free trade can harm the environment.[6] First, tensions between free trade and environmental protection occur when environmental externalities are not taken into account. In such situations, free trade can exacerbate already environmentally harmful resource allocation, because it magnifies economic activity.[7] Second, free trade may

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has since been endorsed in numerous international declarations, treaties and decisions such as the Rio Declaration on Environment and Development, 12 August 1992, UN Doc A/CONF.151/26 (Vol I), the United Nations Framework Convention on Climate Change (9 May 1992), 1771 UNTS 165 and the *Gabčíkovo-Nagymaros Project (Hungary v Slovakia) Judgment* [1997] ICJ Rep 7, 92-95; and at the domestic level (see Ecologically Sustainable Development Steering Committee, *National Strategy For Ecologically Sustainable Development* (1992)).

3 See D Pearce, A Markandya and E B Barbier, *Blueprint for a Green Economy* (1989) Annex, for a range of comparable definitions.

4 D Hunter, J Salzman and D Zaelke, *International Environmental Law and Policy* (1998) 1178; see also D C Esty, 'Environment and the Trading System: Picking up the Post-Seattle Pieces' in J J Schott (ed), *The WTO After Seattle* (2000) 243, 245; K von Moltke, 'Trade, Sustainable Development and Commodity Markets' in A Fijalkowski and J Cameron (eds), *Trade and Environment: Bridging the Gap* (1998) 141, 141-43.

5 Hunter, Salzman and Zaelke, above n 4, 1167; see also 'The Environment: Economic Man, Cleaner Planet' *The Economist,* (29 September - 5 October 2001) 79, 79-80; G H Brundtland, 'Global Change and Our Common Future' in C S Silver and R S DeFries (eds), *One Earth, One Future: Our Changing Global Environment* (1990) 147, 150-51.

6 See E Neumayer, 'Trade and the Environment: A Critical Assessment and Some Suggestions for Reconciliation' (2000) 9 *Journal of Environment and Development* 138, 138-39.

7 Ibid 139; OECD, *The Environmental Effects of Trade* (1994) 7.

lead to a 'race to the bottom' or 'regulatory chill' on environmental protection, as countries compete to attract investment.[8] The final area of concern, which is the focus of this article, is the potentially unbalanced treatment of environmental interests within the international trade regime's dispute settlement system. In part due to its high public profile, dispute settlement has become the arena in which conflicts between trade and environmental protection are being fought.[9]

The conclusion of the Uruguay Round trade negotiations in 1994 dramatically expanded the scope of the General Agreement on Tariffs and Trade (GATT). It resulted in the creation of the World Trade Organization (WTO), several new sectoral trade agreements and, notably, a strengthened dispute settlement process.[10] A Dispute Settlement Body, consisting of all Members of the WTO, was created through the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU).[11]

The DSU provides for compulsory jurisdiction, short timeframes for dispute resolution, alternative dispute settlement, quasi-judicial panel procedures and independent appellate review. Dispute rulings are quasi-automatic, as the Dispute Settlement Body must adopt panel and Appellate Body reports unless there is a consensus to the contrary. Finally, there are also arbitration procedures for implementation and an effective surveillance and enforcement system based on trade sanctions and compensation.[12] The Dispute Settlement Body has been used more frequently than any other international dispute settlement system and has dealt with the majority of environment-related intergovernmental disputes.[13] This, combined with the perceived bias of WTO dispute settlement against environmental interests,[14] has contributed to the growing civil society backlash against the WTO.[15]

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8 Neumayer, above n 6, 142-43; Hunter, Salzman and Zaelke, above n 4, 1171; see also H Nordstrom and S Vaughan, *Trade and Environment* (1999) 35. This claim is contested and empirical evidence equivocal: while some countries have reduced, or failed to strengthen, their environmental regulations to increase competitiveness, there is also evidence that freer trade, through increasing economic interdependency, has enhanced environmental protection in other countries, see D Vogel, 'Environmental Regulation and Economic Integration' (2000) 3 *Journal of International Economic Law* 265.

9 Neumayer, above n 6, 143-44; J Cameron, 'Dispute Settlement and Conflicting Trade and Environment Regimes' in Fijalkowski and Cameron (eds), above n 4, 16.

10 See D M McRae, 'The WTO in International Law: Tradition Continued or New Frontier?' (2000) 3 *Journal of International Economic Law* 27, 30.

11 Annex 2 to the Agreement Establishing the World Trade Organization, (15 April 1994), 1867 UNTS 401.

12 E U Petersmann, 'From the Hobbesian International Law of Coexistence to Modern Integration Law: The WTO Dispute Settlement System' (1998) 1 *Journal of International Economic Law* 175, 183; for a comprehensive overview of the DSU see also G Goh and T Witbreuk, 'An Introduction to the WTO Dispute Settlement System' (2001) 30 *University of Western Australia Law Review* 51.

13 Petersmann, above n 12, 181.

14 To date challenged environmental/health measures have been found inconsistent

Therefore, a major challenge for the Dispute Settlement Body, through the panels/Appellate Body, is to develop an interpretation of GATT/WTO rules capable of distinguishing between legitimate domestic environmental policies that impact on trade, and protectionist government policies cloaked as environmental regulation.[16] One promising avenue to meet this challenge is for the panels/Appellate Body to integrate international environmental law principles into the interpretation of the GATT/WTO.

The last decade has seen many important developments in international environmental law and its integration with the broader international legal order.[17] The elaboration of the concept of sustainable development, through the refinement of several principles considered necessary to its achievement, has been particularly important.[18] The content of these principles is still evolving and their status in international law is often controversial. However, their normative importance as negotiating tools in the construction of international environmental regimes is undeniable.[19] Arguably, two of the most important principles are the precautionary principle, a substantive norm, and the principle of cooperation, a procedural norm.[20]

The aim of this article is to evaluate the environment-related jurisprudence of the panels/Appellate Body, in light of the precautionary principle and the

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with GATT/WTO rules in all but two disputes: *European Communities: Measures Affecting Asbestos and Asbestos Containing Products,* Report of the Appellate Body WT/DS135/AB/R (12 March 2001) and *United States: Import Prohibition of Certain Shrimp and Shrimp Products, Recourse to Article 21.5 by Malaysia*, Report of the Panel, WT/DS58/RW (15 June 2001) and Report of the Appellate Body, WT/DS58/AB/RW (22 October 2001).

15 See A Capling, *Australia and the Global Trade System: From Havana to Seattle* (2001) 189; Esty, above n 4, 243. This backlash is evidenced by the massive protests at the WTO Ministerial Meeting in Seattle in 1999.

16 A Mattoo and A Subramanian, 'Regulatory Autonomy and Multilateral Disciplines: The Dilemma and a Possible Resolution' (1998) 1 *Journal of International Economic Law* 303, 303.

17 P Sands, 'International Environmental Law Ten Years On' (1999) 8 *Review of European Community and International Environmental Law* 23.

18 In particular the principle of common but differentiated responsibilities, the responsibility not to cause transboundary environmental harm, the principle of preventative action and the polluter-pays principle have helped to ground the growing corpus of international environmental law, see P Sands, 'International Law in the Field of Sustainable Development: Emerging Legal Principles' in W Lang (ed), *Sustainable Development and International Law* (1995) 53, 62.

19 D Bodansky, 'Customary (and not so Customary) International Environmental Law' (1995) 3 *Indiana Journal of Global Legal Studies* 105, 119. In addition to a limited number of binding rules and procedures, international environmental law has been based on the creation of 'soft law' solidifying over time, see P-M Dupuy, 'Soft Law and the International Law of the Environment' (1991) 12 *Michigan Journal of International Law* 420.

20 I Brownlie, *Principles of International Law* (5th ed, 1998) 285. A procedural norm is one that directs the manner in which decisions are taken but does not determine the decision. A substantive norm impacts on what the decision can be rather than how the decision is made.

principle of cooperation. This will allow an assessment of whether the panels/Appellate Body are integrating environmental considerations into WTO dispute settlement to the extent necessary to balance the goals of the propositions outlined initially. Section II examines why the panels/Appellate Body should take principles of international environmental law into account in trade-related dispute settlement and provides a brief discussion of the precautionary principle and the principle of cooperation. Section III analyses the jurisprudence of the panels/Appellate Body under the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement)[21] in light of the precautionary principle. Section IV considers the recent Appellate Body and panel interpretations of article XX of the GATT in *United States: Import Prohibition of Certain Shrimp and Shrimp Products (Shrimp-Turtle)*[22] in light of the principle of cooperation. Section V concludes the evaluation of the panels/Appellate Body's integration of the precautionary principle and the principle of cooperation into the trade regime.

II. Emerging Principles and Norms of International Environmental Law

(a) Defining principles and their role in the WTO dispute settlement system

(i) Defining principles

In analysing the precautionary principle and the principle of cooperation, this article adopts Dworkin's definition of principles:

> [A principle] states a reason that argues in one direction, but does not necessitate a particular decision … There may be other principles or policies arguing in the other directions … All that is meant, when we say that a particular principle is a *principle of law*, is that the principle is one which officials must take into account, if it is relevant, as a consideration inclining in one way or another.[23]

A principle, while still importing legal obligation, is therefore different from a rule. Rules either dictate a result or do not apply. Principles, on the other hand can point towards a result and remain relevant even if they do not prevail.[24] Where a number of principles of law are relevant and intersect or conflict, the decision-maker comes under an obligation to balance their competing

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21 (15 April 1994), 1867 UNTS 401, 493.

22 Report of the Appellate Body WT/DS58/AB/R (12 October 1998) and *Recourse to Article 21.5 by Malaysia,* Report of the Panel and Report of the Appellate Body, above n 14.

23 R Dworkin, *Taking Rights Seriously* (3rd ed, 1981) 26 (emphasis added).

24 Ibid 24.

objectives and to reach a decision in conformity, to the maximum extent possible, with all principles.[25]

Principles and rules are related in that rules operationalise the social goal for which a principle argues. For example, in the context of the international trade regime, the principle of non-discrimination is operationalised through the rules in articles I and III of the GATT. Principles are important to rule interpretation where there are conflicting legal opinions about the content of the rule under dispute, or where such rules contain ambiguities or lacunae.[26] The relevance of precaution and cooperation to the GATT/WTO system as principles of law will be discussed in the following sections.

(ii) The internal relevance of principles in the WTO

WTO Members, in the Agreement Establishing the World Trade Organization (WTO Agreement) preamble, declared their 'determination to preserve the basic principles and to further the objectives underlying the multilateral trading system', thus confirming the existence of basic principles within the GATT/WTO system.[27] One such principle, also included in the preamble, is 'sustainable development'.[28]

Sustainable development has been defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'[29] This definition includes the concepts of intra-generational and inter-generational equity and, hence, the indefinite preservation of ecological life-support systems.[30] A fundamental aspect of the

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25 M Hilf, 'Power, Rules and Principles – Which Orientation for WTO/GATT Law?' (2001) 4 *Journal of International Economic Law* 111, 117; see also P Sands, 'International Law in the Field of Sustainable Development' (1994) LXV *British Yearbook of International Law* 303, 336 discussing state concerns about the legally-binding nature of principles during the Rio Conference.

26 Hilf, above n 25, 111.

27 Ibid 112.

28 See Preamble to Agreement Establishing the World Trade Organization, (15 April 1994), 1867 UNTS 154. Conventionally, preambles are not seen as legally binding to the same extent as treaty text. Arguably, however, the frequent inclusion of principles in preambles reflects not their lack of legal status, but their quality of having weight, rather than a determinative role, in decision-making, see A Aust, *Modern Treaty Law and Practice* (2000) 336-38 and G Fitzmaurice, 'The Law and Procedure of the International Court of Justice 1951-4: Treaty Interpretation and Other Treaty Points' (1957) XXXIII *British Yearbook of International Law* 203, 227-29. The objective of environmental protection is also mentioned in other WTO agreements such as art 2.1 of the SPS Agreement, above n 21, 494; art 2.2 of the Agreement on Technical Barriers to Trade (15 April 1994), 1868 UNTS 120, 121; and art 27.2 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (15 April 1994), 1869 UNTS 300, 311.

29 World Commission on the Environment and Development, above n 2, 7.

30 See Sands, above n 25, 338. For a discussion of the concepts of inter- and intra-generational equity see E Brown Weiss, *In Fairness to Future Generations: International Law, Common Patrimony and Intergenerational Equity* (1988) 21-28.

precautionary principle is also concern for possible adverse environmental impacts on future generations,[31] and for the principle of cooperation, the enhancement of intra-generational equity, as cooperation implies mutual and equitable benefits.[32] Arguably, therefore, the inclusion of sustainable development in the WTO Agreement also includes, by implication, the precautionary principle and the principle of cooperation.[33]

Further to this implicit inclusion, the principle of cooperation finds expression in the third recital of the WTO Agreement preamble, which focuses on 'reciprocal and mutually advantageous arrangements', throughout the DSU text, which favours mutually agreed solutions, and in the many exceptions in favour of developing countries.[34] The precautionary principle is arguably also reflected in article 5.7, article 3.3 and the preamble of the SPS Agreement.[35]

The above provides compelling evidence to suggest that the precautionary principle and the principle of cooperation are internally relevant to the international trading regime. However, there are numerous other principles underlying the regime, which must be given weight by the panels/Appellate Body. These include the principles of trade liberalisation, non-discrimination, sovereignty and national deference, transparency, the rule of law and proportionality.[36] In any dispute, any number of these principles may come into play.

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31 T O'Riordan, 'The Politics of the Precautionary Principle' in R Harding and E Fisher (eds), *Perspectives on the Precautionary Principle* (1999) 283, 285.

32 This notion of mutual and equitable benefits can also be expressed as the principle of common but differentiated responsibilities. Indeed this latter principle is an essential component of the principle of cooperation, see Hunter, Salzman and Zaelke, above n 4, 358-59.

33 For a more detailed explanation of the precautionary principle and the principle of cooperation see Sections II(b) and II(c) below. See also Sands, above n 25, 338; R Harding, *Environmental Decision-Making: the Roles of Scientists, Engineers and the Public* (1998) 186; P I Stein, 'Are Decision-Makers too Cautious with the Precautionary Principle?' (2000) 17 *Environmental and Planning Law Journal* 3; Guiding Principles in Ecologically Sustainable Development Steering Committee, above n 2, 8; Bergen Ministerial Declaration on Sustainable Development in the ECE Region, 16 May 1990, UN Doc A/CONF.151/PC/10; and Principle 1(b) of the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests, 14 August 1992, UN Doc A/CONF.151/26 (Vol III).

34 Hilf, above n 25, 119.

35 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, WT/DS26/AB/R, WT/DS48/AB/R (16 January 1998) [124] where the Appellate Body held that the last two 'explicitly recognise the right of Members to establish their own appropriate level of sanitary protection, which level may be higher (i.e. more cautious) than that implied in existing international standards, guidelines and recommendations'. For further discussion see Section III below. See also S Shaw and R Schwartz, 'Trade and Environment in the WTO State of Play' (2002) 36 *Journal of World Trade* 129, 142.

36 Hilf, above n 25, 117.

(iii) The external relevance of principles for the WTO

Both outsiders and insiders to the trade system have traditionally considered international trade law as a self-contained area of international law.[37] This has changed in recent years, as the proliferation of international law has uncovered the overlapping layers of obligation to which states are now subject.[38] As mentioned in Section I, the Uruguay Round substantially expanded the subject matter dealt with by the international trade regime. This has shifted the GATT/WTO regime from a 'domestic and global welfare-maximizing optimal bargain to constrain protectionism' to 'a supranational regulatory regime that embodies certain substantive trade-offs between free trade and other values'.[39] Therefore, in order for the GATT/WTO regime to maintain its legitimacy with domestic constituencies, the panels/Appellate Body must now explicitly consider the policy trade-offs embodied in their rulings and their interaction with other widely held policy goals.[40]

Article 3.2 of the DSU provides a mechanism for the panels/Appellate Body to take such trade-offs into account by requiring that the GATT and other covered agreements be interpreted 'in accordance with customary rules of interpretation of public international law'. In *United States: Gasoline*, the Appellate Body stated that the GATT 'is not to be read in clinical isolation from public international law'[41] and referred to article 31 of the Vienna Convention on the Law of Treaties (VCLT)[42] as reflecting the customary rules of treaty interpretation invoked by article 3.2 of the DSU.[43] Subsequently, in

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37 Eg, Brownlie does not discuss international trade law in his text on public international law: I Brownlie, above n 20. A Canadian international law textbook incorporated a chapter on the topic for the first time in 2000: H M Kindred, J-G Castel, D J Fleming and W Graham, *International Law Chiefly as Interpreted and Applied in Canada* (6th ed, 2000). The GATT Panels in *Tuna-Dolphin* also showed a strong desire not to draw on outside sources in interpreting the GATT: GATT Council, *United States: Restrictions on Imports of Tuna*, Report of the Panel, DS21/R-39S/155 (1991) and DS29/R (1994); see also M J Trebilcock and R Howse, *The Regulation of International Trade* (2nd ed, 1999) 58; D M McRae, above n 10, 27.

38 J Cameron, above n 9, 18; see also text at n 41 below.

39 Trebilcock and Howse, above n 37, 54.

40 S Charnovitz, 'The World Trade Organization and the Environment' (1997) 8 *Yearbook of International Environmental Law* 98, 100; Trebilcock and Howse, above n 37, 54.

41 *United States: Standards for Reformulated and Conventional Gasoline*, Appellate Body Report and Panel Report, WT/DS2/9 (20 May 1996) 16.

42 (23 May 1969), 1155 UNTS 331, 340.

43 *United States: Standards for Reformulated and Conventional Gasoline*, Appellate Body Report and Panel Report, above n 41, 15-16 citing *Territorial Dispute Case* (*Libyan Arab Jamahiriya v Chad*) [1994] ICJ Rep 6; *Golder v United Kingdom* (1995) 18 Eur Ct HR (ser A); *Restrictions to the Death Penalty Cases* (1986) 70 ILR 449 (Inter-American Court of Human Rights); E Jiménez de Aréchaga, 'International Law in the Past Third of a Century' (1978-I) 159 *Recueil des Cours* 1, 42; D Carreau, *Droit International* (3è ed, 1991) 140; R Jennings and A Watts (eds), *Oppenheim's International Law* (9th ed, 1992) Vol 1, 1271-75.

Shrimp-Turtle,[44] the Appellate Body noted that article 31(3)(c) of the VCLT is the key to finding 'additional interpretative guidance' from international law.[45] Article 31(3)(c) requires that 'any relevant rules of international law applicable in relations between the parties' be taken into account in treaty interpretation. This reflects a principle of integration, emphasising that one international regime's rules should not be considered in isolation from rules and norms of general international law.[46]

If it can be established that the precautionary principle and the principle of cooperation form part of international law, the principle of integration gives them external relevance in the interpretation of GATT/WTO rules. These principles will, however, only be a part of international law if they fall within the recognised sources of binding normative obligation listed in article 38(1) of the Statute of the International Court of Justice. The most relevant sources in this context are international conventions and customary norms of international law.[47]

The precautionary principle and the principle of cooperation form part of numerous treaties.[48] Article 31 of the VCLT governs situations where two or more treaties deal with the *same* subject matter and depending on the circumstances gives precedence to either the earlier or the later treaty. However, where two or more treaties deal with *overlapping* but not the *same* subject matter, article 31(3)(c) of the VCLT becomes applicable. Thus, where both parties to an environment-related dispute under the GATT/WTO trade regime are also parties to another overlapping environment-related treaty containing the precautionary principle or the principle of cooperation, these principles will be relevant to the interpretation of the disputed treaty obligations pursuant to article 31(3)(c) of the VCLT's principle of integration.[49]

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44 *United States: Import of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22.

45 Ibid [158].

46 P Sands, 'Treaty, Custom and the Cross-Fertilization of International Law' (1998) 1 *Yale Human Rights & Development Journal* 85, 95.

47 See arts 38(1)(a) and (b) of the Statute of the International Court of Justice. Note that a case may also be made for general principles under art 38(1)(c) (see Hunter, Salzman and Zaelke, above n 4, 237-47 discussing Vice-President Weeramantry's decision in the *Gabčíkovo-Nagymaros Project (Hungary v Slovakia) Judgment* above n 2, 96-110); however, this is beyond the scope of this article.

48 Eg, Preamble [6] and [9], Montreal Protocol on Substances that Deplete the Ozone Layer (16 September 1987), 1522 UNTS 29, 30; Preamble [1] and art 2(5)(a), United Nations Convention on the Protection and Use of Transboundary Watercourses and International Lakes (17 March 1992), 31 ILM 1312, 1313 and 1315; Preamble [6] and art 3.3, United Nations Framework Convention on Climate Change, above n 2, 166 and 170; Preamble [9] and [14], Convention on Biological Diversity (5 June 1992), 1760 UNTS 143, 144-45; Preamble [7] and art 2, Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR Convention) (22 September 1992), 32 ILM 1069, 1072 and 1076.

49 See D Palmeter and P C Mavroidis, 'The WTO Legal System: Sources of Law' (1998) 92 *American Journal of International Law* 398, 409; Sands, above n 46, 94;

The status of the precautionary principle and the principle of cooperation in customary international law is more controversial. Custom has two elements: state practice and *opinio juris.*[50] State practice requires a general and consistent practice by states, and *opinio juris* requires that this practice result from a sense of legal obligation.[51] Traditionally, the theory of customary law has emphasised consistent state practice, relegating *opinio juris* to a secondary requirement. In contrast, modern enunciations of the theory place more weight on *opinio juris*, with custom being established primarily by what states say, rather than by what they do.[52]

In this context, Charney[53] argues that multilateral forums play a central role in the creation of customary international law. When treaties, declarations or statements emanating from such forums are phrased in declaratory terms, contain clear written norms, have widespread and representative state support and any critique is limited to subsidiary issues, Charney suggests that they provide evidence of both *opinio juris* and state practice sufficient to establish new customary law. Where some of the above factors are weak or missing, the multilateral process may nonetheless be an important step in the evolution of new customary norms.[54]

While the matter is contentious, strong arguments have been made that the precautionary principle and the principle of cooperation have now achieved the status of customary international law, at least in the modern sense described above.[55] Indeed, over the last two decades, these two principles have

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see further G Marceau, 'A Call for Coherence in International Law – Praises for the Prohibition Against "Clinical Isolation" in WTO Dispute Settlement' (1999) 33 *Journal of World Trade* 87, 123.

50 *North Sea Continental Shelf Case* (*FRG/Den; FRG/Neth*) [1969] ICJ Rep 3, 44.

51 Brownlie, above n 20, 4.

52 See the discussion of instant customary law in P Malanczuk, *Akehurst's Modern Introduction to International Law* (7th ed, 1997) 39; see also Bodansky, above n 19, 108 arguing that this is a new form of law: 'declarative' international law; and H Hohmann, *Precautionary Legal Duties and Principles of Modern International Law – The Precautionary Principle: International Environmental Law Between Exploitation and Protection* (1994) 166.

53 J I Charney, 'Universal International Law' (1993) 87 *American Journal of International Law* 529, 543.

54 See also the *North Sea Continental Shelf Case*, above n 50, 44 where it was argued that a customary rule can arise from widespread acceptance of a convention. Note that this constitutes modern as opposed to traditional customary law, see A Roberts, 'Traditional and Modern Approaches to Customary International Law: A Reconciliation' (2001) 95 *American Journal of International Law* 757.

55 In relation to the precautionary principle, see D Freestone, 'The Road to Rio: International Environmental Law after the Earth Summit' (1994) 6 *Journal of Environmental Law* 193; Hohmann, above n 52; P Sands, *Principles of International Environmental Law I: Frameworks, Standards, and Implementation* (1995) 212; J Cameron and J Abouchar, 'The Status of the Precautionary Principle in International Law' in D Freestone and E Hey (eds), *The Precautionary Principle and International Law: The Challenge of Implementation* (1996) 29; O McIntyre and T Mosedale, 'The Precautionary Principle as a Norm of Customary International Law' (1997) 9 *Journal of Environmental Law* 221; Shaw

increasingly been recognised in multilateral declarations and treaties, relied on by states, recognised in international dispute settlement forums, and incorporated in municipal laws and decision-making practices.[56] Core aspects of these principles have been applied to areas as diverse as marine pollution, atmospheric pollution, biodiversity conservation and hazardous waste control.[57] If it is accepted that the precautionary principle and the principle of cooperation have recently crystallised into customary norms of international law, this provides an additional comprehensive basis for integrating these principles into WTO dispute resolution.

Integrating principles, however, does not require supplanting the conventional rules, but rather applies a presumption that GATT/WTO rules should be interpreted consistently with general international law.[58] Hence,

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and Schwartz, above n 35, 140; *Southern Bluefin Tuna Cases* (*New Zealand v Japan*; *Australia v Japan*), Requests for Provisional Measures, ITLOS, 27 August 1999, Separate Opinions of Judge Treves and Judge *ad hoc* Shearer. For a critique of this perspective see P W Birnie and A E Boyle, *International Law and the Environment* (1992) 98; D Bodansky, 'Remarks, Panel on New Developments in International Environmental Law' *American Society of International Law, Proceedings of the 85th Annual Meeting* (1991) 413, 415. Note also that the Appellate Body in *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [123] declined to take position on whether the precautionary principle was a customary norm, but considered that if it was, its application was limited to international environmental law, and did not extend to food safety. The principle of cooperation has been the subject of less academic consideration but see Hohmann, above n 52, 197; F X Perrez, *Cooperative Sovereignty – From Independence to Interdependence in the Structure of International Environmental Law* (2000) 330; and P-M Dupuy, 'The Place and Role of Unilateralism in Contemporary International Law' (2000) 11 *European Journal of International Law* 19, 22 referring to the principle of cooperation as enshrined in art I of the UN Charter.

56 For a discussion of existing *opinio juris* and state practice in respect of the precautionary principle see Cameron and Abouchar, above n 55, 30-34; McIntyre and Mosedale, above n 55; P H Sand, *Transnational Environmental Law: Lessons in Global Change* (1999) 129-34; in respect of the principle of cooperation see Hunter, Salzman and Zaelke, above n 4, 374; Perrez, above n 55, 277; Hohmann, above n 52, 197.

57 See McIntyre and Mosedale, above n 55; Perrez, above n 55, 272.

58 Sands, above n 46, 102; Marceau, above n 49, 137; see also the Appellate Body's recognition of these principles of interpretation in *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [124], where it held that the precautionary principle did not relieve the panels/Appellate Body from the duty of applying normal principles of interpretation. This is clearly correct, but it is based on these principles of interpretation, set out in the VCLT, that this article argues that, in certain situations, the precautionary principle, while not supplanting the text of the SPS Agreement, will be relevant to its interpretation. Note, that the Appellate Body also stated in [124] that while the precautionary principle finds express reflection in art 5.7 of the SPS Agreement, this does not necessarily exhaust the precautionary principle's relevance to the SPS Agreement. These principles of interpretation do not conflict with art 3(2) of the DSU that prevents rulings of the Dispute Settlement Body from adding to or diminishing the rights and obligations

where multiple interpretations of the conventional rules are possible and all maintain the object and purpose of the GATT/WTO, the interpretation that best accommodates the relevant treaty principle or customary norm should be adopted.[59] In this context, the explicit object and purpose of the GATT/WTO regime's environment-related clauses is to allow states the freedom to adopt legitimate environmental regulation while retaining the ability to discover and eliminate disguised protectionism.

The panels/Appellate Body have recently acknowledged the legitimacy of using treaty principles and customary international law to fill gaps in GATT/WTO rules, and they have held that customary international law applies 'to the extent that the WTO treaty agreements do not "contract out" from it'.[60] The panels/Appellate Body have also recently been praised for steps taken to integrate environmental considerations into GATT/WTO law.[61] Their integration, in particular, of the precautionary principle and the principle of cooperation, pursuant to both their internal and external relevance, is the focus of the remainder of this article.

(b) The precautionary principle

> In order to protect the environment, the precautionary principle shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.[62]

Cameron argues that the precautionary principle 'provides the philosophical authority to take public policy decisions concerning environmental protection in the face of uncertainty'.[63] The precautionary principle's development was primarily a reaction to the failures of the traditional approach to environmental decision-making, namely that science could provide timely and accurate

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provided for in the covered agreements: see L Bartels, 'Applicable Law in WTO Dispute Settlement Proceedings' (2001) 35 *Journal of World Trade* 499, 506.

59 Sands, above n 46, 104; see also *Gabčíkovo-Nagymaros Project (Hungary v Slovakia) Judgment,* above n 2, 67 [112] and 78 [140] addressing the relationship between a treaty and a subsequent norm of international environmental law and noting that they are 'relevant for the implementation of the treaty'.

60 *Korea: Measures Affecting Government Procurement*, Report of the Panel, WT/DS163/R (1 May 2000) [7.96]-[7.101]; see also *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [130]-[168]; Hilf, above n 25, 121-23.

61 See P Sands, 'International Environmental Litigation and its Future' (1999) 32 *University of Richmond Law Review* 1619, 1635.

62 Principle 15, Rio Declaration on Environment and Development, above n 2.

63 J Cameron, 'The Precautionary Principle: Core Meaning, Constitutional Framework and Procedures for Implementation' in Harding and Fisher (eds), above n 31, 29.

predictions of threats to the environment and of environmental assimilative capacity.[64] A further assumption was that science could provide technical solutions to mitigate such threats, and that acting only once such information was available led to the most efficient use of scarce financial resources.[65]

In contrast, the precautionary principle is based on the recognition that full scientific certainty does not exist and that the level of proof required for scientists to assert a fact often comes too late for an effective response.[66] Thus, the precautionary principle serves as a reminder to decision-makers to err on the side of caution when faced with the prospect of environmental harm and incomplete knowledge.

Cameron defines the conceptual core of the precautionary principle as stipulating 'that where environmental risks being run by regulatory inaction are in some way (a) uncertain but (b) non-negligible, regulatory action is justified'.[67] The concept of uncertainty is, therefore, fundamental to the precautionary principle's application. It is also a complex concept. This article bases its analysis on Wynne's theoretical framework,[68] which divides uncertainty into four categories:

1. 'Risk' exists when the behaviour of a system is 'basically well known, and the chances [and seriousness] of different outcomes can be defined and quantified by structured analysis of mechanisms and probabilities'.[69] In such a situation, action taken against a negative environmental outcome is preventative rather than precautionary.[70]
2. 'Uncertainty' exists when most important system parameters are known but the probability distribution is not. This is where precaution becomes relevant and should be introduced into decision-making.[71]
3. 'Ignorance' refers to the concept that 'we don't know what we don't know' or in other words there is always a possibility that outcomes never considered might arise. The precautionary principle can have no application in this context.[72] While even in situations where decision-makers are confident about the impact of certain actions, it is

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64 McIntyre and Mosedale, above n 55, 221; Harding, above n 33, 186.

65 C Barton, 'The Status of the Precautionary Principle in Australia: Its Emergence in Legislation and as a Common Law Doctrine' (1998) 22 *Harvard Environmental Law Review* 509, 512.

66 See Stein, above n 33, 3; G McDonell, 'Risk Management, Reality and the Precautionary Principle: Coping with Decisions' in Harding and Fisher (eds), above n 31, 190, 192.

67 Cameron, above n 63, 36; see also Hohmann, above n 52, 341.

68 B Wynne 'Uncertainty and Environmental Learning: Reconceiving Science and Policy in the Preventative Paradigm' (1992) 3 *Global Environmental Change* 111, 114.

69 Ibid.

70 Cameron, above n 63, 34.

71 Ibid.

72 See Bodansky, above n 55, 417 and note that all formulations of the precautionary principle focus on the availability of some scientific evidence.

worth adopting an anticipatory and adaptive approach,[73] applying the precautionary principle to situations of 'ignorance' would transform it from a tool for decision-making to a tool to prevent decision-making.[74]

4. 'Indeterminacy' refers to the fact that 'science can define risk or uncertainty, only by artificially "freezing" the surrounding context which may or may not be this way in real-life situations'.[75] Resulting knowledge is conditional on whether these pre-analytical assumptions are in fact valid. In this context, the precautionary principle may be applicable only in so far as it draws attention to the limitations of science and risk assessment.[76]

Indeed, the precautionary principle also recognises that, due to these limitations, risk management must extend beyond science to political determinations, which require trade-offs between social, economic and environmental considerations.[77] The precautionary principle's role is to focus attention on the fact that, while risks to human life-support systems may be less tangible than risks to jobs and lifestyle, they fundamentally affect both the well being of humans and other species.

The precautionary principle has been criticised as too vague to serve as a regulatory standard, primarily because it fails to specify the level of environmental harm required to invoke its operation, the level of caution necessary to satisfy its application, and the extent to which cost considerations can be factored in.[78] Further, there is concern that a strict application of the principle could significantly hamper beneficial innovation.[79] Finally,

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73 Harding, above n 33, 188.

74 See J S Gray, 'Integrating Precautionary Scientific Methods into Decision-Making' in Freestone and Hey (eds), above n 55 133; see also I Sandford, 'Hormonal Imbalance? Balancing Free Trade and SPS Measures After the Decision in Hormones' (1999) 29 *Victoria University of Wellington Law Review* 389, 426-27.

75 Wynne above n 68, 115-17 as discussed in Harding, above n 33, 165.

76 See P Hardstaff, 'The Precautionary Principle, Trade and the WTO' Discussion Paper for the European Commission Consultation on Trade and Sustainable Development, Royal Society for the Protection of Birds (November 2000) 3, (copy on file with author). Note that where the terms 'risk', 'uncertainty', 'indeterminacy' and 'ignorance' are used as defined by Wynne, they have been placed in inverted commas, whereas when the terms are used generically they are not.

77 Stein, above n 33, 6; Commission of the European Communities, *Communication from the Commission on the Precautionary Principle* (2000) 1, 15; J McDonald, 'Big Beef Up or Consumer Health Threat?: The WTO Food Safety Agreement, Bovine Growth Hormone and the Precautionary Principle' (1998) 15 *Environmental and Planning Law Journal* 115, 125.

78 D Bodansky, 'Scientific Uncertainty and the Precautionary Principle' (1991) 33 *Environment* 4, 5-6; see also S R Dovers and J W Handmer, 'Ignorance, Sustainability, and the Precautionary Principle: Towards an Analytical Framework' in Harding and Fisher (eds), above n 31, 167, 171.

79 S Charnovitz, 'The Supervision of Health and Biosafety Regulation by World Trade Rules' (2000) 13 *Tulane Environmental Law Journal* 271, 296; Union of Industrial and Employers' Confederation of Europe (UNICE), 'UNICE Discussion

decision-makers are often faced with a choice between one risk and another, rather than between risk and caution.[80] While these criticisms are valid, it is essential to keep in mind that the precautionary principle, as defined in this article, is a principle in the Dworkinian sense.[81] It influences the decision but does not necessarily determine it. Its precise role can, therefore, only be ascertained on a case-by-case basis.

The precautionary principle can be implemented both directly and indirectly. Direct application of the principle requires limiting or mitigating activities that create a non-negligible risk of environmental harm, for example through the setting of high environmental standards and by furthering understanding of potential environmental risk through research and information-sharing.[82] Indirect application of the principle seeks to create incentives for precautionary behaviour, through policy measures such as strict liability for environmental harm, allocating the burden and standard of proof in a manner that favours the environmental *status quo*, mandatory insurance, environmental impact assessment or auditing requirements.[83]

(c) The principle of cooperation

> States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem …
>
> States and people shall cooperate in good faith and in a spirit of partnership … in the further development of international law in the field of sustainable development.[84]

Perrez argues that the concept of sovereignty in today's internationalised world can no longer be understood solely as independence and freedom, but includes the responsibility and obligation to cooperate with other sovereign actors.[85] He

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Paper on the Precautionary Principle in International Trade' (2000) 1.

80 Bodansky, above n 78, 6; A Nollkemper, '"What you risk reveals what you value", and Other Dilemmas Encountered in Legal Assaults on Risks' in Freestone and Hey (eds), above n 55, 73, 91.

81 Dworkin, above n 23, ch 2.

82 Dovers and Handmer, above n 78, 173; M D Young, 'For Our Children's Children: Some Practical Implications of Inter-Generational Equity and the Precautionary Principle' (1993) *Resource Assessment Commission Occasional Publication Number 6*, 12-16; McIntyre and Mosedale, above n 55, 236-40; see also Commission of the European Communities, above n 77, 15.

83 See Barton, above n 65, 513; Cameron, above n 63, 50-54.

84 Principles 7 and 27, Rio Declaration on Environment and Development, above n 2.

85 Perrez, above n 55, 331-32; see also B Boutros-Ghali, 'An Agenda for Peace: Preventative Diplomacy, Peacemaking and Peacekeeping', *Report of the Secretary-General Pursuant to the Statement Adopted by the Summit Meeting of the Security Council on 31 January 1992* (1992) 9; B Boutros-Ghali, 'Empowering the United Nations' (Winter 1992/93) 71 *Foreign Affairs* 88, 98-99 as discussed in F M Deng, S Kimaro, T Lyons, D Rothchild and I W Zartman, *Sovereignty as Responsibility: Conflict Management in Africa* (1996) 13-18. In this context,

argues that the evolution of the concept of sovereignty results from the current ecological, economic and social problems, which rarely conform to state boundaries but rather are regional or global in scope, and hence cannot be solved by independently acting states.[86]

Indeed, policies that used to be considered exclusively matters of immediate 'national concern', now frequently impact on the ecological and economic well being of other countries.[87] Atmospheric, marine, freshwater and land-based pollution and natural resource use increasingly have transboundary effects. They also result in the degradation of common resources and threaten biodiversity, which has been constituted as a common concern of humankind.[88]

Typically, the environmental harms described above, and particularly degradation of the global commons, give rise to 'free-rider' problems. That is, countries have an incentive not to act to protect the environment, since any country can share in the benefits of environmental protection by other countries without incurring costs.[89] This situation can give rise to a 'prisoners dilemma'. If every country relies on others to protect the environment, then environmental degradation continues and the outcome is worse for all countries than if they shared in the responsibility and cost of environmental protection.[90] A principle of cooperation between states appears the only effective means to resolving these problems.[91]

These dilemmas and the need for cooperation have been recognised, not only in the environmental field, but also in areas as diverse as security and trade. This has resulted in a proliferation of multilateral treaties, which, in turn, have led to additional interdependencies and closer integration between nations.[92] This further enhances the imperative of cooperation, as non-cooperation in one area can affect a state's standing in another. Moreover, failure to take part in such cooperative regimes diminishes the ability of states to influence international regime building and safeguard their interests within the regime.[93]

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independence refers to the physical and political distinctness of one state from another and freedom refers to the fact that a state is not subject to any external authority without consent; see L Henkin, *International Law: Politics and Values* (1995) 10-11. For further discussion of the concept of sovereignty as freedom and independence see Perrez, above n 55, 13-67.

86 Perrez, above n 55, 117; see also Hohmann, above n 52, 185.

87 M A Bekhechi, 'Comment on the Paper by Alexendre Timoshenko – From Stockholm to Rio: The Institutionalization of Sustainable Development' in W Lang (ed), above n 18, 161; Perrez, above n 55, 134-35.

88 Preamble [3], Convention on Biological Diversity above n 48.

89 See G Hardin, 'The Tragedy of the Commons' (1968) 162 *Science* 243.

90 See Jackson, above n 1, 416; F X Perrez, 'The Efficiency of Cooperation: A Functional Analysis of Sovereignty' (1998) 15 *Arizona Journal of International and Comparative Law* 515, 552-54.

91 Perrez, above n 90, 581.

92 See Charney, above n 53, 529.

93 See A H Chayes, A Chayes and R B Mitchell, 'Active Compliance Management in Environmental Treaties' in Lang (ed), above n 18, 75.

What, however, is meant by a principle of cooperation? The principle of cooperation involves recognition of the fact that autonomous action is not sufficient to achieve communal goals and requires a commitment by states to take into account other states' interests, to share authority and to forego, to some extent, unilateral action in favour of coordinated activity.[94] The principle of cooperation can, however, only meaningfully be invoked in situations where there are interdependencies and states are seeking to achieve common or related goals.[95] In the context of the intersection between international trade and environmental law, that common goal is sustainable development.[96]

The actions required to implement the principle of cooperation are by their nature hard to define in the abstract, particularly because the principle operates at many levels, from the bilateral to the global.[97] Nonetheless, in the environmental context, the principle of cooperation has been held to encompass a duty to: prevent, abate and control environmental damage with transboundary effect; engage in information exchange, collaborative research and problem solving; and jointly adopt and enforce environmental protection and rehabilitation measures.[98]

It can also include a duty to notify and consult, obtain prior informed consent, carry out transboundary environmental impact assessment and provide equal transboundary access to redress for environmental harm.[99]

Finally, sustained cooperation requires that benefits received be mutual and equitable. Therefore, in recognition of the common but differentiated responsibilities of states with respect to environmental protection and sustainable development, developed nations have a duty of particular importance to provide finance and technology transfers to developing nations.[100]

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94 Perrez, above n 90, 521; P-T Stoll, 'The International Environmental Law of Cooperation' in R Wolfrum (ed), *Enforcing Environmental Standards: Economic Mechanisms as Viable Means?* (1996) 39, 47.

95 Stoll, above n 94, 40.

96 See Preamble to Agreement Establishing the World Trade Organization, above n 28, 154; and the Rio Declaration on Environment and Development, above n 2; see also I Musu, 'Efficiency and Equity in International Environmental Cooperation' in F Ferré and P Hartel (eds), *Ethics and Environmental Policy* (1994) 87, 102; Stoll, above n 94, 92 and Vice President Weeramantry's separate opinion in *Gabčíkovo-Nagymaros Project (Hungary v Slovakia) Judgment,* above n 2, 88-95.

97 Stoll, above n 94, 62; Hohmann, above n 52, 198.

98 Hohmann, above n 52, 198; Perrez, above n 90, 521.

99 Hohmann, above n 52, 185; M V Soto, 'General Principles of International Environmental Law' (1996) 3 *ILSA Journal of International & Comparative Law* 193, 197; Stoll, above n 94, 84.

100 Hohmann, above n 52, 188; see also Principle 7, Rio Declaration on Environment and Development, above n 2.

III. Taking Precautions under the Agreement on the Application of Sanitary and Phytosanitary Measures

(a) The Agreement on the Application of Sanitary and Phytosanitary Measures and its jurisprudence

The GATT's initial goal was to reduce tariffs and other border measures such as quotas. This has been largely successful and made apparent another category of measures that can be used to restrict trade: health, safety and environmental regulations. While such domestic regulations often serve legitimate ends, there is concern that they can also be used for protectionist reasons or result in undue trade restrictions owing to a lack of coordination between countries.[101] To deal with this issue, the SPS Agreement and the Agreement on Technical Barriers to Trade were agreed to in the Uruguay Round.

The SPS Agreement is particularly important in the environmental context, and to the precautionary principle's integration in the international trade regime. The SPS Agreement elaborates on article XX(b) of the GATT, which allows members to take measures in contravention of the GATT where necessary to protect human, animal or plant life or health,[102] as well as creating new obligations. Sanitary and phytosanitary measures (SPS measures) are taken to prevent or limit certain types of territorial environmental harm such as biodiversity loss and ecosystem degradation resulting from the introduction of pests and diseases, and health risks arising from contaminants, toxins and disease-causing organisms.[103]

The SPS Agreement comprises six main obligations and one exemption relevant to the precautionary principle's integration:[104]

1. Article 2(2) requires governments to 'ensure that any [SPS] measure is applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence'.
2. Article 3(1) encourages states to 'base' their SPS measures on international standards where they exist. The international standard-setting bodies recognised by the SPS Agreement are the Codex Alimentarius Commission, the International Office of Epizootics, the International Plant

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101 Trebilcock and Howse, above n 37, 135; see also D Roberts, 'Preliminary Assessment of the Effects of the WTO Agreement on Sanitary and Phytosanitary Trade Regulations' (1998) 1 *Journal of International Economic Law* 377, 378.

102 See Preamble [8], SPS Agreement, above n 21; and art XX(b) of the GATT, below in Section IV(a).

103 Annex A [1], SPS Agreement, above n 21, 501. It is important to note that the SPS Agreement does not deal exclusively with environmental harm and does not cover all types of environmental harm. Nonetheless it does cover the important subset described above.

104 See Charnovitz, above n 79, 278; Sandford, above n 74, 399; and the SPS Agreement, above n 21.

Protection Convention Secretariat and any other international organisations designated by the Committee on Sanitary and Phytosanitary Measures.[105]

3. Article 3(3) reaffirms the right of each country to determine and maintain a level of sanitary and phytosanitary protection that it considers appropriate or 'appropriate level of sanitary or phytosanitary protection' (ALOP),[106] but reinforces the need for scientific justification if a standard is set higher than existing international standards or if no international standards exist.
4. In such a case, article 5(1) requires governments to base their SPS measures 'on an assessment, as appropriate to the circumstances, of the risks to human, animal or plant life or health'.
5. Article 5(5) imposes a requirement of national regulatory consistency in the application of the ALOP to avoid 'arbitrary or unjustifiable distinctions in the levels [a Member] considers to be appropriate in different situations, if such distinctions result in discrimination or a disguised restriction on international trade'.
6. Article 5(6) requires Members to 'ensure that [SPS] measures are not more trade-restrictive than required to achieve their ALOP, taking into account technical and economic feasibility'.
7. Article 5(7) contains an exemption to these obligations, which allows countries to implement higher SPS measures provisionally, where scientific evidence is insufficient to satisfy the risk-assessment requirements. However, this is limited by an obligation to obtain additional scientific evidence within a reasonable period of time.

These rules give guidance as to the steps required for SPS measures to be judged consistent with the international trade regime. However, the panels/Appellate Body are left to determine the appropriate balance between the right to impose measures to protect a country's environment or health and the objective of liberalising trade.[107]

The Dispute Settlement Body has heard three SPS Agreement related disputes, *Hormones,*[108] *Salmon*[109] and *Varietals,*[110] in which it had occasion

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105 Annex A [1], SPS Agreement, above n 21, 501.

106 A Member's ALOP is 'a political determination which seeks to balance the economic benefits of trade … against the potential biological, economic and environmental consequences of pest and disease establishment', see G Goh and A Ziegler, 'Economic Considerations and Quarantine Decision-Making under the SPS Agreement: Implications from the WTO Cases' The Economics of Quarantine Conference, Melbourne, 24 October 2000 (copy on file with author).

107 Sandford, above n 74, 400; see also R Quick and A Blüthner, 'Has the Appellate Body Erred? An Appraisal and Criticism of the Ruling in the WTO Hormones Case' (1999) 2 *Journal of International Economic Law* 603, 604.

108 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35. For a detailed exposition of the facts see L Hughes, 'Limiting the Jurisdiction of the Dispute Settlement Panels: The WTO Appellate Body Beef Hormone Decision' (1998) 10 *Georgetown International Environmental Law Review* 915, 916; McDonald, above n 77, 116-17; Quick and Blüthner, above n 107, 605.

to grapple with this fundamental issue. The balance reached in these cases and the manner in which the precautionary principle has been integrated into the SPS Agreement are important indicators of future practice because adopted panel/Appellate Body reports are part of the GATT/WTO *acquis* and create legitimate expectations among WTO Members.[111]

In each case, the Appellate Body found the measure in question to be inconsistent with the SPS Agreement, and each country was requested to take steps to ensure conformity with the SPS Agreement. An initial and common reaction to these decisions is that they exemplify the implicit effect of the SPS Agreement, which some claim is to facilitate and sanction the emergence of 'lowest common denominator' standards of animal, plant and human health protection, due to a narrow focus on trade liberalisation.[112] Indeed, the measures in these cases may be seen as a direct implementation of the precautionary principle, as in each case high standards were imposed in the face of uncertain scientific evidence. Conversely, the Appellate Body's decisions may be seen as curtailing the ability to take such an approach. Whether or not this is the case is the focus of the rest of Section III.

(b) Differentiating risk assessment and available pertinent information

The SPS Agreement legitimates two methods to deal with uncertainty when setting standards for plant, animal and human health. The first relies on risk assessment[113] and the second on available pertinent information.[114] A useful

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109 *Australia: Measures Affecting Importation of Salmon*, Report of the Appellate Body, WT/DS18/AB/R (20 October 1998); *Australia: Measures Affecting Importation of Salmon – Recourse to Article 21.5 by Canada*, Report of the Panel, WT/DS18/RW (18 February 2000). For a detailed exposition of the facts see S Gray, 'Aquatic Imports in Australia: Quarantine, International Trade, and Environmental Protection' (2000) 17 *Environmental and Planning Law Journal* 241, 244; Senate Rural and Regional Affairs and Transport Legislation Committee, *An Appropriate Level of Protection? The Importation of Salmon Products: A Case Study of the Administration of Australian Quarantine and the Impact of International Trade Arrangements* (2000).

110 *Japan: Measures Affecting Agricultural Products*, Report of the Appellate Body, WT/DS76/AB/R (22 February 1999). For a detailed exposition of the facts see [1]-[2].

111 *Japan: Taxes on Alcoholic Beverages*, Report of the Appellate Body, WT/DS1/AB/R, WT/DS10/AB/R, WT/DS22/AB/4 (1 November 1996) 19.

112 See Senate Rural and Regional Affairs and Transport Legislation Committee, above n 109, 92; Gray, above n 109, 241 and McDonald, above n 77, 115.

113 For a definition of risk assessment see Annex A [4], SPS Agreement, above n 21, 501. The three requirements for a valid risk assessment under art 5.1 were set out in *Australia: Measures Affecting Importation of Salmon*, Report of the Appellate Body, above n 109, [121]:

a. identify the diseases [or pests] whose entry, establishment or spread a Member wants to prevent within its territory, as well as the potential biological and economic consequences associated with the entry, establishment or spread of the diseases;
b. evaluate the likelihood of entry, establishment or spread of these diseases [or

way of assessing the extent to which countries retain the right to apply the precautionary principle within these methods is to evaluate their fit with Wynne's four categories of uncertainty described in Section II(b).

(i) Risk assessment

For a challenged SPS measure to be upheld, in the absence of international standards or where these are exceeded, it must have a rational relationship to a risk assessment.[115] Due to its central role in the SPS Agreement, the risk assessment requirement has received consideration in all three disputes to date and the Appellate Body has made several relevant rulings.[116]

First, risk assessment can be either quantitative or qualitative.[117] A quantitative risk assessment expresses the likelihood of damage in numbers, whereas a qualitative risk assessment expresses the likelihood of damage in words, such as low, medium and high. Using Wynne's framework,[118] only measures that deal with 'risk' can be adequately assessed using a quantitative risk assessment. The recognition that a qualitative risk assessment is also valid is therefore important in taking into account the category of 'uncertainty'. In situations of 'uncertainty', patterns of cause and effect can be understood but threshold values are unknown. A quantitative risk assessment is unable to represent this; however, a qualitative risk assessment can more easily embody fuzzy thresholds. Such information is necessary to take into account the precautionary principle at the decision-making stage.

Second, governments retain the right to determine their ALOP and to take scientifically justified measures to meet it. A risk assessment does not have to establish a set magnitude or threshold degree of risk before a country is entitled

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pests], as well as the associated potential biological and economic consequences; and

c. evaluate the likelihood of entry, establishment or spread of the diseases [or pests] according to the SPS measures which might be applied.

Note that measures relating to additives, contaminants, toxins or disease-causing organisms in foodstuffs require only an identification and evaluation of 'potential' rather than 'likelihood'.

114 Art 5.7, SPS Agreement, above n 21, 496.

115 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Boy, above n 35, [208]; note however that the WTO Member imposing an SPS measure may rely on risk assessment undertaken by other Members or international organisations, see [190]; see also McDonald, above n 77, 124.

116 See generally J Pauwelyn, 'The WTO Agreement on Sanitary and Phytosanitary (SPS) Measures as Applied in the First Three SPS Disputes EC-Hormones, Australia Salmon and Japan-Varietals' (1999) 2 *Journal of International Economic Law* 641, 645.

117 *Australia: Measures Affecting Importation of Salmon*, Report of the Appellate Body, above n 109, [124]; *Australia: Measures Affecting Importation of Salmon*, Report of the Panel, WT/DS18/R (12 June 1998) [8.80]. Scope for a qualitative risk assessment is provided by the stipulation in art 5.1 that the risk assessment be 'appropriate to the circumstances'.

118 See text at n 68 above.

to implement precautionary standards.[119] A government may even determine that its level of acceptable risk is 'zero risk'.[120] The Appellate Body has held that given some evidence of risk, a dispute settlement panel should 'bear in mind that responsible and representative governments commonly act from perspectives of prudence and precaution'.[121]

Third, a risk assessment must indicate an 'ascertainable risk', that is uncertainty that is inherent to scientific endeavour cannot be used as a basis for SPS measures.[122] This principle excludes SPS measures based on 'ignorance' and to some extent 'indeterminacy'. However, the Appellate Body's acceptance of the legitimacy of governments basing their measures on divergent scientific opinion from qualified and respected sources, rather than only on mainstream science, takes into account 'indeterminacy' to some degree.[123] The most likely reason for two groups of scientists to hold differing opinions is that they have based their research on different pre-analytical assumptions and methodologies. Further, the Appellate Body found in *Hormones* that risk assessment can take into account:

> not only risk ascertainable in a science laboratory operating under strictly controlled conditions, but also risk in human societies as they actually exist, in other words, the actual potential for adverse effects on human health in the real world where people live and work and die.[124]

This finding also admits of indeterminacies and provides scope for taking the precautionary principle into account.

A final requirement is that risk assessment must be specific and complete, that is it must deal particularly with the controlled substances and with the whole range of such controlled substances, rather than a subset, unless there is scientific justification to the contrary.[125] This appears consistent with allowing

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119 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [186]; *Australia: Measures Affecting Importation of Salmon*, Report of the Appellate Body, above n 109, [124]-[125], 199; see also Sandford, above n 74, 409; Senate Rural and Regional Affairs and Transport Legislation Committee, above n 109, ch 4; Pauwelyn, above n 116, 651.

120 Sandford, above n 74, 420; Quick and Blüthner, above n 107, 626.

121 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [124].

122 Ibid [186]; *Australia: Measures Affecting Importation of Salmon*, Report of the Appellate Body, above n 109, [125] and [130].

123 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [193]; see also McDonald, above n 77, 124.

124 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [187].

125 Ibid [200]; *Australia: Measures Affecting Importation of Salmon*, Report of the

governments to take a precautionary approach. Implementation of the precautionary principle does not mean that scientific evidence or rigour should be abandoned in favour of a general policy of caution. Rather, it is essential for a cautious approach to be based on scientific evaluation, which is as complete as possible, to ensure that decision-makers make well-informed decisions.[126]

(ii) Available pertinent information

In *Varietals,* the Appellate Body established four cumulative requirements necessary to satisfy the exception in article 5.7. The measure must be:

> (a) imposed in respect of a situation where "relevant scientific information is insufficient"; and
>
> (b) adopted "on the basis of available pertinent information"…
>
> Such a provisional measure may not be maintained unless the Member which adopted the measure:
>
> (a) seeks to obtain "the additional information necessary for a more objective assessment of risk"; and
>
> (b) reviews the … measure accordingly within a reasonable period of time.[127]

This exception has been criticised as not properly representing the precautionary principle by requiring that such measures be provisional, and assuming that more 'objective' scientific evidence will be found within a relatively short time-period.[128]

However, the Appellate Body's interpretation of this exception in *Varietals* deals with these criticisms to some extent. *Varietals* involved a Japanese requirement that exporters test and confirm the efficacy of quarantine treatment against codling moth for each variety of fruit before imports were accepted.[129] The Appellate Body argued that:

> what constitutes a "reasonable period of time" has to be established on a case-by-case basis and depends on the specific circumstances of each

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Panel, above n 117, [8.58].

126 See Commission of the European Communities, above n 77, 4.

127 *Japan: Measures Affecting Agricultural Products*, Report of the Appellate Body, above n 110, [89].

128 Hardstaff, above n 76, 6; but cf D Roberts, above n 101, 403 arguing that this exception has supported numerous unchallenged measures since the coming into force of the SPS Agreement.

129 *Japan: Measures Affecting Agricultural Products*, Report of the Appellate Body, above n 110, [1]-[2].

> case, including the difficulty of obtaining the additional information necessary for the review and the characteristics of the provisional SPS measure.[130]

This corresponds to the European Commission's interpretation of article 5.7, 'The measures although provisional, shall be maintained as long as the scientific data remains incomplete, imprecise or inconclusive, as long as the risk is considered too high to be imposed on society' and as long as a state can show good faith efforts to obtain additional scientific evidence.[131] Essentially, this interpretation ensures that in situations of high 'uncertainty' or 'indeterminacy' a state remains entitled to take precautionary measures, but must take steps to resolve these uncertainties.

(iii) 'Risk', 'uncertainty',' indeterminacy' and the precautionary principle

The goal of introducing a scientific element into the SPS Agreement was to enable the panels/Appellate Body to distinguish between SPS measures established for protectionist purposes and those established to manage health and environmental risks. Critics have argued that the Appellate Body's current interpretation of these provisions has weakened this moderating role of science.[132] An alternative view is that these decisions have only limited strict reliance on science to the extent necessary to allow states to apply the precautionary principle.

In *Hormones,* a dispute arose following a European Community (EC) ban on the use of growth hormones in cattle destined for human consumption, which effectively banned beef imports from the United States and Canada. The ban was based on concerns that hormone residues in beef may be carcinogenic.[133] The EC measure was impugned on the basis that a proper risk assessment had not been undertaken. The EC had relied on general hormone studies rather than on measure-specific hormone studies.[134]

Similarly, *Salmon* involved an Australian import ban on raw wild caught salmon from Canada, aimed at preventing the introduction of exotic disease agents with the potential to severely damage the domestic salmon industry[135] and imperil the survival of 25-30 species of native salmonids.[136] The risk assessment undertaken was found to be inconsistent with the SPS Agreement

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130 Ibid [93].
131 Commission of the European Communities, above n 77, 12.
132 See eg Sandford, above n 74, 391.
133 See McDonald, above n 77, 116.
134 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [208]. Note that the EC did not rely on art 5.7 to justify its measure.
135 D F Gascoine, D Wilson and C McRae, 'Quarantine Policy in the World Trade Organisation Environment' *National Outlook Conference* (2000) 171.
136 Australian Quarantine Inspection Service (AQIS), *Import Risk Analysis on Non-Viable Salmonids and Non-Salmonid Marine Finfish* (1999) 44-50.

because the analysis failed to substantively assess the relative effectiveness of different quarantine measures in reaching Australia's ALOP.[137]

These findings are not necessarily antithetical to the precautionary principle. They simply emphasise that there is a difference between risk assessment, which focuses on objective scientific enquiry, and risk management. It is only in the risk management phase that the precautionary principle becomes relevant.[138] In both cases, as a result of these findings, the governments decided to undertake a proper risk assessment. This can only enhance the quality of decision-making.

In *Varietals,* the main findings of inconsistency were that the measure was maintained without sufficient scientific evidence and that Japan had not based its decision on available pertinent information as required by article 5.7.[139] However, the challenge was not directed at Japan's decision to place the burden of proof for demonstrating the efficacy of quarantine methods on the exporter, which is arguably an implementation of the precautionary principle. Rather, it was its decision to make such proof variety-specific, and the lack of any good faith efforts to demonstrate a basis for the view that different fruit varieties responded differently to quarantine treatment.[140]

In summary, the Appellate Body has interpreted the scientific justification requirements in a way that allows countries considerable latitude to apply the precautionary principle in the three categories of scientific uncertainty to which they are relevant: 'risk', 'uncertainty' and 'indeterminacy'. What remains to be clarified is the level of 'uncertainty' at which a measure can no longer be justified under article 5.1, but must instead fulfil the requirements of article 5.7. This is important because the requirements under article 5.7 are more onerous.

Finally, the Appellate Body has yet to be confronted with a dispute involving new and relatively unknown products such as genetically modified organisms (GMOs). The level of 'ignorance', 'indeterminacy' and 'uncertainty' with respect to such products is high. In such a context, an appropriate internalisation of the precautionary principle would require the Appellate Body to clarify what is required to satisfy available pertinent information and the additional information requirements of article 5.7.[141] It is submitted that the manifest need for further research should be considered sufficient to invoke article 5.7.

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137 See *Australia: Measures Affecting Importation of Salmon*, Report of the Appellate Body, above n 109, [129]-[135].

138 See Trebilcock and Howse, above n 37, 146; see also *Australia: Measures Affecting Importation of Salmon – Recourse to Article 21.5 by Canada*, Report of the Panel, above n 109, 116-18.

139 *Japan: Measures Affecting Agricultural Products*, Report of the Appellate Body, above n 110, [143].

140 Ibid.

141 Ie: does art 5.7 permit Members to take measures against 'theoretical' risks?

(c) The burden and standard of proof

The question of who bears the burden of proof has been prominent in SPS Agreement disputes. It is important because the party bearing the burden of proof will lose the dispute if, at the end of the hearing, the panel believes that the evidence submitted is incomplete or evenly balanced.[142] Furthermore, placing the burden of proof on those who seek to undertake environmentally risky activities is a fundamental aspect of the precautionary principle.[143]

The Appellate Body has resolved this question by looking to national legal systems and holding that: 'the burden of proof rests upon the party, whether complaining or defending, who asserts the affirmative of a particular claim, [exception] or defence'.[144] In practice this means that in *Hormones* and *Salmon,* the United States and Canada, respectively, bore the burden of proving that the EC and Australia had not complied with the SPS Agreement, particularly article 5.1. In the *Salmon – Recourse to Article 21.5* proceedings,[145] Canada was also required to prove that Australia had breached the least trade restrictive requirement by only allowing imports of non-viable fish in consumer-ready form under its revised quarantine measures, when this provided no greater protection than simpler processing controls.[146]

Surprisingly, in *Varietals,* the panel suggested that the burden of proof fell on the United States, as the complainant, to establish a presumption that Japan had not fulfilled the requirements of article 5.7.[147] This was unexpected because article 5.7 appears to constitute an exception to the SPS Agreement obligations.[148] This finding was not contested by the parties nor addressed by

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142 J Pauwelyn, 'Evidence, Proof and Persuasion in WTO Dispute Settlement: Who Bears the Burden?' (1998) 1 *Journal of International Economic Law* 227, 227.

143 Placing the burden of proof on the environmental risk-taker furthers the precautionary principle because they must then prove that the activity is 'safe' rather than the environmentalists having to prove that the activity is 'dangerous'. See above n 83; Stein, above n 33, 7.

144 *United States: Measures Affecting Imports of Woven Wool Shirts and Blouses from India*, Report of the Appellate Body, WT/DS33/AB/R (23 May 1997) 14; see also *European Community: Measures Concerning Meat and Meat Products (Hormones),* Report of the Appellate Body, above n 35, [98] and Pauwelyn, above n 116, 659-60.

145 Art 21.5 of the DSU provides that any dispute about the consistency of measures taken to comply with Dispute Settlement Body recommendations shall be decided wherever possible by the original panel. Recourse to this provision was made after the expiry of Australia's ten-month implementation period; see Senate Rural and Regional Affairs and Transport Legislation Committee, above n 109, Annex 4.

146 *Australia: Measures Affecting Importation of Salmon, Recourse to Article 21.5 by Canada*, Report of the Panel, above n 109, [6.193]. After negotiations between Canada and Australia, the consumer-ready requirements were replaced with controls on processing; see M Vaile, *Trade News* (17 May 2000). The additional inconsistencies, relating to Tasmania's decision to maintain its import ban, are not discussed here.

147 *Japan: Measures Affecting Agricultural Products*, Report of the Panel, WT/DS76/R (27 October 1998) [8.13] and [8.58].

148 Eg, see *United States: Standards for Reformulated and Conventional Gasoline*,

the Appellate Body. The Appellate Body in *Varietals* did, however, consider the burden of proof and held that a panel cannot use information supplied by experts to find an SPS measure inconsistency, if the party bearing the burden has not itself raised the issue.[149]

With respect to the basic SPS Agreement obligations, then, the burden of proof appears to be in line with the precautionary principle.[150] Under the relevant obligations and exemption, the burden lies on the party attacking the higher sanitary and phytosanitary standards.

Legal discussion of the precautionary principle, however, has not only concentrated on the appropriate allocation of the burden of proof, but also on appropriate standards of proof.[151] The recent jurisprudence of the panels/Appellate Body, and the DSU itself, do not explicitly deal with this issue. In *Shirts and Blouses,* the Appellate Body held that:

> in the context of the GATT 1994 and the WTO Agreement, precisely how much and precisely what kind of evidence will be required to establish such a presumption ['that what is claimed is true'] will necessarily vary from measure to measure, provision to provision, and case to case.[152]

To date, the only discernible test is that the burden will be discharged if the asserting party submits a *prima facie* case, which is not rebutted.[153] This amounts to a 'balance of probabilities' standard, rather than a 'conclusive evidence' or 'beyond reasonable doubt' standard.[154]

There is, therefore, scope for the panels/Appellate Body to further integrate the precautionary principle in this area. For example, they could require a higher standard of proof in situations where the environmental risk concerned is of an irreversible or serious nature, than where the risk is less serious.

While as a matter of law the burden of proof falls on the exporting country, Gray argues that in practice it falls on the importing country, which must scientifically justify any SPS measure exceeding international standards in

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Appellate Body Report and Panel Report, above n 41, [6.20] where art XX was held to constitute an exception to breach of the GATT disciplines and the burden of proof allocated accordingly.

149 *Japan: Measures Affecting Agricultural Products*, Report of the Appellate Body, above n 110, [120]-[129].

150 See *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [102].

151 See text at n 83 above.

152 *United States: Measures Affecting Imports of Woven Wool Shirts and Blouses from India*, Report of the Appellate Body, above n 144, [74].

153 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [98]; see also Pauwelyn, above n 116, 659.

154 Pauwelyn, above n 142, 235.

order to comply with article 5.7 of the SPS Agreement.[155] Furthermore, Hardstaff argues that, under article 5.7, the burden should lie with the exporter to seek further information, or at least to pay for the gathering of such information, rather than with the importer.[156] Such a change would require amendment of the SPS Agreement and involves complex policy considerations beyond the scope of this article. Therefore it will not be discussed further, except to note three points.

First, provision for states to recoup risk-assessment costs from potential exporters appears compelling in the case of developing countries, such as Sri Lanka for example (which imposed a blanket ban on GMOs in April 2000),[157] that may not have the funds to undertake the SPS Agreement-mandated risk assessment in order to adopt higher or precautionary standards.[158]

Second, criticisms of bias in proponent-prepared environmental impact assessments in Australia[159] caution against suggesting that the exporter should undertake a risk assessment. Indeed, it is unlikely that citizens of an importing country will have much confidence in the neutrality of a risk assessment undertaken by an exporting country. Additionally, it would be extremely resource-intensive to require an exporting country to undertake a risk assessment based on the importing country's ALOP. Finally, the fact that risk assessment requires governments to research the environmental dimensions of a decision improves policy-making from an environmental perspective. As such, this requirement seems neither antithetical to international environmental law, nor to the precautionary principle.

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155 Gray, above n 109, 243.

156 Hardstaff, above n 76, 6.

157 See Sri Lanka Provisional Food (Genetically Modified Foods) Regulations – 2000; 'Stop threatening to overturn other nations food safety laws: 200 groups worldwide tell President Bush', Friends of the Earth Press Release (14 August 2001) <http://www.foei.org/whatsnew/ press2001/14_august_food.htm> accessed 3 October 2001 (copy on file with author); Environmental Law Alliance Worldwide, 'Genetically Modified Foods banned in Sri Lanka: EFL lawyers lead efforts to enable their country to enforce strict limits against the import of GM food without scientific proof of harm' in *E-LAW Impact* (31 May 2001) <http://www.elaw.org/> accessed 3 October 2001 (copy on file with author). The implementation of the ban was indefinitely postponed in September 2001 following international and business criticism (see ICTSD, (2000) 4(15) *Bridges Weekly Trade News Digest*; (2001) 5(25); and 5(30)). Note that if the Cartagena Protocol on Biosafety (29 January 2000), 39 ILM 1027, enters into force, it will alter the onus of paying for risk assessment between importing/exporting countries for GMOs.

158 See K C Kennedy, 'Trade and the Environment: Implications for Global Governance – Why Multilateralism Matters in Resolving Trade-Environment Disputes' (2001) 7 *Widener Law Symposium* 31, 67. See also arts 9 and 10 of the SPS Agreement.

159 See eg M Squillace, 'An American Perspective on Environmental Impact Assessment in Australia' (1995) 20 *Columbia Journal of Environmental Law* 43, 45, 101-03, 116-18.

(d) Consistency and the precautionary principle

Article 5.5 of the SPS Agreement requires governments to apply their chosen ALOP consistently.[160] The rationale is that inconsistent application of the ALOP indicates that a measure is not imposed due to concern for human, animal or plant life or health, but rather is a protectionist measure.[161] To date the Appellate Body has interpreted article 5.5 broadly, to apply in situations that involve a risk of 'the same or a similar disease', as well as situations with a risk of 'the same or similar associated biological or economic consequences'.[162]

If governments are found to have violated article 5.5, they have several options. They can harmonise their ALOP either upwardly or downwardly, or locate a middle ground.[163] Nonetheless, Charnovitz concludes that article 5.5 is too extreme an infringement on state sovereignty.[164] On its face, article 5.5 fails to take into account that a state may legitimately wish to treat similar risks differently, because society does not generally view risks equally,[165] in the sense that acceptance or non-acceptance of one risk or another involves different trade-offs. For example, banning the import of one fish species while not banning the import of another, even though they both carry the same disease, does not necessarily indicate protectionism. Society may place a high value on being able to consume the second fish species and little on the first. As the risk of disease incursion will clearly increase with the entry of higher volumes of potentially diseased fish, banning the first fish and not the other (with the result that the total volume of disease fish imported is lower) could remain a legitimate choice.

Despite the broad definition of similar situations, the manner in which the Appellate Body has applied article 5.5 to date leaves space for the above considerations. The Appellate Body has held that a breach of article 5.5 requires three elements to be satisfied:

1. A Member imposing the measure complained of has adopted its own [ALOP] in several different situations;
2. Those levels of protection exhibit arbitrary or unjustifiable differences in their treatment of different situations; and
3. Those arbitrary and unjustifiable differences result in discrimination or a disguised trade restriction.[166]

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160 See Gray, above n 109, 245.

161 See *Australia: Measures Affecting Importation of Salmon*, Report of the Appellate Body, above n 109, [166].

162 Ibid [146].

163 Charnovitz, above n 79, 284.

164 Ibid 291.

165 See Harding, above n 33, 183; R Howse, 'Democracy, Science, and Free Trade: Risk Regulation on Trial at the World Trade Organization' (2000) 98 *Michigan Law Review* 2329, 2350.

166 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body above n 35, [214]; see also *Australia:*

The cumulative nature of these requirements resulted in the Appellate Body finding in *Hormones* that, despite satisfying requirements 1 and 2, there was no evidence that the EC had protectionist motives in maintaining the import ban on hormone-treated beef. Therefore article 5.5 was not breached.[167]

Hence, the three separate requirements allow states to adopt different ALOPs in similar circumstances provided they can show the Dispute Settlement Body that the measure is either justifiable or not a disguised restriction on trade.[168] As the Appellate Body held in *Hormones*:

> the desired consistency is defined as a goal to be achieved in the future … the statement of that goal does not establish a *legal obligation* of consistency of appropriate levels of protection … the goal set is not absolute or perfect consistency, since governments establish their appropriate levels of protection frequently on an *ad hoc* basis and over time, as different risks present themselves at different times. It is only arbitrary or unjustifiable inconsistencies that are to be avoided.[169]

The discipline imposed by article 5.5 ensures that states will transparently identify comparable risks, prioritise between them on the basis of gravity, and then undertake risk assessments in the order of priority, as resources permit.[170] Such an approach improves environmental decision-making.

Salmon provides an example of how the consistency requirement can enhance a precautionary approach. Prior to *Salmon*, other fish carrying similar diseases to salmon were subject to either less-stringent or no quarantine restrictions in Australia, despite the fact that the risk from these other species appeared scientifically greater.[171] Circumstantial evidence suggests that this lack of quarantine control resulted in the introduction of herpes virus, inducing mass mortality of Australian pilchards in 1995 and 1998, with consequent disruption to the marine ecosystem.[172] However, because of *Salmon,* the

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Measures Affecting Importation of Salmon, Report of the Appellate Body, above n 109, [140].

167 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [245].

168 But see Goh and Ziegler, above n 106 , 4-7 for a contrary view.

169 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body above n 35, [213].

170 See Howse, above n 165, 2352; D Fleming, 'The Economics of Taking Care: An Evaluation of the Precautionary Principle' in Freestone and Hey (eds), above n 55, 147, 164 and Senate Rural and Regional Affairs and Transport Legislation Committee, above n 109, 19.

171 *Australia: Measures Affecting Importation of Salmon*, Report of the Appellate Body, 109 [154].

172 Gray, above n 109, 245, citing South Australia: Environment, Resources and Development Committee, *The Pilchard Fishery* (1999) 16-21.

Australian Quarantine Inspection Service (AQIS) was required to ensure consistency in the application of Australia's ALOP, and some quarantine restrictions on pilchard imports were introduced. Had this been a requirement earlier, it may have prevented the mass pilchard mortality. In addition, while removal of the import ban on salmon increases the risk of disease incursion from salmon, the resulting quarantine restrictions on all fish imports arguably mean that overall disease risk is not increased or is even reduced.

(e) International standards and the precautionary principle

One common concern about the SPS Agreement is that it encourages downward harmonisation or a 'regulatory chill' on sanitary and phytosanitary standards. This is due to the procedural burdens placed on countries seeking to implement higher standards and to criticisms of the quality of standard-setting in the relevant international organisations.[173]

The Appellate Body's finding, in *Hormones,* that harmonisation is a future goal, and hence compliance with international standards is not obligatory, should partly allay this concern.[174] The Appellate Body's subsequent finding that the term 'based on international standards' does not require strict conformance to international standards but rather permits the adoption of parts thereof and some deviation,[175] allows some room for states to implement standards higher than international ones, without being subject to risk assessment requirements.

Under article 3.1, states commit to 'base' their SPS measures on international standards, except as otherwise stipulated in the Agreement. Article 3.2 establishes that SPS measures conforming to international standards are presumed to be consistent with the SPS Agreement. However, article 3.3 only requires risk assessment to be undertaken where an SPS measure is not 'based' on international standards. Thus, in situations where an SPS measure is 'based' on, but does not conform to international standards, a state may simply point to the international standard and justify the slight deviations on the basis of its more stringent ALOP.

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173 See Gray, above n 109, 242, who argues that the International Office of Epizootics standards often serve merely to delay pathogen spread, rather than to prevent their introduction, citing J D Humphrey, *Australian Quarantine Policies and Practices for Aquatic Animals and their Products*, A Review for the Scientific Working Party on Aquatic Animal Quarantine (1990) Part 1; and McDonald, above n 77, 122-23, criticising the scientific basis of the Codex Alimentarius Commission regulations, multinational food and agrochemical company participation and the lack of real international consensus. But note recent debate in the Codex Alimentarius Commission about introducing the precautionary principle as a guideline for standard-setting: Commission of the European Communities, above n 77, 12.

174 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [163]-[164]; Roberts, above n 101, 403.

175 *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [164]-[168].

Another concern is that, while the SPS Agreement imposes sanctions on governments for failing to base higher standards on adequate science, it does not penalise states for imposing lower standards through neglect of scientific information.[176] However, the SPS Agreement is not an environmental agreement, but a trade agreement. Hence, such a task is probably beyond its scope.

As long as the SPS Agreement does not prevent or provide adverse incentives for individual states to apply the precautionary principle and allows the development of cooperative international regimes, it is not an impediment to the implementation and further development of this principle or of international environmental law more generally. The ability of the Committee on Sanitary and Phytosanitary Measures to identify additional international standard-setting bodies[177] opens the possibility that more environment-orientated cooperative standards, such as those that may be set under the Cartagena Protocol on Biosafety,[178] may be recognised under the SPS Agreement.[179] The importance of such cooperative agreements for the durable achievement of 'upwards harmonisation' and sustainable development is further discussed in Section IV.

(f) The Agreement on the Application of Sanitary and Phytosanitary Measures and appropriate internalisation of the precautionary principle

The precautionary principle involves more than a response to popular prejudice and alarm. Scientific knowledge[180] and rational deliberation are essential to ensure the legitimacy of both the scientific and political aspects of implementing the precautionary principle. The role of science is not to trump political decision-making, but to ensure that the political process is based on informed deliberation. Arguably, this is the sufficiency of scientific evidence sought by article 2.2 of the SPS Agreement.[181]

The Appellate Body has interpreted the SPS Agreement in a manner that leaves to states the right to determine their ALOP, which may include

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176 Charnovitz, above n 79, 276.

177 See Annex A [3(d)], SPS Agreement, above n 21, 501.

178 Above n 157.

179 See F Biermann, 'The Rising Tide of Green Unilateralism in World Trade Law – Options for Reconciling the Emerging North-South Conflict' (2001) 35 *Journal of World Trade* 421, 429; D E Buckingham and P W B Phillips, 'Hot Potato, Hot Potato: Regulating the Products of Biotechnology by the International Community' (2001) 35 *Journal of World Trade* 1, 25; Department of Foreign Affairs and Trade, Environment Australia, Agriculture Forestry and Fisheries Australia, *Discussion Paper: Preparations for the First Meeting of the Intergovernmental Committee on the Cartagena Protocol on Biosafety – 11-15 December 2000* (2000).

180 See K von Moltke, 'The Relationship between Policy, Science, Economics and Law in the Implementation of the Precautionary Principle' in Freestone and Hey (eds), above n 55, 97, 98.

181 See Howse, above n 165, 2330 for a similar argument made in the context of the risk-democracy interface.

precautionary considerations. This recognises that uncertainty precludes science alone determining the right level of protection.[182] The burden of proving an inconsistency is imposed on the claimant and states are given an opportunity to justify any policy inconsistency. Concurrently, states must ensure that: policy decisions are informed by scientific information; that their ALOP is made public and applied consistently; and where this is not possible, that there is a transparent record of the deliberative process leading to these policies.

In its recent communication on the precautionary principle, the European Commission argued that the principles underlying the SPS Agreement (which include non-discrimination, consistency, scientific research and proportionality) are not inconsistent with the precautionary principle.[183] The above analysis shows that in certain respects they may even be supportive of it. Nonetheless, there are still a number of areas where the precautionary principle's integration needs clarification or could be improved, in particular with respect to article 5.7, the standard of proof, and the ability of developing nations to comply with the SPS Agreement.

IV. Cooperating on Shrimp

(a) Article XX of the GATT and the Shrimp-Turtle dispute

A main area of conflict between international trade and environmental protection is the question of whether unilateral measures taken to protect shared or common resources are consistent with GATT/WTO rules. Indeed, the *Tuna-Dolphin* disputes,[184] which invoked this question under the GATT pre-WTO, were arguably the events that first galvanised environmentalists to critique the international trade regime.

The relevant GATT disciplines are: article I, the most-favoured nation principle, which requires that imports from all countries be accorded the same treatment; article III, the national treatment principle, which requires that imported products be accorded treatment no less favourable than like domestic products; and article XI, which compels the elimination of quantitative restrictions on imports. Article XX provides an important exception to these disciplines, particularly with respect to environmental regulation:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this agreement shall be construed to prevent the

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182 Neumayer, above n 6, 156.
183 Commission of the European Communities, above n 77, 18.
184 GATT Council, *United States: Restrictions on Imports of Tuna*, Report of the Panel, DS21/R-39S/155 (1991) and DS29/R (1994).

> adoption or enforcement by any contracting party of measures …
>
> (b) necessary to protect human, animal or plant life or health; …
>
> (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption; …

The impugned measures in the *Tuna-Dolphin* disputes were a United States embargo on states harvesting tuna in a manner causing significant incidental dolphin mortality and a secondary embargo on states that imported 'dolphin-unfriendly' tuna to on-sell to the United States. The embargo was imposed in conjunction with similar restrictions on tuna harvesting by United States fishers.[185]

Two dispute settlement panels reported on these measures in 1991 and 1994 pursuant to requests from Mexico, the EC and the Netherlands.[186] The first panel held that the tuna embargo did not fall under article III and violated article XI because 'dolphin-friendly' tuna and 'dolphin-unfriendly' tuna were 'like' products. The different process and production methods were considered irrelevant to the nature of the product itself.[187] In addition, the measures were not justified under article XX because this exception did not permit an 'extra-jurisdictional protection of life and health'. Finally, the measures were found not to be 'necessary' or to 'relate' sufficiently to the goal of dolphin protection because other measures, such as a negotiated solution, were available.[188] The second panel, while employing slightly different reasoning,

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185 Ibid; E-U Petersmann, *The GATT/WTO Dispute Settlement System: International Law, International Organizations, and Dispute Settlement* (1997) 101.

186 These reports were never adopted because before 1994, panel reports could only be adopted by consensus and the US objected.

187 In *European Communities: Measures Affecting Asbestos and Asbestos Containing Products*, Report of the Appellate Body, above n 14, [104]-[148] the Appellate Body held that the 'likeness' of a product was established by looking at: (1) the properties, nature and quality of the product; (2) the end-uses of the product; (3) consumer tastes and habits; and (4) the tariff classification of the product. It is at least arguable that in *Tuna-Dolphin*, the process and production methods would affect consumer tastes. Indeed, in *Asbestos*, one Appellate Body member expressed doubt about the ability to maintain a fundamentally economic interpretation of 'likeness' but declined to explore this further. For a discussion of the merits, or lack thereof, of the product/process distinction in the conception of 'like' products see R Howse and D Regan, 'The Product/Process Distinction – An Illusory Basis for Disciplining "Unilateralism" in Trade Policy' (2000) 11 *European Journal of International Law* 249 and J H Jackson, 'Comments on Shrimp/Turtle and the Product/Process Distinction' (2000) 11 *European Journal of International Law* 303.

188 As required by art XX(b) and (g) respectively, see GATT Council, *United States:*

also found that the measures were not justified under article XX because they were taken primarily to force other countries to change their environmental policies.[189] Together, these findings appeared to prohibit any trade-related unilateral attempts to preserve shared or common resources.[190]

However, a recent Appellate Body decision in *Shrimp-Turtle*[191] and a subsequent article 21.5 panel and Appellate Body report[192] have adopted a more environmentally sensitive interpretation of article XX. *Shrimp-Turtle* involved a complaint by India, Malaysia, Pakistan and Thailand against United States regulations that sought to protect sea turtles from incidental mortality in shrimp fisheries. Under the United States Endangered Species Act,[193] a number of measures to protect sea turtles were required, including the installation of turtle excluder devices in shrimping nets. The impugned regulations[194] operated in parallel to restrict shrimp imports that resulted in high turtle mortality. Shrimp imports were only permitted from countries certified as having a regulatory program comparable to the United States, or where shrimp fishing did not pose a risk to sea turtles.[195]

In analysing whether these regulations were justified by article XX, the Appellate Body adopted a two-tiered analysis, which involved first provisional justification of the measure by determining whether its design could be justified under article XX(b) or (g), and, second, appraisal of the measure's implementation under the article XX *chapeau*.[196] In so doing, it recognised that

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Restrictions on Imports of Tuna, Report of the Panel, DS21/R-39S/155 (1991); Petersmann, above n 185, 101.

189 GATT Council, *United States: Restrictions on Imports of Tuna*, Report of the Panel, DS29/R (1994); Petersmann, above n 185, 101. Note however that 'dolphin-friendly' labelling on tuna was held to be GATT-consistent.

190 See GATT Council, *United States: Restrictions on Imports of Tuna*, above n 184.

191 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22. Note that the previous panel decision WT/DS58/R (15 May 1998) is not discussed here as the Appellate Body overruled it.

192 See above n 145; *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Panel and Report of the Appellate Body, above n 14.

193 16 U.S.C. 1533(d).

194 16 U.S.C. 1537.

195 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body above n 22, [1]-[5]; prior to the introduction of turtle excluder devices, shrimping caused the death of approximately 150,000 sea turtles annually, many species of which are endangered. Turtle excluder devices reduce turtle mortality by 97 per cent while only reducing shrimp catch by 1 to 2 per cent, see V Dailey, 'Sustainable Development: Reevaluating the Trade vs Turtles Conflict at the WTO' (2000) 9 *Journal of Transnational Law and Policy* 331, 359-60. The domestic disputes over these regulations are not discussed here, but see S L Sakmar, 'Free Trade and Sea Turtles: The International and Domestic Implications of the Shrimp-Turtles Case' (1999) 10 *Colorado Journal of International Law and Policy* 345.

196 See *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [118]-[120]; following *United States:*

conditioning market access on the basis of unilaterally prescribed standards was to some extent a common aspect of measures falling under article XX. Therefore, the permissibility of such measures could not be generally denied.[197]

The Appellate Body found that the United States measure was provisionally justified under article XX(g)[198] by adopting an interpretation of 'exhaustible natural resources' that included sea turtles and other species within its ambit. It also found a sufficient nexus between the United States and sea turtles, despite their highly migratory character.[199] Finally, the Appellate Body held that a provision designed to influence other countries to adopt national regulatory programs to protect sea turtles was a measure related to the conservation of an exhaustible natural resource, and that it was made effective in conjunction with restrictions on domestic production or consumption.[200]

The Appellate Body reached this conclusion by adopting an 'evolutionary' interpretation of 'natural resources'[201] and reading the GATT 'in the light of contemporary concerns of the community of nations about the protection and conservation of the environment'.[202] This approach was evident throughout the entire report in which the Appellate Body noted that the inclusion of 'sustainable development' in the WTO Agreement Preamble 'must add colour, texture and shading' to interpretation of the GATT/WTO agreements, and extensively used principles set out in multilateral environmental agreements such as the United Nations Convention on the Law of the Sea,[203] the Convention on Biological Diversity,[204] the Convention on the Conservation of Migratory Species of Wild Animals[205] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).[206]

Standards for Reformulated and Conventional Gasoline, Appellate Body Report and Panel Report, above n 41.

197 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [121].

198 Therefore, it did not proceed to an analysis of art XX(b).

199 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [127]-[134]. All the species of sea turtle involved in this dispute occur in waters over which the US has jurisdiction.

200 Ibid [135]-[145].

201 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [130] citing *Namibia (Legal Consequences) Advisory Opinion* [1971] ICJ Rep 31.

202 Ibid [129]-[131]; D A Wirth, 'Some Reflections on Turtles, Tuna, Dolphin and Shrimp' (1998) *Yearbook of International Environmental Law* 40, 41.

203 (10 December 1982),1833 UNTS 397.

204 (5 June 1992), 1760 UNTS 143.

205 (23 June 1979), 19 ILM 11.

206 (3 March 1973), 993 UNTS 244. See *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [130]-[131], [153]-[154], [168]-[169]; Hilf, above n 25, 123; Trebilcock and Howse, above n 37, 75.

Despite the United States measure being provisionally justified under article XX(g), the Appellate Body found that its implementation did not satisfy the requirements of the *chapeau*, which required a balance to 'be struck between the *right* of a Member to invoke an exception under article XX and the *duty* of that same Member to respect the treaty rights of the other Members'.[207] The Appellate Body held that the United States measure failed to meet this balance as a consequence of six factors, which cumulatively resulted in arbitrary and unjustifiable discrimination.

First, the regulations, as implemented through the executive guidelines, allowed no flexibility in the regulatory program adopted by other countries, but rather required that turtle excluder devices be used subject to very narrow exceptions. This overlooked the diverse situations of different countries and did not rationally relate to the goal of conserving sea turtles.[208] The guidelines also disallowed shipments of shrimp harvested using turtle excluder devices, where the shrimp came from a non-certified country. Further, the certification process was neither transparent nor predictable and no due-process procedures were available for countries refused certification.[209]

Additionally, the United States failed to 'engage in serious across-the-board negotiations with the objective of concluding bilateral or multilateral agreements for the protection or conservation of sea turtles before enforcing the import prohibition against the shrimp exports'.[210] While the United States had negotiated multilateral environmental agreements with Caribbean countries, prior to imposing the import ban, it had made no effort to do so with the complainant countries. This bias also meant that Caribbean countries were given a three-year phase-in period prior to the implementation of the import prohibition and benefited from substantial turtle excluder device technology transfer.[211] Conversely, the complainant countries were given only four months to comply and substantially less technological help.[212]

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207 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [156].

208 Ibid [161]-[165].

209 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [165], [180]-[184]. For a discussion/critique of the Appellate Body's reasoning see H F Chang, 'Towards a Greener GATT: Environmental Trade Measures and the Shrimp Turtle Case' (2000) 74 *Southern California Law Review* 31; D A Oesterle, 'The WTO Reaches Out to Environmentalists: Is it Too Little, Too Late?' (1999) *Colorado Journal of International Law and Policy* 1.

210 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [166], [171].

211 Technology transfer consisted of workshop training in turtle excluder device design, construction, installation and use, see *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Panel, WT/DS58/R (15 May 1998) [3.112].

212 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [169]-[176]; D Brack, 'The Shrimp-Turtle Case: Implications for the Multilateral Environmental Agreement-World Trade

Commentators welcomed *Shrimp-Turtle* because it opened a theoretical possibility that unilateral and extra-jurisdictional measures could be WTO consistent.[213] However, there was some concern that the conditions were so stringent as to make it virtually impossible to create a measure that would satisfy the *chapeau.*[214]

The United States agreed to comply with the Appellate Body's decision and modified its measure to address the discriminatory aspects. It began negotiations to develop multilateral environmental agreements for sea turtle conservation with the four complainants and other South East Asian countries.[215] It offered turtle excluder device technical assistance to any country requesting it, and implemented revised guidelines, which provided due process, allowed for different but comparably effective turtle protection regimes, and permitted shipment-by-shipment certification.[216]

In October 2000, Malaysia requested a panel be convened pursuant to article 21.5 of the DSU, claiming that these changes were insufficient to render the United States measure consistent with the GATT and that the import ban should be lifted immediately.[217] The panel reviewed the United States modifications to its program and held that, in its revised form, the measure was justified under article XX. However, the panel noted that unilateral measures of this nature should be seen as provisional measures 'allowed for emergency reasons' rather than as the exercise of 'a definitive "right" to take a permanent measure', and the United States measure would be permitted only to the extent that the United States continued to engage in good faith efforts to reach

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Organization Debate' (1998) 9 *Yearbook of International Environmental Law* 13, 15; see also United States Court of International Trade, *Earth Island Institute v Warren Christopher and National Fisheries Institute, Inc*., Memorandum in Support of Defendants' Motion for Modification of 29 December 1995 Order at 11-12, cited in *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Panel, above n 211, [3.113].

213 See Wirth, above n 202, 43; P Sands, 'Unilateralism, Values and International Law' (2000) 11 *European Journal of International Law* 291, 299; see also Marceau, above n 49, 98.

214 See Neumayer, above n 6, 150.

215 *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Panel, above n 14, [2.4].

216 E L Richards and M A McCrory, 'The Sea Turtle Dispute: Implications for Sovereignty, the Environment, and International Trade Law' (2000) 71 *Colorado Law Review* 295, 324.

217 *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Panel, above n 14, [1.4]. See also Australia's Third Participants' Submissions to the Appellate Body, *United States – Import Prohibition of Certain Shrimp and Shrimp Products – Recourse by Malaysia to Article 21.5 of the Understanding on Rules and Procedures Governing the Settlement of Disputes*, DS58/RW (17 August 2001) <http://www.dfat.gov.au/trade/negotiations/environment/us_shrimp_3rdpartysubmission_aug2001.html> accessed 15 October 2001 (copy on file with author), arguing that while broad-based multilateral negotiations for sea turtle protection are progressing, the United States should not be entitled to maintain its ban.

multilateral environmental agreements.[218] The Appellate Body subsequently upheld this decision.[219]

The article 21.5 panel and Appellate Body decisions, as the main Appellate Body report, emphasised the importance of good faith and cooperation in the international environmental sphere.[220] The balance reached in these decisions can be understood as a direct application of the principle of integration through the accommodation of the principle of cooperation into the article XX *chapeau*.[221] Indeed, all three decisions referred to and emphasised the importance of the principle of cooperation as expressed in Principle 12 of the Rio Declaration:

> Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an *international consensus*.[222]

However, these decisions also recognised that this principle suggests that unilateral action may be necessary in some circumstances, such as where international consensus is not immediately forthcoming and yet one or more species are on the verge of extinction and need immediate protection.[223]

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218 *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Panel, above n 14, [5.88]; W Dalessandro (ed), 'WTO Clarifies Members' Duties When Enforcing Environmental Measures' (2001) XII *Business and the Environment* 15; see also E Brown Weiss et al, *International Environmental Law and Policy* (1998) 1065 (arguing for a similar interpretation).

219 *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Appellate Body, above n 14.

220 See Marceau, above n 49, 136.

221 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [168]; *Recourse to Article 21.5 by Malaysia*, Report of the Panel, [5.59] and Report of the Appellate Body, 39-40, above n 14; Hilf, above n 25, 123.

222 Rio Declaration on Environment and Development, above n 2 (emphasis added); see also Trade and Environment Committee 1996 Report, WT/CTE/1 (12 November 1996) [170]-[179].

223 *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Appellate Body, above n 14, 39. See also S Fox, 'Responding to Climate Change: The Case for Unilateral Trade Measures to Protect the Global Atmosphere' (1996) 84 *Georgetown Law Journal* 2499, 2519; Sands, above n 25, 367; Sands, above n 213, 295.

(b) Critique of sovereignty as freedom

In the article 21.5 proceedings, Malaysia argued that any unilateral import ban would infringe its sovereign right to manage its own environmental policies,[224] and, as such, was an illegitimate conditioning of market access.[225] The United States counter-argued that its import ban did not affect Malaysia's sovereignty, as it did not directly force any nation to adopt a particular environmental policy. Rather, the measure was simply 'an application of [the United States] sovereign right to exclude certain products from importation' and to control its borders.[226]

These two positions highlight the problems with a concept of sovereignty as freedom and independence. In an integrated world economy, it is clear that United States trade policy will heavily influence the regulatory regimes other states may adopt while still pursuing goals such as economic growth. Similarly, in an interdependent global ecosystem, asserting an independent right to determine one's own environmental policies infringes the right of other states to maintain environmental quality and to ensure that their own production and consumption patterns do not contribute to global environmental damage.[227]

Indeed, in a situation where environmental impacts in one country increasingly have transboundary effects and human activity is causing harm to shared or common resources, the validity of the argument that the different absorptive capacities and environmental preferences of countries should be respected, is reduced.[228]

If the concept of sovereignty as freedom and independence is maintained, a decision as to which sovereignty is to be infringed and which protected will be required. This would entail ranking the importance of trade and environmental interests. In *Shrimp-Turtle*, if Malaysia retains full sovereignty, many endangered species of sea turtle suffer. If the United States retains full

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224 These included a turtle egg conservation program.

225 *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Panel, above n 14, [3.104], [3.126]-[3.127]; see also J Atik, 'Two Hopeful Readings of *Shrimp-Turtle*' (1998) 9 *Yearbook of International Environmental Law* 6, 163; Richards and McCrory, above n 216, 311.

226 *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Panel, above n 14, [3.145]; see also Howse and Regan, above n 187, 275; Charnovitz, above n 40, 280.

227 P I Hansen, 'Transparency, Standards of Review, and the Use of Trade Measures to Protect the Global Environment' (1999) 39 *Virginia Journal of International Law* 1017, 1045; Fox, above n 223, 2532; Cameron, above n 9, 21; see also D Bodansky, 'What's So Bad about Unilateral Action to Protect the Environment?' (2000) 11 *European Journal of International Law* 339, 341; Howse and Regan, above n 187, 278.

228 For an example of this argument see D A Motaal, 'Trade and Environment in the World Trade Organization: Dispelling Misconceptions' (1999) 8 *Review of European Community and International Environmental Law* 330, 333; C Stevens, 'Trade and the Environment: The PPMs Debate' in Lang (ed), above n 18, 239; for a critique see Howse and Regan, above n 187, 278.

sovereignty, the result is harm to the fishing industries and people of some of the world's poorest countries.[229] The question then is: must a choice between trade, development and equity-based values and the possibility of the irreversible loss of a species be made, or is there a way of balancing these considerations? Arguably, the Appellate Body and article 21.5 panel's accommodation of the principle of cooperation into article XX attempts to balance these considerations by reconceptualising sovereignty as importing a responsibility to cooperate.

(c) Reconciling unilateral trade measures to protect the environment and the principle of cooperation

Jackson has suggested that given

> the imperfections of the international system and its system for developing new rules (with its lowest common denominator constraints), environmental policy experts can legitimately argue that there must be some room for unilateral nation-state actions designed to support the world environment.[230]

The argument in favour of such unilateral measures stresses that these are necessary due to the serious and often irreversible nature of some environmental damage, which cannot wait for multilateral agreement and action.[231] Importantly, unilateral measures are often catalysts for multilateral agreements, that may otherwise have taken far longer to conclude due to lack of political will, scientific agreement or financial resources.[232] For example, the Montreal Protocol,[233] CITES[234] and the Basel Convention[235] were

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229 Atik, above n 225, 9.

230 Jackson, above n 1, 416.

231 See R E Hudec, 'The GATT/WTO Dispute Settlement Process: Can it Reconcile Trade Rules and Environmental Needs?' in Wolfrum (ed), above n 94, 150; Stevens, above n 228, 239; see also L Boisson de Chazournes, 'Unilateralism and Environmental Protection: Issues of Perception and Reality of Issues' (2000) 11 *European Journal of International Law* 315, 332.

232 Stevens, above n 228, 245; R W Parker, 'The Use and Abuse of Trade Leverage to Protect the Global Commons: What Can we Learn from the Tuna-Dolphin Conflict' (1999) 12 *Georgetown International Environmental Law Review* 1, 9; C J Miller and J L Croston, 'WTO Scrutiny v. Environmental Objectives: Assessment of the International Dolphin Conservation Program Act' (1999) 37 *American Business Law Journal* 73, 84; see also Bodansky, above n 227, 344.

233 Montreal Protocol on Substances that Deplete the Ozone Layer (16 September 1987), 1522 UNTS 29.

234 Convention on International Trade in Endangered Species of Wild Flora and Fauna, above n 206, 244.

235 Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (22 March 1989), 1673 UNTS 126.

kick-started by unilateral trade restrictions imposed by environmental front-runner countries.[236]

Nonetheless, there is concern that unilateral trade measures can be abused by protectionist interests and may, thus, undermine the integrity of the international system and the trust required for sustained cooperation.[237] One fear is that permitting such measures would represent:

> falling back into a world where power dominates rules in solving international conflicts and the stronger countries unilaterally prescribe what the weaker ones have to do … Permitting unilateral measures would create a world in which every country could try to impose its particular value system on others, but only the powerful ones would succeed.[238]

Given these concerns, unilateral trade measures should only be permitted if they can be justified under rigorous standards, which ensure their function as 'a means of inducing rules-based cooperative equilibrium' rather than inducing long-term non-cooperative behaviour patterns.[239] Parker[240] studied the use and abuse of trade leverage to protect the environment in the context of the *Tuna-Dolphin* disputes and noted that:

> Trade embargoes are not purely economic events. They are also communicative and political events, and evoke a political response that is a crucial part of the cognitive dynamic of any trade and environment episode.[241]

This is well illustrated by *Tuna-Dolphin*, where trade leverage played a crucial role in drawing political attention to the issue. This attention led to the initiation of a monitoring and research program, raised public awareness and debate in countries affected by the tuna embargo, and promoted dialogue between local and transnational non-governmental organisations and governments. It also challenged the image of the embargoed states, which

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236 Stevens, above n 228, 245; R W Parker, 'Trade and the Environment: Implications for Global Governance – The Case for Environmental Trade Sanctions' (2001) 7 *Widener Law Symposium* 21, 25.

237 R A Reinstein, 'Trade and Environment: The Case for and against Unilateral Actions' in Lang (ed), above n 18, 223, 230; see also Kennedy, above n 158, 70.

238 Neumayer, above n 6, 154.

239 Trebilcock and Howse, above n 37, 427; see also Hudec, above n 231, 150; Kennedy, above n 158, 51.

240 Parker, above n 232; Parker, above n 236.

241 Parker, above n 232, 36; see also M Churche, 'The WTO Rules and the Environment: An Australian Perspective on the Use of Trade Measures to Promote Legal and Policy Change' Australian & New Zealand Society of International Law Ninth Annual Meeting, Canberra, 13-14 June 2001.

sought to counter the charges made against them.[242] In combination, trade leverage, and the cooperative and negotiation-based strategies it engendered, resulted in the creation of a highly effective multilateral environmental agreement, reducing dolphin mortality by 99 per cent.[243]

This illustrates that, while cooperative solutions are preferable and should be attempted as a first priority,[244] trade leverage can be useful, especially at the regime-formation stage.[245] Long term, however, trade leverage can only effectively reach environmental objectives if accompanied by cooperative management strategies.[246] Conversely, unilateral trade measures can be and were misused in *Tuna-Dolphin*, and the effectiveness of unilateral trade measures can be compromised by such abuse because it gives rise to perceptions of illegitimacy.[247]

Parker identified four main ways in which unilateral trade measures can be abused: disguised protectionism, inconsistent application, the application of trade pressure in support of environmentally arbitrary goals, and the use of unilateral economic pressure to impose unfair terms of cooperation.[248] The conditions discussed by the Appellate Body and article 21.5 panel in *Shrimp-Turtle,* address each of these concerns. Indeed, it is arguable that in *Shrimp-Turtle,* the Appellate Body and article 21.5 panel developed a balancing test that should restrict most instances of abusive unilateral action,[249] while allowing trade leverage that will enhance environmental protection and international cooperation.

Disguised protectionism is prohibited under the article XX *chapeau.* While the Appellate Body did not address this aspect, the article 21.5 panel did. The panel considered the design, architecture and revealing structure of the measure to ascertain whether a protectionist motive was present.[250] In this case, the flexible and even-handed nature of the regulatory program, the offers of technical assistance and the fact that enforcement of the measure was due to court action by environmental groups, showed conclusively that the measure was not a disguised restriction on international trade.[251]

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242 Parker, above n 232, 68. The high incidental dolphin mortality levels had been known for 14 years before the trade embargo and no cooperative solutions had emerged.

243 Ibid 6.

244 Parker, above n 232, 106; see also Stevens, above n 228, 246.

245 Parker, above n 232, 115.

246 Ibid 107.

247 Ibid 110. See 112-15 for a discussion of how trade measures were misused in *Tuna-Dolphin.*

248 Parker, above n 232, 112; Parker, above n 236, 28.

249 See A E Appleton, 'Shrimp/Turtle: Untangling the Nets' (1999) 2 *Journal of International Economic Law* 477, 491.

250 *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Panel, above n 14, [5.142].

251 Ibid [5.143]-[5.144].

Inconsistency in the application of unilateral measures can arise where foreign imports are treated differently from domestic products, or where like situations in foreign countries are treated differently. These are respectively protected against by the requirement under article XX(g) that any unilateral trade measures to protect exhaustible natural resources be undertaken 'in conjunction with restrictions on domestic production or consumption', and by the prohibition on measures that 'constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail'.[252] In *Shrimp-Turtle*, the Appellate Body discussed the extent of discrimination covered in the second situation and imported a requirement to attempt negotiations in good faith with all parties, and to provide equal access to technology transfer and equal phase-in periods.[253]

The application of trade pressure in support of environmentally arbitrary goals occurs where a unilateral trade measure contains requirements not necessarily appropriate to an exporting country, or that are not the only feasible way of achieving the desired level of protection. In *Shrimp-Turtle,* the Appellate Body sought to reduce the risk of such abuse by requiring that good-faith negotiations be attempted, that the regulatory program adopt goal-oriented rather than process-oriented standards and that due process be available to affected parties.[254] The effective implementation of the new regulatory program, upheld by the article 21.5 panel and Appellate Body, thus requires some cooperation,[255] enhancing the measure's perceived legitimacy.

The use of unilateral economic pressure to impose unfair terms of cooperation occurs when developed environmental-*demandeur* states impose unilateral trade measures and set such high standards that compliance for developing nations becomes overly burdensome or impossible. This is because such standards demand trade-offs between environmental quality and satisfying basic human needs for food, clean water and shelter. They consequently fail to address the link between poverty and environmental degradation and hence, the goal of sustainable development.[256] In *Shrimp-Turtle,* the Appellate Body sought to take these concerns into account, specifically by requiring that the United States engage in technology transfer across the board and provide reasonable and equal phase-in periods for compliance. This demonstrates recognition of the notion of 'common but differentiated responsibilities' incorporated in many multilateral environmental agreements:[257]

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252 See P C Mavroidis, 'Trade and Environment after the *Shrimps-Turtles* Litigation' (2000) 34 *Journal of World Trade* 73, 87.

253 See Richards and McCrory, above n 216, 339.

254 See Parker, above n 232, 117.

255 See Appleton, above n 249, 493.

256 Perrez, above n 90, 537; Atik, above n 225, 6.

257 See art 3, United Nations Framework Convention on Climate Change, above n 2, 169-70; art 5, Montreal Protocol on Substances that Deplete the Ozone Layer, above n 48, 34; art 20, Convention on Biological Diversity, above n 48, 155; art 6, United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa

> The price of coercive hegemony is, or ought to be, benevolent hegemony: great powers that assume the right and responsibility of leadership through leverage must also accept the obligation to ensure that their regime provides the capacity enhancement, technology transfer, and other "management" elements necessary for success.[258]

While it is clearly politically indefensible, as well as unethical, to require that 'victims' of degradation of common or shared resources pay those causing harm to achieve protection, the large wealth disparities between countries justify that assistance be provided to developing countries trying to achieve higher standards of environmental protection.[259] In *Shrimp-Turtle,* the Appellate Body has developed a much-needed interpretive framework to ascertain when unilateral trade measures are being used in a manner consonant with redistributive values and the maintenance of cooperative state relations, and when they are being used unfairly.[260] In other words, in balancing the rights and obligations of WTO Members, it has developed a test that differentiates between unilateral trade measures that help sustainable development and those that may hinder it.[261]

(d) Operationalising sovereignty as responsibility to cooperate in *Shrimp-Turtle:* trade and environment cases as trade, environment and development cases

In *Shrimp-Turtle,* both the Appellate Body and article 21.5 panel emphasised that cooperative multilateral environmental agreements were preferable to

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(14 October 1994), 1954 UNTS 108, 114.

258 Parker, above n 232, 119.

259 Trebilcock and Howse, above n 37, 424; see also Stevens, above n 228, 246.

260 See A Mattoo and P C Mavroidis, 'Trade, Environment and the WTO: The Dispute Settlement Practice Relating to Article XX of the GATT' in Petersmann, above n 185, 327. There is some concern over the extent of the requirement to negotiate and whether it requires states to compromise their environmental objectives to reach agreement, or to pay for any standard higher than what can be agreed multilaterally: see B Neuling, 'The Shrimp-Turtle Case: Implications for Article XX of GATT and the Trade and Environment Debate' (1999) 22 *Loyola of Los Angeles International and Comparative Law Review* 1. These are serious and legitimate concerns, which will need to be resolved on a case-by-case basis, taking into account the nature of the environmental objectives, the state of development of the *demandeur*-country and those countries affected by the demands.

261 See Atik, above n 225; see also United Nations Conference on Environment and Development, Agenda 21: Programme of Action for Sustainable Development (14 August 1992), UN Doc A/CONF.151/26 (Vol III) [39.3], which suggests that where unilateral trade measures are necessary to enforce environmental policies, they should be governed by principles of non-discrimination, proportionality, transparency and give consideration to developing country needs in the move towards internationally agreed environmental objectives.

unilateral measures.[262] This reflects an understanding that any country attempting to unilaterally address problems that are global or transboundary in nature will find that they can no longer reach their goals. Rather, the ability of sovereign states to meet national goals requires sovereignty to be shared through cooperation.[263]

Shrimp-Turtle also recognises that beyond the need for the GATT/WTO regime to become sensitised to environmental concerns, the regime must also safeguard and enhance its focus on the developmental dimension of any trade and environment disputes.[264] This necessity has been recognised in international environmental law, through the development of principles such as the principle of cooperation, incorporating a notion of 'common but differentiated responsibilities'. Sovereignty as responsibility to cooperate, however, does not strip sovereignty of independence. The equal value of each state's aspirations and priorities must still be recognised, but where there are conflicting or overlapping interests, such as in the environment-development sphere, cooperation is necessary to find equitable and balanced solutions.[265]

Essentially, *Shrimp-Turtle* establishes that reaching a solution through cooperation should be attempted first. This is consistent with the principle of cooperation, a fundamental principle of international environmental law. However, at the same time, these decisions recognise that timely results may not always be achieved solely through cooperation. Where environmental harm is irreversible or potentially so, another fundamental principle of international environmental law, the precautionary principle dictates that interim unilateral measures, implemented to enhance sustainable development, are both a moral imperative and legally justified.

The validation of such unilateral environmental measures has a further integrating role between the international environmental and trade regimes. By holding that trade restrictions are legally permissible, when implemented in a manner that does not distinguish unjustifiably between countries, and emphasising the importance of cooperative agreements, these decisions confirm that multilateral environmental agreements imposing trade restrictions between parties are WTO-compatible.[266] Further, these decisions suggest that

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262 *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [168], [185]; *United States: Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 by Malaysia*, Report of the Panel, [7.1]-[7.2] and Report of the Appellate Body, 39-40, above n 14.

263 See Esty, above n 4, 246; J Waincymer, 'International Economic Law and the Interface between Trade and Environment Regulation' (1998) 7 *Journal of International Trade and Economic Development* 3, 13; J Cameron and K Campbell, 'Challenging the Boundaries of the DSU through Trade and Environment Disputes' in J Cameron and K Campbell (eds), *Dispute Resolution in the WTO* (1998) 204.

264 Atik, above n 225, 12.

265 Perrez, above n 55, 340.

266 Brack, above n 212, 15; see also Trebilcock and Howse, above n 37, 428;

multilateral environmental agreements imposing trade restrictions on non-parties will also be WTO-compatible when they are open to participation by all, active efforts are made to encourage targeted countries to join the agreement, technical assistance is available where necessary, and the trade embargo is enforced in a transparent and flexible manner.[267]

A hopeful reading of the widening interpretation of article XX and the integration of the principle of cooperation into its *chapeau* is then that it will not only improve turtle welfare, as well as environmental protection more generally, but will also facilitate the move towards sustainable development for developing countries.

V. Conclusion: Resolving the Tensions?

The aim of this article has been to examine whether the WTO Dispute Settlement Body, through the panels/Appellate Body, is now playing a positive role in facilitating (or at least not hindering) the implementation of internationally agreed environmental policies and processes. In answering this question, the focus was on two particularly important principles of international environmental law, the precautionary principle and the principle of cooperation.

The Dispute Settlement Body's responsibility to play such a role emerges from two main sources. The first is the integration of sustainable development, and by implication the precautionary principle and the principle of cooperation, into the basic principles and objectives underlying the multilateral trading system. The second is through article 31(3)(c) of the VCLT, which entrenches a principle of integration. This creates an obligation to take the precautionary principle and the principle of cooperation into account where they are part of a treaty with overlapping subject matter to that of a trade dispute, or in all cases if these principles are accepted as customary law.

Nonetheless, the legitimacy of the Dispute Settlement Body in such a role is constrained by GATT/WTO rules. While the panels/Appellate Body have a responsibility to interpret these rules consistently with underlying principles and the principle of integration, they remain bounded by these rules. Exceeding them without legal authority could damage state respect for the integrity of international law and dispute settlement. This would advance neither the environmentalists', nor the free-traders' objectives.[268]

L B Campbell, 'Trade and Environment: The Case for and against Unilateral Actions' in W Lang (ed), above n 18, 237; Kennedy, above n 158, 52 for a discussion of how multilateral measures better fulfil the criteria for environmental trade measures set out by the Appellate Body in *Shrimp-Turtle*.

267 See Joint Standing Committee on Treaties, *Who's Afraid of the WTO? Australia and the World Trade Organisation* Report 42 (2001) 164 where the Deputy-Director of the WTO, Andy Stoler stated that inconsistencies between multilateral environmental agreements and the GATT/WTO could be avoided by an interpretation of the latter in accordance with the relevant rules and principles of international law.

268 I thank Milton Churche, Visiting Fellow, School of Economics, Faculty of

An analysis of the recent jurisprudence of the Dispute Settlement Body, in the sphere of SPS Agreement disputes and disputes involving unilateral environmental measures, has shown that the Appellate Body and one panel have explicitly or implicitly taken into account the precautionary principle and the principle of cooperation. The Appellate Body and panel have also begun to recognise, or at least to contemplate, their legal obligation to do so.[269] This remains far from a complete reconciliation between environmental and trade interests, which would require treaty reform.[270] However, these first steps towards integrating international environmental law principles, and the increasing attention given to concepts of fairness and proportionality that extend beyond trade to environment and development concerns, should begin to rebuild trust in the decisions taken by the Dispute Settlement Body within the environmental community. They also represent an important step towards a more sustainable development path.

Economics and Commerce, ANU for emphasising this point. See also Biermann, above n 179, 426; Hudec, above n 231, 124.

269 See in particular *United States: Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, above n 22, [130]-[131], [153]-[154], [168]-[169]; *European Community: Measures Concerning Meat and Meat Products (Hormones)*, Report of the Appellate Body, above n 35, [123].

270 See eg Marceau, above n 49, 139; Biermann, above n 179; A L Strauss, 'Externalities, Technology, and Sustainable Development: The Case for Utilizing the World Trade Organization as a Forum for Global Environmental Regulation' (1998) 3 *Widener Law Symposium* 309.

Glossary

ALOP	Appropriate level of sanitary or phytosanitary protection
DSU	Understanding on Rules and Procedures Governing the Settlement of Disputes
EC	European Community
GATT	General Agreement on Tariffs and Trade (1994)
GMOs	Genetically modified organisms
SPS Agreement	Agreement on the Application of Sanitary and Phytosanitary Measures
SPS Measures	Sanitary and phytosanitary measures
VCLT	Vienna Convention on the Law of Treaties
WTO	World Trade Organization
WTO Agreement	Agreement establishing the World Trade Organization