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Precaution in World Trade Law:

The Precautionary Principle and its Implications for the World Trade Organization.

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Abstract

Precaution in World Trade Law:
The Precautionary Principle and its Implications for the World Trade Organization.

How can we know what causes environmental damage and health loss, and how should uncertainty be managed- should economic growth and development take precedence, or should precaution guide? What does the application of the precautionary principle imply, what degree of potential damage triggers use of the principle, and how does it shift the burden of proof to the proponent of potentially harmful activities? In international trade law, all countries are basically free to determine the acceptable level of risk, but *how* is this determined? When a stated goal of the WTO is sustainable development, but can trade law be used to impose a different level of risk upon a different country? What is the right process for resolving trade disputes over uncertain science, and why is this relevant to the interests of developing countries? How could world trade law become more sustainable?

This paper examines the nature of the precautionary principle, with reference to international legal debates and domestic laws, as well as the European Union.[1] The paper contrasts current debates on the precautionary principle in international *fora* on international environment, health and trade law. It examines the development and legal formulation of the precaution in international law relating to the environment and health, with illustrations drawn from the *Southern Bluefin Tuna* interim order of the International Tribunal on the Law of the Sea, and *Nuclear Tests* Advisory Opinion dissent in the International Court of Justice. Then, it focuses on the international trade law aspects of precaution. The paper examines case studies on the state of the law on these issues, through case studies of three disputes at the World Trade Organisation (WTO), the panel and appellate body decisions in the (earlier)GATT *Thai – Cigarettes case*, as well as the *EC – Beef Growth Hormones case* and *EC – Asbestos case*. The paper also touches on the specific implications of precaution in trade law for developing countries, illustrated by issues such as the export of domestically prohibited goods and the standard by which trade-related health measures are judged necessary. These countries often have less access to scientifically accurate information or analysis, and might arguably need precautionary policies even more acutely, but also have pressing economic development concerns. The current state of the international debate is demonstrated with reference to negotiations in the 2002 World Summit for Sustainable Development of Johannesburg, South Africa.

This leads to conclusions and recommendations concerning the management of uncertainty in situations where environment and health policies appear to conflict with international trade law. In the face of uncertain science, it is found that countries can and should be able to choose their own level of risk. It is concluded that the law concerning international application of the precautionary principle is not yet settled. However, the precautionary element of sustainable development is more than a mechanism of risk management for environmental policy makers. It can be considered a guiding principle and a manner to ensure that balanced decisions can be made at different levels, and in different bodies of law, when there is scientific uncertainly and a threat of serious or irreversible harm. The paper finds that the existence of review mechanisms is valuable, preventing precaution from being used by special interests as an excuse for disguised protectionism of inefficient industry. However, the WTO dispute settlement mechanism has had several opportunities to find aspects of a cure for these ongoing policy conflicts. This paper concludes that the further incorporation of precautionary reasoning into the WTO may well prove crucial to ensure that international trade law can foster and not frustrate the legitimate goals of domestic and international public health and environment law.

[1] The legally correct term in the trade context would be European Communities, but the European Union refers to itself, in the WTO context, as EU. See WTO Document PRESS/TPRB/199, 29 July 2002, TRADE POLICY REVIEW: EUROPEAN UNION.

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1. Introduction

How can we know what causes environmental damage and health loss? How should the inevitable uncertainty be managed on the international level? What does precaution really mean, particularly in terms of the way that it shifts the burden of proof to the proponent of potentially harmful activities? In international trade law, all countries are basically free to determine the acceptable level of risk, but how is this determined and in what process? What is a right process for resolving conflicts over uncertain science when these involve developed and developing countries?

The precautionary principle states that "[w]here 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, as set forth in the 1992 *Rio Declaration* at Principle 15.[2] As shown by Freestone and Key, Cameron and Abouchar and others, considerable research and analysis has been done to develop understanding of the principle.[3] There have also been recent surveys of analysis conducted for international trade and sustainable development debates.[4] On the other side, it has been vigorously argued that the precautionary principle is too new or undefined to properly guide decision-makers or be considered law. According to these authors, precaution should especially not be considered part of a growing body of binding, enforceable world trade law.[5] However, it is possible to trace the historical development of this principle, and to define it in the context of science, policy and international law. In this introductory section, the nature of the precautionary principle is outlined with regards to its history, place in scientific methodology and policy-making utility.

After providing comparative illustrations of the application of precaution in domestic United States law, and in European law, in comparison with recent innovations in Switzerland, Canada, Chile and South Africa, this paper then focuses on the application of precaution in international trade law, and its implications for developing countries. These countries often have less access to scientifically accurate information or analysis, and might arguably need precautionary policies even more acutely, but also have pressing economic development priorities. As case studies on the state of the law with regard to these issues, several recent disputes at the WTO are surveyed, with

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[2] *Rio Declaration on Environment and Development*, June 14, 1992, U.N. Doc. A/Conf. 151/5/Rev. 1 (1992), *reprinted in* 31 I.L.M. 876 (1992) at Principle 15.

[3] See D. Freestone and E. Hey, eds., *The Precautionary Principle and International Law. The Challenge of Implementation* (The Hague: Kluwer International, 1996), at pp. 97-108, or see J. Cameron and J. Abouchar, *'The Precautionary Principle: A Fundamental Principle of Law and Policy for the Protection of the Global Environment.'* (1991) 14 Boston C.I.C.L.R.1. See also J. E. Hickey, Jr., and V. R. Walker, "Refining the Precautionary Principle in International Environmental Law" (1995) 14 Va. Envtl. L.J. 423 at 436. The principle does not answer certain questions, however: the level of potential damage, the level of certainty required, and the circumstances under which the government would act - as opposed to the circumstances under which it would refrain from acting.

[4] Communication from the European Commission on the Precautionary Principle, EC COM 1 (2000) WTO document WT/CTE/W/147G/TBT/W/ 137 27 June 2000, and F. Perrez, *Precaution: From Rio to Johannesburg* (Geneva: Geneva Environment Network / Swiss Agency for Environment, Forests and the Landscape, 2002).

[5] See e.g. H. Priess & C. Pitschas "Protection of Public Health and the Role of the Precautionary Principle Under WTO Law: A Trojan Horse Before Geneva's Walls" 2000 Fordham Int'l Law J. Nov-Dec, 2000. This concern is also expressed by journalist Steven Milloy, who argues that "despite the various conditions outlined in the EU's position, EU members will ultimately be able to have unfettered discretion over how they interpret the guidelines." See S. Milloy, European Caution Carries Risks, Fin. Times, Mar. 10, 2000, at 11.

a focus on the panel and appellate body decisions in the *Thai – Cigarettes* case under the 1947 General Agreement on Trade and Tariffs (GATT), and the *EC – Beef Growth Hormones* and *EC – Asbestos* dispute under the 1994 WTO Agreements. These are then contrasted with international judicial decisions applying the precautionary principle, such as the *Southern Bluefin Tuna* interim order of the International Tribunal on the Law of the Sea (ITLOS), and the *Nuclear Tests* Advisory Opinion dissent in the International Court of Justice. By contrasting current debates on the precautionary principle in international trade policy forums, such as the World Trade Organisation (WTO) Committee on Trade and Environment and the 2001 Fourth WTO Ministerial in Doha, Qatar, with international environmental law and in recent debates at the 2002 World Summit for Sustainable Development in Johannesburg, South Africa, it is possible to shed some light on the current meaning and status of the precautionary principle in international law, and its potential as a principle of world trade law.

2. The nature of the precautionary principle

The precautionary principle evolved from the growing recognition that scientific certainty often comes too late to design effective legal and policy responses to potential environmental threats. It is not a panacea, nor is it intended to be used in all situations. It is, however, a useful tool for a more systematic response to the problem of scientific uncertainty in environment and health decision-making. The proponent of activities which might lead to either significant, serious or irreversible harm is obliged to take measures (or permit measures to be taken) to prevent this damage (including halting the proposed activities), though there is a lack of full scientific certainty as to the existence and severity of the risk. In essence, precaution switches the burden of proof necessary for triggering policy responses (see Chart 1 – Thresholds of Precaution). As such, essential elements include the degree of potential damage which triggers the principle, an aspect of proportionality between to the harm and the necessary measures, and a reversal of the burden of proof. Before examining the application of the precautionary principle, a brief exploration of its origins and scope is helpful.

2.1 Origins of the precautionary principle

While risk assessment and management has taken place on national and international levels for many years, the precautionary principle as such was first articulated as a specific principle of environmental policy in Germany, the *Vorsorgeprinzip*. The concept of "*Vorsorge*" is to be found in the 1974 Federal Emission Protection Act, an air pollution control law that doubles as the framework for general environmental policy,[6] and in 1980 the *Vorsorgeprinzip* emerged among the German environmental policymakers, especially to address decision-making

[6] Bundesimmissionsschutzgesetz—BImSchG, Art. 5.2: "Installations subject to authorization are to be constructed and operated in such a manner that … 2. Precaution is taken against damaging environmental effects…"

surrounding uncertainties of air pollution policies.[7] Later that year, the West German Council of Experts for the Environment made it one of the cornerstones of a report on the North Sea.[8] By 1983, precaution was firmly established as one of the fundamental principles of German policy affecting health and the environment.[9]

As different governments react differently on these issues, the process of science assessment itself can become a source of uncertainty or strong disagreement.[10] However, as explained by von Moltke, the precautionary principle identifies and addresses a common dilemma faced by all public authorities: how to deal with risks, primarily from technological developments, when the scientific basis for concern is uncertain.[11] This arises from the emergence of technological processes where not only the occurrence of certain hazards is uncertain but even the risks associated with such occurrences remain uncertain. What is the relationship between risk assessment and precaution? Despite distinct requirements, each risk assessment carries immanently (due to its intrinsically predictive or forward looking nature) an element of uncertainty. Thus precaution cannot be replaced by an extensive risk assessment, but rather, should become an integral part of it.

Recent analysis by the European Communities (EC) in the context of the WTO Committee on Trade and Environment deliberations, and by the Geneva Environment Network (GEN) and the Swiss Agency for Cooperation and Development, has further defined the precautionary principle. This work suggests that the precautionary principle is based on two aspects. First, there is the political decision to act or not to act, which is linked to the factors triggering recourse to the precautionary principle. Second, if an action is taken, the principle is meant to guide how to act (measures resulting from application of the precautionary principle). According to this analysis, some of the primary factors include:

Prevention and precaution

The precautionary principle is not intended to justify the adoption of arbitrary decisions. Neither is it simply a principle of 'prevention'. In domestic and international law, confusion is possible between 'prevention' and 'precaution'. The key determinant is the factor of uncertainty as to the harm. For example, in the 1990 *International Maritime Organization International Convention on Oil Pollution Preparedness, Response and Cooperation* parties commit to

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[7] G. Feldhaus, "Der Vorsorgegrundsatz des Bundes-Immissionsschutzgesetzes" in: *Deutsches Verwaltungsblatt* 1980, at pp. 133-139.
[8] Rat von Sachverständigen für Umweltfragen, *Umweltprobleme der Nordsee* (Stuttgart: Kiepenheuer & Witsch, 1980) at pp. 444-446.
[9] See Günter Hartkopf and Eberhard Bohne, *Umweltpolitik, vol. 1: Grundlagen, Analysen, und Perspektiven* (Opladen: Westdeutscher Verlag, 1983) at pp. 112-113.
[10] A recent US publication provides a guide to an established practice, with some important hortatory remarks about the difficulty in conducting risk assessments about biological systems, see *Resources for the Future, Understanding Risk Analysis. A Short Guide for Health, Safety, and Environmental Policy Making* (Washington, DC: American Chemical Society, 1998). For a different approach, see the more theoretical exploration of issues that are still viewed as entirely in flux, in Andrew Stirling, et al., *On Science and Precaution in the Management of Technological Risk* Final Report of a project for the EC Forward Studies Unit (Brussels: May 1999). A good summary of the distinct views is provided in M. Pollan, "Scientific Uncertainty & the Precautionary Principle" NYT Magazine, Dec 9, 2001.
[11] K. von Moltke, The Precautionary Principle (Winnipeg: IISD, 2000).

implement precautionary measures and prevention in avoiding oil pollution.[12] Despite the presence of precautionary language, standards set include little precautionary elements. The threats posed to the marine environment are clear. Measures are being taken to prevent such known threats from being realised. Certainty of environmental damage that would result from a failure to adhere to such standards means that the Convention is not precautionary, but rather preventive, in its intention. The terms of the convention may be contrasted with those of the *Conference for the Protection of Coasts and Waters of the North East Atlantic Against Pollution Due to HydroCarbons or Other Harmful Substances.*[13] The risks to be reduced in this case are of an unknown nature. It is unclear what environmental damage the release of these "other harmful substances" into the marine environment would cause. The standard set is obviously preventive in intent, since it clearly seeks to prevent environmental damage, but it is also precautionary, in that the standards set are a response to the uncertainty surrounding the environmental effects of particular discharges. Of crucial importance, of course, is the term 'may.' As such, precaution is considered relevant only in the event of a potential risk, particularly if the risk cannot be fully demonstrated, quantified or its effects determined, due to insufficient or inconclusive scientific data.

2.2 Defining the Precautionary Principle

Triggers for recourse to the precautionary principle

The precautionary principle can be triggered when there is a risk that certain 'thresholds' of harm or damage to the environment, human health or other key concerns, could be attained. As will be addressed in greater detail below, the degree depends a good deal on the language of the relevant treaty or customary principle- it can vary from simply the risk of "possible harm" to situations where there is a risk of "serious and irreversible damage." A table in Section 3 details different precaution thresholds. Relevant to these triggers is the proportional correlation between the potential of a certain risk and the consequences. If the weight of the legal 'good' in danger is very high, such as human life, the correlating risk can be minimal but pass over the threshold which triggers application of the precautionary principle.[14] A second table in Section 3 addresses precaution and proportionality, correlating the risks and with the relevant thresholds.

Before the principle is invoked, it is necessary to identify the potentially negative effects of an action. To understand these effects more thoroughly, scientific research will often be required. Once potential effects are identified, a risk

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[12] *Final Act of the Conference on Oil Pollution Preparedness, Response and Cooperation*, done at London, November 30, 1990, 30 I.L.M. 733 (1991) at 735, where "recognising the serious threat posed to the marine environment by oil pollution incidents involving ships, offshore units, sea ports and oil handling facilities," parties noted that they were "mindful of the importance of the precautionary measures and prevention in avoiding oil pollution in the first instance."

[13] The Conference's final Act declared the need for measures designed to prevent discharges of "[o]ther harmful substances, where the latter were defined as substances the release of which into the marine environment may lead to injury to human health, to eco-systems or living resources, or to the coasts or related interests of the Parties."*Final Act of the Conference for the Protection of Coasts and Waters of the North East Atlantic Against Pollution Due to HydroCarbons or Other Harmful Substances, and Accord of Cooperation*, done at Lisbon, October 17, 1990, 30 I.L.M. 1227 (1991).

[14] See GEN., *Precaution from Rio to Johannesburg* (Geneva: GEN & SAEFL, 2002).

assessment can be carried out.[15] Where possible, a report assesses existing knowledge and available information, providing the views of scientists on reliability of the assessment, remaining uncertainties and topics for further scientific research. Where it is not possible to complete a comprehensive assessment of risk, all effort is made to evaluate available scientific information. Scientific uncertainty results usually from five characteristics of the scientific method: the variable chosen, the measurements made, the samples drawn, the models used and the causal relationship employed. Scientific uncertainty may also arise from a controversy on existing data or lack of some relevant data, and may relate to qualitative or quantitative elements of the analysis.[16] Risk evaluators accommodate these uncertainty factors by incorporating different cautionary aspects in their research methods.[17] Risk managers should be fully aware of these uncertainty factors when they adopt measures based on the scientific opinion delivered by evaluators. However, in some situations scientific data is not sufficient to allow one to apply these cautionary aspects in practice. As such, identification of potentially negative effects resulting from a product or process, coupled with a scientific evaluation of risks which, due to insufficient, inconclusive or imprecise data, can make it impossible to determine with sufficient certainty the risk in question. It is in situations like these that decision-makers face the dilemma of having to act or not act.

Measures resulting from reliance on the precautionary principle

In the above-mentioned situation, under varying degrees of pressure from their public, decision-makers have to respond. Responding does not necessarily mean that measures always have to be adopted- the decision to do nothing may be a response in its own right. The appropriate response in a given situation is thus the result of a political decision, a function of the risk level that is "acceptable" to the society upon which the risk is imposed. Recourse to the precautionary principle does not necessarily mean adopting final instruments designed to produce legal effects subject to judicial review. The nature of the decision influences the type of control that can be carried out. Many courses of actions are possible- the decision to fund a research programme or to inform the public about the possible adverse effects of a product or procedure may themselves be inspired by the principle.[18]

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[15] Assessments require reliable scientific data and logical reasoning, leading to conclusions which outline the probability and severity of a hazard's impact on the environment or health of a given population including the extent of possible damage, persistency, reversibility and delayed effect. They consist of four components- hazard identification, hazard characterization, appraisal of exposure and risk characterisation. The limits of scientific knowledge may affect each of these components, influencing overall uncertainty and ultimately affecting the foundation for protective or preventive action. An attempt to complete these four steps is performed before a decision to act is taken.

[16] According to the EC project "Technological Risk and the Management of Uncertainty", being presently conducted under the auspices of the European Scientific Technology Observatory, a more abstract and generalized approach preferred by some scientists is to separate all uncertainties into three categories of bias, randomness and true variability. Other experts categorize uncertainty in terms of estimation of confidence interval of the probability of occurrence and of the severity of the hazard's impact.

[17] For example, in toxicity analysis, they can rely on animal models to establish potential effects in man; use body weight ranges to make inter-species comparisons; adopt a safety factor in evaluating an acceptable daily intake to account for intra- and inter-species variability; the magnitude of this factor depends on the degree of uncertainty of the available data; not adopt an acceptable daily intake for substances recognised as genotoxic or carcinogenic; and adopt the "ALARA" (as low as reasonably achievable) level as a basis for certain toxic contaminants.

[18] For an excellent early analysis of the principle and its development, see D. Freestone and E. Hey, "Origins and Development of the Precautionary Principle", in D. Freestone and E. Hey, eds., *The Precautionary Principle and International Law*, *supra* note 2. Many have argued that the Principle has developed since then, to a broader formulation which includes health.

Proposed guidelines for the precautionary principle

The implementation of the principle starts with a scientific evaluation, as complete as possible, which identifies (if possible) the degree of scientific uncertainty. Decision-makers obtain, through a structured approach, an evaluation of the risk to the environment or health, in order to select the most appropriate protective measures or options. Action includes the choice to commission scientists to analyse evidence, gaps and uncertainties. This shows if the desired level of protection for the environment or citizens could be jeopardised. The conclusions also include an assessment of the scientific uncertainties and a description of the hypotheses used to compensate for the lack of the scientific or statistical data. All interested parties are involved to the fullest extent possible in the study of various risk management options that may be envisaged, and the procedure is meant to be as transparent as possible. Once results of the scientific evaluation or risk assessment are available, an assessment of the potential consequences of inaction and of the uncertainties of the scientific evaluation is considered by decision-makers when determining whether to trigger action based on the precautionary principle. The absence of scientific proof of the existence of a cause-effect relationship, a quantifiable dose/response relationship or a quantitative evaluation of the probability of the emergence of adverse effects following exposure is not be used to justify inaction. Even if scientific advice is supported only by a minority fraction of the scientific community, due account is taken of their views, provided the credibility and reputation of this fraction are recognised. According to the EU, general methods of application for the precautionary principle can also be identified, though this approach is still subject to much debate.[19]

The burden of proof

Measures based on the precautionary principle may assign responsibility for producing the scientific evidence necessary for a comprehensive risk evaluation. Legislators, by way of precaution, can reverse the burden of proof by requiring that questionable substances be deemed hazardous until proven otherwise, and the business community carries out the scientific work needed to evaluate the risk. If such procedures do not exist, users, private individuals, consumer associations, citizens or public authorities find themselves with the burden of proving the exact nature of a danger posed by a product or process, before it is questioned. Precautionary methods reverse the burden of proof and place it on the producer, manufacturer or importer to show that it is safe. As long as human health risk cannot

[19] These include proportionality; non-discrimination; consistency; examination of the benefits and costs of action or lack of action; and examination of scientific developments. Proportionality means that measures are proportional to the desired level of protection. Non-discrimination means that comparable situations should not be treated differently and different situations should not be treated in the same way, unless there are objective grounds for doing so. Consistency means being consistent with measures already adopted in similar circumstances or using similar approaches. Examination of the benefits and costs of action and lack of action means making a comparison between the most likely positive or negative consequences of the envisaged action and those of inaction in terms of the overall cost to proponents, both in the long- and short-term. Examination of scientific developments means maintaining measures adopted for as long as the scientific data are inadequate, imprecise or inconclusive, and as long as the risk is considered too high to be imposed on society. The measures may have to be modified or abolished by a particular deadline, in the light of new scientific findings, but this usually linked development of scientific knowledge not a timing factor. Scientific research is carried out with a view to obtaining a more advanced or more complete scientific assessment. In this context, measures are subjected to regular scientific monitoring, so that they can be re-evaluated in the light of new scientific information.

be evaluated with sufficient certainty, the executive is not legally entitled to authorise use of substances unless exceptionally for test purposes.[20]

As such, the precautionary principle is far from vague or imprecise. Indeed, it can be considered a reasonable, transparent policy option for decisions being taken in the face of scientific uncertainly after assessments or evaluations have been carried out. It leads to various policy options, not just total bans. It can be triggered by specific situations, and incorporates various defining characteristics. It provides for recognition of reputable minority scientific views, and reversal of the burden of proof. Scarce wonder, perhaps, that it has been increasingly used in domestic contexts. The application of the principle in many countries can readily be traced through comprehensive studies by the Organisation for Economic Cooperation and Development (OECD).[21] Certain examples below will suffice to briefly illustrate its application.

2.3 Examples of Precaution in Practice

Precautionary laws in domestic contexts

The USA is a major trading nation which has persistently objected to the recognition of the precautionary principle as a binding principle of international customary law.[22] However, on the domestic level, with regard to human health and the environment US legislators have prescribed precautionary approaches in several leading laws. While a survey of their nature and application is beyond the scope of this paper, suffice to note that the precautionary principle is certainly not unknown to domestic legal regimes in the USA.[23]

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[20] For example, often prior approval (positive listing) is required before the placing certain products on the market (drugs, pesticides or food additives). This is one way of applying the precautionary principle, by shifting responsibility for producing scientific evidence, and it applies in particular to *a priori* hazardous substances or those which are potentially hazardous at a certain level of absorption. This procedure might appear similar to a risk assessment, which relies on science-based information and non-science value-judgment, but the purpose of the precautionary principle is broader. It can indeed assist decision-makers in a risk management situation. Precaution and the revised burden of proof will ease a sometimes close decision in a risk assessment. See J. Wargo, *Our Childrens' Toxic Legacy* [forthcoming, Introduction & Chapter 9, on file with author].

[21] See for example "Major National Environmental Laws, OECD Countries 1956-1978 and 1979-1984," Table 21 in OECD, *The State of the Environment 1985*. Paris: OECD, 1985, at 242.

[22] See debates in the World Summit for Sustainable Development in Johannesburg, South Africa, where the Australian and USA delegations strongly resisted recognition of the developments in international law, since 1992, regarding the precautionary principles. See also the discussions at the 4th Ministerial Conference in Doha, Qatar, where reportedly the USA with several developing countries successfully withstood an EU attempt to initiate negotiations on the precautionary principle in WTO law.

[23] See for example 1996 US *Food Quality Protection Act*, the 1973 *Clean Air Act* (s303, s 211), and the 1972 *Marine Mammal Protection Act,* related to the protection of human, plant and animal life and health. See also the 1996 *Sustainable Fisheries Act's (SFA) Amendments to 1996 Magnuson-Stevens Fishery Conservation and Management Act,* which sets precautionary targets for the sustainable use of natural resources. Interpretation of these acts, and of the application of the precautionary principle in the common law, has been refined in leading cases such as *Ethyl Corporation* v. *Environmental Protection Agency. 541* F.2d *1* (D.C. C i r . 1976), the *Reserve Mining Company* v. *Environmental Protection Agency*, 514 F.2d 492 (8 th Cir . 1975) case, and the *United States* v. *Vertac Chemical Corporation 489* F. Supp. 870 (E.D. Ark.1980) case.

In Canada, precautionary approaches also underpin several national laws.[24] However, the most significant advancement has been a recent Supreme Court recognition that the precautionary principle is a principle of customary international law, in a *Canada Ltée (Spraytech, Société d'arrosage)* v. *Hudson (Town)*.[25] Here, L'Heureux-Dubé J. stated that "[s]cholars have documented the precautionary principle's inclusion "in virtually every recently adopted treaty and policy document related to the protection and preservation of the environment."[26] As a result, according to Canada's Supreme Court, there may be "currently sufficient state practice to allow a good argument that the precautionary principle is a principle of customary international law."[27]

In developing countries, precaution has also become a factor in the law, though a detailed analysis is beyond the scope of this paper. For example, in Chile, Resolution 639/84 on 9 Persistent Organic Pollutant Pesticides is based on the precautionary principle, and includes a prohibition on importation, commercialization and use of DDT. This is not an isolated example. Resolution 12600/67, issued March 16, 1995, by the Chilean Maritime Authority, DIRECTEMAR, prohibited the passage of nuclear waste ships and was essentially based on precautionary premises, as was Resolution 12600/67, issued March 16, 1995, by the Chilean Maritime Authority, DIRECTEMAR on swordfish exploitation and conservation. Likewise, in South Africa, the 1998 National Water Act (Act No. 36 of 1998) *Standards on Waste Discharge* adopts an explicitly precautionary approach, recognising the need for care in the absence of certainty as to the aggregate or cumulative effects of pollution in a given watershed. For developing countries, where scientific data collection methods and aggregation can be much less advanced, the precautionary principle might be required more often, in the event of higher scientific uncertainty. Often, in this context, placing the burden of proof onto the proponent of a project means that foreign companies and investors (who are in any case better placed to carry out examinations), are required to dedicate some of their expertise to these issues.

Precautionary laws in the European Union

In 1993, the European Union officially adopted the precautionary principle as a basis for all community environmental policy. According to Article 130r(2) of the *Treaty Establishing the European Economic Community*, as amended by the *Treaty on European Union* (the *Maastricht Treaty)* at Art. 174x: "[c]ommunity policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. It shall be based on the precautionary principle and on the principles that preventive action should be

[24] See survey of Canadian environmental legislation, online: www.ec.gc.ca.
[25] 114957 Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town) [2001] S.C.J. No. 42 (Quicklaw)
[26] The judgement cites D. Freestone and E. Hey, "Origins and Development of the Precautionary Principle", in D. Freestone and E. Hey, eds., The Precautionary Principle and International Law, *supra* note 2 at 41.
[27] This judgement also cites J. Cameron and J. Abouchar, "The Status of the Precautionary Principle in International Law", in *ibid.* at p. 52, and O. McIntyre and T. Mosedale, "The Precautionary Principle as a Norm of Customary International Law" (1997), 9 J. Env. L. 221, at 241 ("the precautionary principle has indeed crystallized into a norm of customary international law"). L'Heureux Dube, J. pointed out that the Supreme Court of India also considers the precautionary principle to be "part of the Customary International Law", in yhr *A.P. Pollution Control Board* v. *Nayudu*, 1999 S.O.L. Case No.53, at 8, and *Vellore Citizens Welfare Forum* v. *Union of India*, [1996] Supp. 5 S.C.R. 241. She held that in the context of the precautionary principle's tenets, the Town's concerns about pesticides fit well under their rubric of preventive action.

taken, that environmental damage should as a priority be rectified at the source and that the polluter should pay." As a "constitutional" document of the European Union, the *Maastricht Treaty* will guide future adoption of EU environmental policy. Since the early 1990s many European regional agreements have also included the precautionary principle, including the *ECE Transboundary Watercourses Convention*,[28] the *Baltic Sea Convention*,[29] and the *North East Atlantic Convention*.[30] Several of the protocols to the *Convention on Long-Range Transboundary Air Pollution* also specifically invoke the precautionary principle.[31]

Precaution in the European Union and the European Court of Justice:

The institutions of the European Union (EU) have essentially adopted the precautionary principle in international environmental law and practice.[32] To fully understand the use of the precautionary principle in the European Union, it is necessary to examine the legislative texts, the case law of the Court of Justice and the Court of First Instance, and the policy approaches that have emerged. Recent analysis starts with the European treaties which explicitly or implicitly refer to the precautionary principle. At Community level, explicit reference to the precautionary principle is found in the environment title of the *EC Treaty of Amsterdam*, and more specifically Article 174, which incorporates provisions already introduced by the *1992 Maastricht Treaty*, stating: "2. Community policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. It shall be based on the Precautionary Principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay … 3. In preparing its policy on the environment, the Community shall take account of: available scientific and technical data, …the potential benefits and costs of action or lack of action …" Article 6 of the *EC Treaty* provides that "environmental protection requirements must be integrated into the definition and implementation of the

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[28] See *Transboundary Waters Convention*, which provides at art. 2(5)(a) that "the Parties shall be guided by the […] precautionary principle, by virtue of which action to avoid the potential transboundary impact of the release of hazardous substances shall not be postponed on the ground that scientific research has not fully proved a causal link between those substances, on the one hand, and the potential transboundary impact, on the other hand."

[29] See *Convention on the Protection of the Marine Environment of the Baltic Sea Area*, April 9, 1992, stating at art. 3(2) that "the Contracting Parties shall apply the precautionary principal *sic*, i.e., to take preventative measures when there is reason to assume that substances or energy introduced, directly or indirectly, into the marine environment may create hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea even when there is no conclusive evidence of a causal relationship between inputs and their alleged effects.".

[30] See *North-East Atlantic Convention*, *supra* 63, art. 2(2)(a).

[31] *Protocol to the Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants*, June 25, 1998, UN Doc. EB.AIR/1998/2, preamble. See also *Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Further Reduction of Sulphur Emissions*, June 14, 1994, UN Doc. EB.AIR/R.84, 33 I.L.M. 1542 (1994), which provides in the preamble that parties are "[r]esolved to take precautionary measures to anticipate, prevent or minimize emissions of air pollutants and mitigate their adverse effects"; *Protocol to the Convention on Long-Range Transboundary Air Pollution on Heavy Metals*, June 25, 1998, UN Doc. EB.AIR/1998/1, stating in the preamble that parties are "[r]esolved to take measures to anticipate, prevent or minimize emissions of certain heavy metals and their related compounds, taking into account the application of the precautionary approach, as set forth in principle 15 of the Rio Declaration on Environment and Development."

[32] This is not surprising. Relations between the EU and member states are highly complex and characterized by numerous discontinuities. The flow of information between levels of governance is uncertain at the best of time and unreliable when it counts most, namely when the facts are controversial. As such, risk assessment presumably has great attractions for the institutions of the European Union, though the European Commission has essentially linked the use of risk assessment with the application of the precautionary principle. This approach is not without history. In 1977, the Commission of the European Communities announced that it was planning to propose a directive on environmental assessment that would need to be implemented in all member states, and due to widely differing responses of members, the legislative process took eight years. See Nigel Haigh, ed., *Manual of Environmental Policy: The EC and Britain* (London: Cartermill, 1996) looseleaf, section 11.2.

Community policies and activities referred to in Article 3, in particular with a view to promoting sustainable development". Article 95(3) provides that: "[t]he Commission, in its proposals envisaged in paragraph 1 concerning health, safety, environmental protection and consumer protection, will take as a base a high level of protection, taking account in particular of any new development based on scientific facts. Within their respective powers, the European Parliament and the Council will also seek to achieve this objective." The first paragraph of Article 152 of the *EC Treaty* also provides that "[a] high level of human health protection shall be ensured in the definition and implementation of all Community policies and activities." As such, the scope of the precautionary principle depends on trends in case law, as influenced by prevailing social and political values.

The Court of Justice of the European Communities and the Court of First Instance have already had occasion to review the application of precautionary in cases they have adjudicated and hence to develop case law in this area. In its judgement on the validity of the Commission's decision banning the exportation of beef from the United Kingdom to reduce the risk of BSE transmission, the Court held that "[w]here there is uncertainty as to the existence or extent of risks to human health, the institutions may take protective measures without having to wait until the reality and seriousness of those risks become fully apparent."[33] The Court's reasoning was that "[t]hat approach is borne out by Article 130r(1) of the EC Treaty [of Amsterdam], according to which Community policy on the environment is to pursue the objective *inter alia* of protecting human health. Article 130r(2) provides that that policy is to aim at a high level of protection and is to be based in particular on the principles that preventive action should be taken and that environmental protection requirements must be integrated into the definition and implementation of other Community policies."[34]In another judgement concerning protection of consumer health[35] the Court of First Instance cites the above passage from the BSE judgement. These cases take place in a wider policy context, where there is strong concern with regard to the balancing of public health and economic interests in the European Communities. In a more recent case, the President of the Court of First Instance confirmed the positions expressed in the abovementioned judgements. This judgement contained an explicit reference to the precautionary principle and affirmed that "requirements linked to the protection of public health should undoubtedly be given greater weight that economic considerations."[36] It has since been re-emphasized that in Europe, the requirements of the protection of public health must unquestionably be given precedence over economic considerations.[37] Indeed, this principle can now be tracked through European case law.[38] It is also

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[33] Grounds 99, *Judgements of 5 May 1998, cases C-157/96 and C-180/96*.
[34] Grounds 100. This principle means that the Commission may take protective measures without having to wait until the reality and seriousness of those risks become fully apparent. See Case C-157/96 National Farmers' Union and Others [1998] ECR I-2211, at para 63.
[35] Judgement of 16 July 1998, Case T-199/96, Grounds 66 and 67
[36] 30 June 1999 Order of the President of the Court of First Instance, Case T-70/99 R *Alpharma* v *Commission* [1999] ECR II-2027, at para 152.
[37] Case C-471/00 P(R). Appeal - Order of the President of the Court of First Instance in proceedings for interim relief - Withdrawal of marketing authorisations for medicinal products for human use containing 'phentermine - Second Directive 75/319/EEC - Urgency - Balancing of Interests.
[38] See Order of the Court of Justice in Case C-180/96 R *United Kingdom* v *Commission* [1996] ECR I-3903, at para 93; judgment in Case C-183/95 *Affish* v *Rijksdienst Keuring Vee en Vlees* [1997] ECR I-4315, at para 43; order of the Court of First Instance in Case T-136/95 *Industria del Frio Auxiliar Conservera* v *Commission* [1998] ECR II-3301, at para 58.

apparent from European case law that, particularly where harm depends on the occurrence of a number of factors, it is enough for that harm to be foreseeable with a sufficient degree of probability.[39]

With regard to such sensitive issues as food safety, policy orientations were established on all European levels in this regard- by the Commission in the *Green Paper on the General Principles of Food Safety* and the *Communication of 30 April 1997 on Consumer Health and Food Safety*,[40] by Parliament in its Resolution of 10 March 1998 concerning the Green Paper,[41] by the Council in its Resolution of 13 April 1999 and by the Joint Parliamentary Committee of the EEA (European Economic Area) in its Resolution of 16 March 1999.[42] In March 1999, the Joint Parliamentary Committee of the EEA (European Economic Area) adopted the abovementioned resolution on food safety.[43] On 13 April 1999, the Council adopted a Resolution urging the Commission, *inter alia*, "to be in the future even more determined to be guided by the Precautionary Principle in preparing proposals for legislation and in its other consumer-related activities and develop as a priority clear and effective guidelines for the application of this principle."

In a more recent case, the Court of First Instance further clarified the relationship between risk assessment and precaution. The Court ruled that not only did precaution clearly apply to health considerations but also that existing guidelines for application of precaution were suitable to guide the discretion of the Commission. [44]

Hence, in Europe, the precautionary principle is generally accepted, and it is particularly relevant to environmental protection and human, animal and plant health, especially in the area of food safety. The Community has consistently endeavoured to achieve a high level of protection. In most cases, measures are determined on a satisfactory scientific basis. However, when there is reasonable ground for concern that potential hazards and lack of available data precludes a detailed risk evaluation, the precautionary principle has been politically accepted as a

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[39] See, in particular, the orders in Case C-280/93 R *Germany* v *Council* [1993] ECR I-3667, at para 34, and in Case C-335/99 P(R) *HFB and Others* v *Commission* [1999] ECR I-8705, at para 67.

[40] In its Communication of 30 April 1997 on consumer health and food safety, the Commission states "the Commission will be guided in its risk analysis by the Precautionary Principle, in cases where the scientific basis is insufficient or some uncertainty exists." See COM(97) 183 final.

[41] In its *Green Paper on the General Principles of Food Law in the European Union of 30 April 1997*, the Commission reiterates this point: "The Treaty requires the Community to contribute to the maintenance of a high level of protection of public health, the environment and consumers. In order to ensure a high level of protection and coherence, protective measures should be based on risk assessment, taking into account all relevant risk factors, including technological aspects, the best available scientific evidence and the availability of inspection sampling and testing methods. Where a full risk assessment is not possible, measures should be based on the Precautionary Principle." See COM(97) 176 final.

[42] In its Resolution of 10 March 1998 on the Green Paper, the European Parliament: "[states that] European food law is based on the principle of preventive protection of consumer health; stresses that policy in this area must be founded on a scientifically-based risk analysis supplemented, where necessary, by appropriate risk management based on the Precautionary Principle; [and] invites the Commission to anticipate possible challenges to Community food law by WTO bodies by requesting the scientific committees to present a full set of arguments based on the Precautionary Principle."

[43] In this connection, on the one hand, it "emphasises the importance of application of the Precautionary Principle" and, on the other, "reaffirms the over-riding need for a precautionary approach within the EEA to the assessment and evaluation of applications for the marketing of GMOs intended to enter the food chain …" See *Resolution on Food Safety in the EEA* on 16 March 1999, at points 5 and 13.

[44] Case T-13/99, Celex No. 699A0013 European Union Case Law, Court of First Instance, Judgment of the Court of First Instance (Third Chamber) of 11 September 2002, Pfizer Animal Health SA v Council of the European Union.

risk management strategy. This approach is now common in Europe. This paper now turns to an examination of the development of the precautionary principle in international law with regard to health and the environment.

3. Precaution in International Law for Environment and Health: Treaty and Custom

There is considerable debate about the exact status of the precautionary principle in international law. Precaution has been termed a 'legal concept', an 'approach' or a 'principle.'[45] One way to overcome this slightly tired discussion is to simply call for the implementation of precaution,[46] then focus on its formulation and defining methods for its application and implications in international law.[47] The most widely accepted version of the precautionary principle is, as mentioned above, formulated in Article 15 of the 1992 *Rio Declaration* on Environment and Development where the most widely accepted elaboration of the concept of precaution is found, stating that: "[i]n order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."[48]

However, this was over a decade ago. A quite recent and comprehensive formulation appears in the International Law Association 2002 *Declaration on the Principles of International Law related to Sustainable Development*. This definition broadens the scope of the principle, referring to its application in cases involving human health, natural resources and ecosystems:

"**The principle of the precautionary approach to human health, natural resources and ecosystems**

A precautionary approach is central to sustainable development in that it commits States, international organizations and the civil society, particularly the scientific and business communities, to avoid human activity which may cause significant harm to human health, natural resources or ecosystems, including in the face of scientific uncertainty.

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[45] The term "precautionary approach" can be used to circumvent arguments for a "precautionary principle" in customary international law. The difference is slightly more than semantics. An approach describes a technique to address uncertainties, scientific or otherwise, while a 'principle' can be legally binding upon the actor (legislator, administration or judiciary) to apply these techniques. If, by demonstrating elements of both general state practice and also *opinio juris* (that states acted so, believing it to be law), one can demonstrate the existence of a customary international law 'principle', many states will be considered to be bound by the principle, and will be required by their domestic legal systems to apply it directly in cases of scientific uncertainty. But the mere use of the word 'approach' versus 'principle' does not indicate the status of precaution in international law. See M. Gehring, M.C. Cordonier Segger, *Precaution in International Sustainable Development Law: A Legal Brief* (Johannesburg: CISDL, 2002) online: http://www.cisdl.org.

[46] There is significant debate on the connotations of normativity of the term 'precautionary principle' as compared with 'precautionary approach'– the 'principle' being seen as suggesting a binding law which the 'approach' implies a non-binding guideline. I adopt the neutral term 'precaution' in this paper.

[47] F. Perrez, *Precaution: From Rio to Johannesburg, supra* note 13. See also OECD 2001Ministerial Declaration (Paris: OECD, May 2001) at 14.

[48] *Rio Declaration, supra* note 1.

Sustainable development requires that a precautionary approach with regard to human health, environmental protection and sustainable utilization of natural resources should include accountability for harm caused (including, where appropriate, State responsibility), planning based on clear criteria and well-defined goals, consideration of all possible means in an environmental impact assessment to achieve an objective (including, in certain instances, not proceeding with an envisaged activity) and, in respect of activities which may cause serious long-term or irreversible harm, establishing an appropriate burden of proof on the person or persons carrying out (or intending to carry out) the activity.

Decision-making processes should endorse a precautionary approach to risk management and in particular should proceed to the adoption of appropriate precautionary measures even when the absence of risk seems scientifically assured.

Precautionary measures should be based on up-to-date and independent scientific judgment and be transparent. They should not result in economic protectionism. Transparent structures should be established which involve all interested parties, including non-state actors, in the consultation process. Appropriate review by a judicial body or administrative action should be available."[49]

There are several aspects which deserve careful consideration in this 2002 definition. These include:

- the broadening of the scope of the principle to apply not only to the environment, but also to situations which concern the use of natural resources and human health.
- the broadening of a threat which triggers the principle, from "serious or irreversible damage" (as found in the 1992 *Rio Declaration*), to simply "significant harm", but in cases which shift the burden of proof to the proponent of an activity, to "serious long-term or irreversible harm."
- the broadening of situations in which the principle might be invoked, with no mention of limiting the application to cost-effectiveness.
- the recognition that precautionary measures should not result in economic protectionism.

In this section, the evolution of the precautionary principle in international law will be examined, with a focus on its emergence in treaty and in international customary law on health and the environment. Then, it will be possible to consider how the application of the principle has played out in world trade debates and disputes to date.

3.1 International Environment and Health Treaties

In international law concerning the environment or health, the precautionary principle has received widespread support, and its application is garnering increasing scholarly attention.[50] It has become a guiding principle of many international treaties where the environmental effects of decisions, including development activities, are still

[49] International Law Association, 2002 *Declaration on the Principles of International Law related to Sustainable Development* (New Delhi: ILA, 2002). See online: www.ila_hq.org.uk.

[50] See also J. Cameron & J. Abouchar, "The Status of the Precautionary Principle in International Law" in D. Freestone & E. Hey, eds., *The Precautionary Principle and International Law: The Challenge of Implementation* , *supra* note 2 at 46. See also S. Boutillon, "Note: The Precautionary Principle: Development of an International Standard" Mich. J. of Int'l Law Winter 2002, which surveys recent applications of the principle and proposes its status as a 'standard.

uncertain. It has also been used to define parameters for decision-making in international treaties referring to human health.

Principles agreed in the text of international treaties are binding, in international law, upon the parties to these treaties. It is significant that so many states have agreed to be bound by the precautionary principle in international treaties relating to the environment and human health. As mentioned above, the principle was explicitly introduced into international treaty negotiations in the *North Sea Ministerial Conferences*. As early as 1980, the German Council of Experts in Environmental Matters found that the principle was a "requirement for a successful environmental policy for the North Sea ecosystem."[51] The principle was included in the *Final Declaration of the Second International North Sea Conference* in 1987, where the ministers noted: "Accepting that, in order to protect the North Sea from possibly damaging effects of the most dangerous substances, a precautionary approach is necessary which may require action to control inputs of such substances even before a causal link has been established by absolutely clear scientific evidence."[52] Precaution was emphasised at the third *North Sea Conference* in 1990, where the participants agreed to: "continue to apply the Precautionary Principle, that is to take action to avoid potentially damaging impacts of substances that are persistent, toxic, and liable to bio-accumulate even where there is no scientific evidence to prove a causal link between emissions and effects."[53] Eventually this process led to the principle's inclusion in the 1992 *OSPAR Convention,* which stated that "by virtue of which preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects."[54] This Convention was concluded to control the dumping of toxic substances in a fragile marine environment and avoid the resulting damage the ecosystem.

The principle has also been applied in international treaty law relating to endangered species, including one which definitely applies trade measures to achieve conservation objectives. Although the text of the 1973 *Convention on the International Trade in Endangered Species of Wild Flora and Fauna* (CITES) does not explicitly invoke the principle, in 1994, the Conference of the Parties clearly endorsed it. In fact, at the Ninth Meeting of the Conference of the Parties to *CITES*, states adopted a resolution to incorporate the precautionary principle into the procedure for listing species in need of protection. The resolution reads: "Recognizing that by virtue of the precautionary principle, in cases of uncertainty, the Parties shall act in the best interest of the conservation of the species when considering proposals for amendment of Appendices I and II; [the COP…] resolves that when considering any proposal to amend Appendix I or II the Parties shall apply the precautionary principle so that scientific uncertainty should not

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[51] P. L. Gündling, "The Status in International Law of the Principle of Precautionary Action" (1990) 5 Int'l J. of Estuarine & Coastal L. 23 at 24.

[52] *Second International Conference on the Protection of the North Sea: Ministerial Declaration Calling for Reduction of Pollution*, Nov. 25, 1987, 27 I.L.M. 835 (1988), art. VII.

[53] *Declaration of the Third International Conference on Protection of the North Sea*, March 7-8, 1990, reprinted at 1 Yb. I.E.L. 658 at 662-73.

[54] See 1992 *Paris Convention for the Protection of the Marine Environment of the North-East Atlantic,* Sept. 22, 1992, *reprinted in* 32 I.L.M. 1069 (1993), entered into force March 25, 1998) [hereinafter *North East Atlantic Convention*], art. 2(2)(a).

be used as a reason for failing to act in the best interest of the conservation of the species."[55] In this instance, the precautionary principle is being applied to prevent an irreversible harm, the loss of threatened or endangered species.[56]

The *Vienna Convention* and its *Montreal Protocol*, concerning protection of the ozone layer, also provide important examples of the precautionary principle in international treaty law concerning the environment. The preamble to the *Montreal Protocol* explicitly states that Parties to this protocol are "determined to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge, taking into account technical and economic considerations."[57] The *Protocol* and its subsequent revisions are considered to have successfully implemented a precautionary approach because they adopt strict policy measures despite scientific uncertainty, using trade measures to do so.[58]

By 1992, the *United Nations Conference on Environment and Development* had significantly furthered the consensus around the precautionary principle. As noted above, Principle 15 was included in the non-binding 1992 *Rio Declaration,* as well as in the consensus but non-binding declaration of *Agenda 21*.[59] In addition, UNCED delegates also invoked the precautionary principle in the treaty provisions of the Conventions signed at Rio de Janiero. Indeed, Principle 15 is reproduced in similar wording in the preamble of the 1992 *Convention on Biological Diversity*, which notes "that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat." [60] It also appears in Article 3 (Principles) of the 1992 *Framework Convention on Climate Change,* where is it stated that: "[t]he Parties should take precautionary measures to anticipate, prevent or minimise the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of

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[55] Resolution of the Conference of the Parties, Criteria for Amendment of Appendices I and II, Ninth Meeting of the Conference of the Parties, Fort Lauderdale (USA), November 7-18, 1994, Com.9.24.

[56] B. Dickson, "The Precautionary Principle in CITES: A Critical Assessment" 39 Nat. Resources J. 211, 228 (1999). See also D. Favre "Debates within the CITES Community: What Direction for the Future?" 33 Nat. Resources J. 875, 895 (1993).

[57] *Montreal Protocol on Substances the Deplete the Ozone Layer,* 16 September 1987, 26 I.LM 154 [(entered into force 1 January 1989), as amended by the *London Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer*, June 29, 1990, UNEP/OZ.L.Pro.2.3 (Annex II [hereinafter *Montreal Protocol*]. See also the Protocol's *Noncompliance Procedure*, 29 June 1990, 30 ILM 537 at Preamble.

[58] See D. Brack, *Trade and Environment: The Montreal Protocol* (London: Earthscan, 2001). See also UNEP, *Report of the Ad Hoc Working Group on the Work of Its Third Session* (Nairobi: UNEP, 1992) where the European Community obtained legal advice from the GATT Secretariat in order to ensure the proposed measures did not conflict with the GATT.

[59] *Agenda 21,* Report of the UNCED, I (1992) UN Doc. A/CONF.151/26/Rev.1, (1992) 31 I.L.M. 874, para. 39.1 [hereinafter *Agenda 21*].at Chapters 17, 18 and 35.

[60] *United Nations Convention on Biological Diversity*, 5 June 1992, 31 I.L.M. 822, arts. 8 & 10 [hereinafter *Biodiversity Convention*].

greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties."[61]

The precautionary principle has also appeared in regional declarations and treaties. European Union treaties are already detailed in the previous section, in part because their implementation through the European courts more closely resembles a domestic legal process. But there are other European processes. In addition to the *North Sea Conferences* noted above, the *Bergen Ministerial Declaration on Sustainable Development* in the Economic Commission for Europe Regions, stated: "In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation where there are threats of serious or irreversible damage. Lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation."[62] Since the early 1990s many other European regional agreements have also included the precautionary principle, including the *ECE Transboundary Watercourses Convention*,[63] the *Baltic Sea Convention*,[64] and the *North East Atlantic Convention*.[65] Several of the protocols to the *Convention on Long-Range Transboundary Air Pollution* also specifically invoke the precautionary principle.[66]

Early in 1991, over fifty African countries negotiated the *Bamako Convention*, on the control of African hazardous waste trade, which provides: "[e]ach Party shall strive to adopt and implement the preventive, precautionary approach to pollution problems which entails, *inter alia*, preventing the release into the environment of substances which may cause harm to humans or the environment without waiting for scientific proof regarding such harm. The parties shall co-operate with each other in taking the appropriate measures to implement the precautionary principle to pollution through the application of clean production methods, rather than the pursuit of a permissible emissions approach based on the assimilative capacity assumptions."[67] In Asia, the 1991 *Ministerial Conference on the Environment*

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[61] See *United Nations Framework Convention on Climate Change*, 9 May 1992, 31 I.L.M. 849 [hereinafter *Climate Change Convention*] at art. 3(3).
[62] *Bergen Declaration on Sustainable Development in the ECE Region*, May 16, 1990, UN Doc. A/CONF. 151/PC/10), reprinted at 1 Yb. I.E.L.. 424 (1990) at para. 7.
[63] See *Transboundary Waters Convention*, which provides at art. 2(5)(a) that "the Parties shall be guided by the […] precautionary principle, by virtue of which action to avoid the potential transboundary impact of the release of hazardous substances shall not be postponed on the ground that scientific research has not fully proved a causal link between those substances, on the one hand, and the potential transboundary impact, on the other hand."
[64] See *Convention on the Protection of the Marine Environment of the Baltic Sea Area*, April 9, 1992, stating at art. 3(2) that "the Contracting Parties shall apply the precautionary principal *sic*, i.e., to take preventative measures when there is reason to assume that substances or energy introduced, directly or indirectly, into the marine environment may create hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea even when there is no conclusive evidence of a causal relationship between inputs and their alleged effects.".
[65] See *Convention for the Protection of the Marine Environment of the North-East Atlantic*, Sept. 22, 1992, *reprinted in* 32 I.L.M. 1069 (1993), entered into force March 25, 1998) [hereinafter *North East Atlantic Convention*], art. 2(2)(a).
[66] *Protocol to the Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants*, June 25, 1998, UN Doc. EB.AIR/1998/2, preamble. See also *Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Further Reduction of Sulphur Emissions*, June 14, 1994, UN Doc. EB.AIR/R.84, 33 I.L.M. 1542 (1994), which provides in the preamble that parties are "[r]esolved to take precautionary measures to anticipate, prevent or minimize emissions of air pollutants and mitigate their adverse effects"; *Protocol to the Convention on Long-Range Transboundary Air Pollution on Heavy Metals*, June 25, 1998, UN Doc. EB.AIR/1998/1, stating in the preamble that parties are "[r]esolved to take measures to anticipate, prevent or minimize emissions of certain heavy metals and their related compounds, taking into account the application of the precautionary approach, as set forth in principle 15 of the Rio Declaration on Environment and Development."
[67] *Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa*, 29 January 1991, 30 I.L.M. 775 (1991), art. 4(3)(f) [hereinafter *Bamako Convention*].

of the United Nations Economic and Social Commission for Asia and the Pacific also invoked the precautionary principle: "[I]n order to achieve sustainable development, policies must be based on the precautionary principle."[68]

In 1995, fifty-nine countries also signed the *Straddling Stocks Agreement*[69] to protect international fisheries. Article 6 of the Agreement deals entirely with application of the precautionary approach, stating at 1 that " [s]tates shall apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment." And at 2, Article 6 provides that "[s]tates shall be more cautious when information is uncertain, unreliable, or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures."[70] Article 6 thus includes explicitly the affirmative requirement to be "more cautious" in the face of uncertainty.

At the Conference of the Parties to the 1992 Biodiversity Convention, the 2000 *Cartagena Protocol on Biosafety* was negotiated, to assure the safe transfer, handling and use of living modified organisms resulting from biotechnology. At article 10, para 6, the parties stated that "[l]ack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity in the Party of import, taking also into account risks to human health, shall not prevent that Party from taking a decision, as appropriate, with regard to the import of living modified organism in question..., in order to avoid or minimize such potential adverse effects."

According to the survey above, precaution has been formulated in different ways over the years, in treaty law and in 'soft law' declarations.

Table 1: Precautionary Threshold Triggers

status	**Soft law:**	**Treaty law:**
standard & year	"possibly damaging effects of most dangerous substances" *Final Declaration of the Second International North Sea Conference*, 1987 "potentially damaging impacts" *Final Declaration of the Third International North Sea Conference*, 1990	"may cause harm to humans or the environment" *Bamako Convention*, 1991 "threat of significant reduction or loss of biological diversity" *Biodiversity Convention*, 1992 "reasonable grounds for concern [that…] may bring about hazards to human health, harm living resources and marine ecosystems" *OSPAR*

[68] Report of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) Ministerial Meeting in the Environment, Bangkok, *Declaration on Environmentally Sound and Sustainable Development in Asia and the Pacific* (1990) at para. 19
[69] *Agreement for the Implementation of the Provisions of the U.N. Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks,* 4 August 1995, UN Doc A/CONF.164/38 (1995) 34 I.L.M. 1542, art. 5(c) [hereinafter *Straddling Stocks Agreement*].
[70] *Ibid., a*rts. 6(1) & (2).

	"serious or irreversible damage" *Rio Declaration Principle 15*, 1992 "significant adverse effects" *WSSD Johannesburg Declaration*, 2002	*Convention*, 1992 "potential adverse effects" *Cartagena Protocol* to *Biodiversity Convention*, 2000

Table 1 – *Threshold Triggers*, summarises some of the different formulations given to the level of risk, based on the significance of the damage contemplated in different instances. The brief analysis reveals no clear general trend in the degree of damage required before the principle is triggered, based on the year of negotiations. Rather, it can be suggested that specific formulations have been developed, in 'soft law' such as non-binding declarations and other instruments, depending on the forum. This situation is more evident in the treaty law, where different formulations have been selected by states depending on the problem being addressed and its perceived seriousness. As such, the *Bamako Convention*, which refers to hazardous waste, calls for the precautionary principle to be triggered when the threat is such that it 'may cause harm to humans or the environment', an extremely low threshold. The 1992 *Biodiversity Convention*, in contrast, requires the 'threat of significant reduction or loss of biological diversity' before the principle is triggered.

Another question is the degree of uncertainty as to the threat. The precautionary principle is not directed triggered by the existence of potential harm. Such a situation would rather trigger application of the preventive measures. Rather, precaution specifically addresses situations where this harm is scientifically uncertain. This does not just mean that the principle can be triggered by any degree of uncertainty. Rather, as elaborated in most treaties surveyed above, the principle is triggered when the degree of harm is approximately proportionate, as observed in rough balancing of different considerations.

Table 2: *Precaution and Proportionality*, demonstrates the relationship. When the threat of harm is highly uncertain the principle is triggered by damage which could be extremely significant, either 'serious or irreversible'. When the threat of harm is more likely, simply 'uncertain' (as signified by words like 'potentially') then the potential degree of damage need only be 'significant' rather than irreversible. This rough equilibrium seems to play out in the various international treaties related to environment and health.

Table 2: Precaution and Proportionality

Degrees of Certainty about Threat	*Relevant Degrees of Potential Harm*
Threat almost unknown	Serious *and* irreversible harm
Highly uncertain of threat	**Serious *or* irreversible damage**
Fairly uncertain of threat (possibly)	Potentially damaging impacts/effects
Uncertain of threat (potentially)	**Significant harm**
Highly certain of threat	**Potential adverse effects**

3.2 Precaution in International Custom Case Studies

The abovementioned developments point to specific elaborations of the principle in treaty law. It is also being argued that the precautionary principle is in the process of becoming international customary law.[71] In the 1990s, on the basis of considerable evidence, international judicial bodies have claimed that there is sufficient evidence of state practice to justify the conclusion that the principle is receiving sufficiently broad support to allow a good argument to be made that it reflects a principle of customary international environmental law.[72] In two international cases, in particular, authoritative international tribunals either found justification in their treaty mandates, or else argued for the recognition of the principle as customary international law.[73]

***Southern Bluefin Tuna* Interim Order of the International Tribunal on the Law of the Sea (ITLOS)**

In 1999, New Zealand and Australia jointly brought an action in the ITLOS against Japan, alleging that Japanese fishermen were overexploiting the Southern Bluefin Tuna (SBT), thus possibly endangering the viability of new fish stocks.[74] Among other claims, the plaintiffs alleged that the catches authorized by Japan violated its obligation to ensure preservation and an optimal exploitation of the fisheries, and that Japan further violated its precautionary obligations under the Law of the Sea Convention.[75] Under this Convention, the principle is treated as a norm binding upon the parties that entails responsibility if it is violated. The plaintiffs then requested the Tribunal to

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[71] See J. Cameron and J. Abouchar, *'The Precautionary Principle: A Fundamental Principle of Law and Policy for the Protection of the Global Environment.'* (1991) 14 Boston C.I.C.L.R.1.
[72] See B. Weintraub, "Science, International Environmental Regulation, and the Precautionary Principle: Setting Standards and Defining Terms" (1992) 1 N.Y.U. Envtl. L.J. 173 at 178-180; D. A. Wirth, "The Rio Declaration on Environment and Development: Two Steps forward and One Back, or Vice Versa?" (1995) 29 Ga. L. Rev. 599 at 634.
[73] See S. Boutillon, "Note: The Precautionary Principle: Development of an International Standard" Mich. J. of Int'l Law Winter 2002, which surveys recent applications of the principle and proposes its status as a 'standard.'
[74] Southern Bluefin Tuna Cases (*N.Z.* v. *Japan*; *Austl.* v. *Japan*), Request for Provisional Measures, 117 I.L.R. 148 (Int'l Trib. for the Law of the Sea).
[75] Id. at 156-57, paras. 28.1.e (N.Z.), 29.1.e (Austl.).

enjoin Japan from further illegal fishing and to order Japan to comply with the fishing quotas defined in a previously existing agreement between the parties. In addition, Australia and New Zealand asked that Japan act in a manner consistent with the precautionary principle with respect to new fisheries.[76]

The Tribunal characterized the provisional Order as founded upon precautionary action, and enjoined Japan from further illegal fishing while the case could be decided upon its merits.[77] Their Order noted that in these circumstances, the parties should use precaution to ensure effective preservation of the resource,[78] in order to prevent permanent depletion of fishing stocks. The Tribunal also highlighted scientific uncertainty regarding the measures to take to maintain the stocks,[79] and concluded that due to the grave damage at stake, scientific uncertainty was not a ground for failing to protect the rights of the parties and to prevent a future depletion of the resource.[80] In the *Southern Bluefin Tuna* provisional order, while the principle is not explicitly stated in the majority judgement, Japan was ordered to suspend 'experimental' fishing (which had the potential to critically deplete stocks) on essentially precautionary grounds. Certain justices would have gone even further, giving direction to the case itself. The separate opinion of Judge Tullio Treves explains that "[w]hile, of course, a precautionary approach by the parties in their future conduct is necessary, such precautionary approach, in my opinion, is necessary also in the assessment by the Tribunal of the urgency of the measures it might take. In the present case, it would seem to me that the requirement of urgency is satisfied only in the light of such precautionary approach. I regret that this is not stated explicitly in the Order." [81] He continues, stating that "I fully understand the reluctance of the Tribunal in taking a position as to whether the precautionary approach is a binding principle of customary international law. Other courts and tribunals, recently confronted with this question, have avoided to give an answer. In my opinion, in order to resort to the precautionary approach for assessing the urgency of the measures to be prescribed in the present case, it is not necessary to hold the view that this approach is dictated by a rule of customary international law. The precautionary approach can be seen as a logical consequence of the need to ensure that, when the arbitral tribunal decides on the merits, the factual situation has not changed. In other words, a precautionary approach seems to me inherent in the very notion of provisional measures. It is not by chance that in some languages the very concept of "caution" can be found in the terms used to designate provisional measures: for instance, in Italian, *misure cautelari*, in Portuguese, *medidas cautelares,* in Spanish, *medidas cautelares* or *medidas precautorias*."

In this case, the principle was viewed as an 'attempt to buy science a little time', highlighting that marine resources science has not progressed fast enough.[82] The decision is an exception from the traditional conceptual setting of the

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[76] Id. at 157-58, paras. 31.3, 32.3 where plaintiffs request "that the parties act consistently with the precautionary principle in fishing for SBT pending a final settlement of the dispute."
[77] See M. Hayashi, "The Southern Bluefin Tuna Cases: Prescription of Provisional Measures by the International Tribunal for the Law of the Sea" 13 Tul. Envtl. L.J. 361 (2000) which analyses the case.
[78] Tuna Cases, 117 I.L.R. at 163-64, Order para. 77.
[79] Id. at 164, Order para. 79.
[80] Id., Order para. 80.
[81] See *New Zealand and Australia v. Japan*, Cases 3 and 4, Order of 27 August 1999, online: www.un.org/Depts/los/ITLOS/Tuna_cases.htm.
[82] Sean Hern, "Competing Values: Taking a Broad View on the Narrowing Conservation Regime of the 1982 UNCLOS" 16 Am. U. Int'l L. Rev. 177, 193-94 (2000).

Law of the Sea embodied in article 61(2) of the Convention, where conservation and management measures should be based on the scientific evidence available.[83] However, as is often the case with precautionary measures, the provisional order could only be implemented on a temporary basis, leaving the 1982 regime undisturbed. When the final decision was made in this instance, it was found that ITLOS did not have jurisdiction to hear the case, and the provisional order was relaxed, after recovery of the stocks.

The *Southern Bluefin Tuna* Provisional Order case was groundbreaking in several respects. First, they used the precautionary principle as a standard, giving it a normative value. Second, they implemented the principle as a remedy. Finally, the principle was used a particularly adequate tool to preserve the situation and avoid further deterioration of the resource while awaiting the final decision on the substantive issues of the case (the current decision is only for provisional measures).

Nuclear Tests **Advisory Opinion dissent in the International Court of Justice.**

The second Nuclear Tests case, between New Zealand and France, allowed the International Court of Justice to examine the precautionary principle.[84] New Zealand pleaded that France should prove the absolute innocuity of nuclear tests in the South Pacific (on the Mururoa atoll) or else abstain from carrying out the tests. In its memorandum, New Zealand argued that the principle was widely recognized in international law,[85] making it an obligation to evaluate the impact on the environment before undertaking a potentially dangerous activity and to demonstrate that this activity poses no risk to the environment.[86] This interpretation advocated a shift in the burden of proof and called for zero tolerance of risk. France responded that the legal value of the principle remained most uncertain and that, in any case, there was no environmental exception with respect to reversing the burden of proof.[87] Although it refused to recognise the principle, the French memorandum still presented technical arguments to demonstrate the harmlessness of the tests for the environment in the short and long term. The goal was to take the principle into account at a policy and diplomatic level, but not at a judicial level. Unfortunately, the court dismissed the claim on procedural grounds and thus did not have to address substantive arguments.[88] The majority opinion simply did not adjudicate the issue.

However, a dissent was written which has been extensively cited and provides persuasive authority, in international law, for future judgements. Justice Weeramantry insisted that reversing the burden of proof was an essential element to guarantee an effective protection of the environment and give full force to the legal obligations tending to ensure

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[83] See UNCLOS, *supra* note 62, art. 61(2).
[84] Request for Examination of the Situation in Accordance with Paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests Case (N.Z. v. Fr.), 1995 I.C.J. 288 (Order of Sept. 22).
[85] Id. at 298 (referring to the New Zealand submissions).
[86] Id. at 298, Order para. 35.
[87] Id. at 298, Order para. 38.
[88] Id. at 307, Order para. 68.

this protection.[89] He presented a second argument in favour of shifting the burden of proof, noting that it is often the party proposing to carry out a potentially damaging activity who holds the most pertinent information on this activity and who is most apt to prove it safe.[90] Justice Weeramantry also disagreed with the French argument, listing the number of international and regional agreements endorsing the principle and to which France was a party.[91] Particularly, he called attention to a provision of the OSPAR Convention whereby France and the United Kingdom reserved for themselves the possibility to immerse low-level radioactive waste if they could demonstrate that such disposal would not jeopardize the environment.[92] This provision implements a reversal of the burden of proof similar to the procedure advocated by New Zealand in the Nuclear Tests. This leading dissent concluded that the precautionary principle is already a standard of customary international law.

As shown above, and revealed in both cases, the precautionary principle has gained acceptance in recent years and is increasingly reflected in international treaty law, appeared with frequency and growing degrees of formal recognition.[93] It has not, however, reached the point of being fully recognised as international custom. While this must be recognised, it can still be noted that governments everywhere are under an obligation to protect their citizens from harm from known and recognizable hazards that threaten life and property. While the actual occurrence of harm may be unpredictable, the harmful effects of certain occurrences- floods, storms, pest outbreaks or the like- are generally well-known. The usual response is prevention, supported by emergency measures when harmful events nevertheless occur. The "precautionary principle" addresses the cases where lack of knowledge persists. It underlines that governments nowadays have an obligation to act, even in the face of enduring scientific uncertainty. It promises to remain a central tenet of international environmental law for a long time to come. Indeed, the level of acceptance for the principle on domestic, regional and international levels demonstrates the possibility of formulating international legal precepts that can be transposed into widely differing national systems of law and administration with the ultimate purpose of producing comparable outcomes in practice. This experience is a possible inspiration for greater acceptance of the principle in global legal systems, such as into the GATT/WTO law.

As noted above, while global policy statements and treaty law sufficed, the proof of application of the precautionary principle is through its development in the jurisprudence. Part of the reason for lack of clarity as to the scope and status of precaution in international law is the paucity of related international jurisprudence. As such, perhaps the dispute settlement mechanisms of the WTO, particularly the Appellate Body, have an important role to play in incrementally advancing acceptance and definition of the principle. To examine this idea more closely, it is

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[89] Id. at 343 (Weeramantry, J., dissenting).
[90] Id. at 342.
[91] Id. at 343-44.
[92] Id. at 343 (referring to OSPAR Convention, *supra* note 11, Annex II, art. 3, §3(c)). The said parties could present to the Commission created by the Convention "the results of scientific studies demonstrating that all potential immersion operations would not create a risk for human health, would not damage biological resources and marine ecosystems." Id.
[93] See S. Boutillon, "Note: The Precautionary Principle: Development of an International Standard" Mich. J. of Int'l Law Winter 2002, which surveys recent applications of the principle and proposes its status as a 'standard.'

important to take a look at how WTO/GATT law has sought to reject or take the precautionary principle into account, pinpointing places where development is possible.

4. Precaution in International Trade Law

The World Trade Organisation (WTO) system, as any other international legal sub-system, is not isolated from the widespread sources of public international law.[94] If the precautionary principle is emerging as customary international law, international trade law should take this into account to help guide judicial decision-making. While no WTO Agreement actually mentions the precautionary principle *expressis verbis*, different provisions can be seen as incorporating the *ratio* of a precautionary approach. Indeed, it can be argued that the precautionary principle has been recognised in general international law, and is beginning to be brought into WTO case law with mixed results. In this section, three cases will be examined which roughly touched upon, or arguably used precaution to address problems in international trade disputes.

4.1 Precaution in International Trade Negotiations

Precaution is not unknown to the WTO, particularly in its application to public health. According to a recent report by the World Health Organisation and the WTO, generally, "the positive growth and income effects of more open and predictable trade regimes can provide the resources, as well as goods, services and information, for effective health systems."[95] The WTO Agreements explicitly allow governments, in pursuing national health and other policy objectives, to take measures to restrict trade in order to protect health. The emphasis in WTO rules is on *how* policies are pursued, and the 'least trade-restrictiveness' requirement, as well as the need for efficacy of the measure to achieve the level of health protection sought, can raise difficult questions for health policy makers. When there uncertainty about the risks surrounding a given hazard, they recognise, "this poses a challenge for regulatory action, and responses to uncertainty and risk are likely to be different in different countries."

[94] *United States – Standards for Reformulated and Conventional Gasoline*, Panel Report WT/DS2/R, adopted 20 May 1996, as modified by the Appellate Body Report AB-1996-1, WT/DS2/AB/R, at para 17.: "the GATT is not to be read in clinical isolation from international public law."

[95] World Health Organisation and World Trade Organisation, *WTO Agreements and Public Health: A Joint Study by the WHO and the WTO Secretariat* WHO ISBN 92 4 156214 5 / WTO ISBN 92-870-1223-7 (Geneva: World Trade Organization / World Health Organization, 2002).

In particular, food safety concerns come into play in the context of international trade in foods, which has grown substantially over the past 10 years. Agriculture and food exports are also essential to developing countries, as many have a comparative advantage in agricultural production. As the trend towards the export of more and more processed foods is increasing, sanitary and phytosanitary measures become more relevant.[96] The WTO *Agreement on Sanitary and Phytosanitary Standards* (SPS Agreement) is the most significant international trade treaty in this regard. SPS measures are used for many health threats, and the SPS Agreement applies to these measures. This will be further explored below.

Chart 3 - SPS Measures at a Glance

Measures taken to protect:	*from:*
human or animal life	additives, contaminants, toxins or disease-causing organisms in their food, beverages, feedstuffs;
human life	plant- or animal-carried diseases (zoonoses);
animal or plant life	pests, diseases, or disease-causing organisms
a country	damage caused by the entry, establishment or spread of pests (including invasive species).

Source: WHO – WTO Report, 2002

With regard to domestically prohibited goods and hazardous products such as asbestos, the 1994 GATT and the other WTO agreements are significant, but their application is still evolving. Vigorous debates have taken place in the WTO Committee on Trade and Environment. With the entry into force of the WTO in January 1995, the Committee on Trade and Environment was established. Its work programme builds on the work that had already taken place in GATT since 1991. The CTE has a broad-based mandate covering all areas of the multilateral trading system - goods, services and intellectual property. It has been given both analytical and prescriptive functions: to identify the relationship between trade and environmental measures in order to promote sustainable development, and to make recommendations on whether any modifications to the provisions of the multilateral trading system are required.36 In effect, the CTE has brought environmental and sustainable development issues into the mainstream of WTO work. The CTE's first Report, which was submitted to the WTO Ministerial Conference in Singapore, noted the WTO Members' wish to approach the issue of trade and environment in a constructive manner. In 2001, at the 4th WTO Ministerial in Doha, Qatar, Doha, negotiations also attempted to clarify the status of the precautionary principle in international trade law. However, a small coalition of countries (led by the United States) managed to keep the issue from being addressed in the Doha Declaration of the Ministers, leaving the exact status of precaution in trade law unclear. In the end, at Doha, Ministers simply stated that they were "convinced that the aims of upholding and safeguarding an open and non-discriminatory multilateral trading system, and acting for the protection of the environment and the promotion of sustainable development *can and must* be mutually supportive." [97] Hence, the multilateral trading system has a duty to further integrate environmental considerations and enhance its contribution to the promotion of sustainable development without undermining its open, equitable and non-discriminatory character.

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[96] World Bank, "The Development Challenge in Trade: Sanitary and Phytosanitary Standards", Submission by the World Bank to the WTO SPS Committee, 12 July 2000, G/SPS/GEN/195.
[97] WT/MIN(01)/DEC/1 20 November 2001.

4.2 Precaution in WTO Dispute Case Studies

To illustrate the application of precautionary legal reasoning, and the principle itself, in international trade law, it is interesting to consider three leading GATT/WTO disputes, the *Thai-Cigarettes* case, the *EC- Growth Hormones* case, and the recent *EC- Asbestos* case. While these cases involved mainly developed countries (or regions), their interpretation of the relevant law and principles indicates the probable results for developing countries in a conflict between health or environment priorities and international trade liberalisation commitments.

The Thai – Cigarettes Dispute

The earliest GATT dispute which clearly touches upon precautionary issues dates back to the late 1980s. At that time, the US government began a series of actions to get Thailand and some other Asian countries to open their markets to US tobacco products. In each case, the Asian tobacco manufacture and sales were controlled by state monopolies. The US government succeeded in negotiating bilateral agreements that removed excise taxes and distribution practices that discriminated against US tobacco products - except in Thailand. Thailand argued that its import restrictions were part of a comprehensive policy to control tobacco use. In response, the United States filed a complaint with the General Agreement on Trade and Tariffs (GATT), the predecessor to the WTO, against Thailand.

Under the 1966 Tobacco Act, Thailand prohibited the importation of cigarettes and other tobacco preparations, but authorized the sale of domestic cigarettes. Foreign cigarettes were also made subject to an excise tax, a business tax and a municipal tax. In 1989, the United States complained that the import restrictions were inconsistent with GATT Article XI (on the "General Elimination of Quantitative Restrictions"), and considered that they could not be justified by either (i) exceptions to the elimination of quantitative restrictions allowed for under that same Article, or (ii) Article XX(b) (on "General Exceptions" pertaining to measures necessary for the protection of human life or health). It also argued that the internal taxes were inconsistent with GATT Article III:2 (on "National Treatment on Internal Taxation and Regulation"). Thailand responded by arguing, *inter alia,* that the import restrictions were justified under Article XX(b) because the government had adopted measures which could only be effective if cigarette imports were prohibited, and because chemicals and other additives contained in United States cigarettes might make them more harmful to human health than Thai cigarettes. World Health Organisation (WHO) submissions to the GATT dispute panel confirmed differences between cigarettes manufactured in developing countries like Thailand and those in developed countries, which contained more additives and flavouring to make them easier to smoke, especially by women and adolescents. However, WHO did not find any scientific evidence to show that one type of cigarette was more harmful to health than the other. This is the point whereby a precaution

argument could have been used. In a situation where there is a lack of scientific proof that one is more harmful than the other, the policy which prevented the cigarettes from entering could have justified continued use of these measures.

Without a precautionary approach, the Panel found that the import restrictions were inconsistent with Article XI and not justified under its exceptions. As such, the measures were in violation of the GATT. It further concluded that the import restrictions were not 'necessary' within the meaning of Article XX(b) (i.e. not necessary for the protection of human life or health), and could not be saved by those 'exemptions.' The internal taxes, on the other hand, were found to be consistent with Article III:2. Import restrictions were found not to be necessary because other methods could be used to protect public health, including various tobacco-control measures, without favouring domestic production. Two of these were bans on advertising and point-of-sale promotion, which applied to cigarettes of all sources. For this reason, the panel rejected the United States call for the advertising ban to be lifted. Thailand was allowed to continue with its advertising ban since this applied to all products without discrimination. Thai health and trade officials welcomed this last decision. According to certain officials, it showed that the GATT dispute settlement process allowed Thailand to defend their advertising ban, as countries which had negotiated settlements bilaterally with the United States outside the GATT ended up allowing advertising.[98]

In brief, as a result of this case Thailand had to lift its import ban and reduce the excise duty on tobacco because these could not be justified on health grounds so long as the sale of domestic cigarettes was allowed. In line with the GATT ruling, the Thai government lifted the import ban in 1990 and legal exports of cigarettes commenced to Thailand in 1991.[99] Most countries, however, face strong challenges to implementing effective, comprehensive tobacco control measures. There is often fierce political opposition from domestic producers, who may be fully or partly owned by the government. Meanwhile, foreign producers continue to seek market access, defended by international trade laws. The precautionary principle would not necessarily be invoked today in order to defend tobacco control measures, per se, as these measures are clearly preventive in the face of fairly certain science. However, in those times, when evaluating measures which clearly discriminated between foreign and domestic tobacco products, and in the face of arguments as to whether the foreign cigarettes were more or less harmful than the domestic ones (an area of clear uncertainty in the science), a precautionary approach would have provided the necessary reversal of proof. It would have barred the USA, and hence the GATT panel, from using the argument that uncertain science (as to the harmfulness of one product against the other) should prevent Thailand from limiting the use of one product rather than the other, placing the burden onto the USA to show that in fact, their

[98] This case was brought under the GATT dispute-settlement system before it was revised with the WTO's creation in 1995. The GATT rules cited were also pre-1995. It is classified under DS10/R - 37S/200. See also ("GATT negotiators losing fight against cigarettes" in The Nation, page B4, Bangkok, December 9, 1990).

[99] Thailand was still free to charge duty on imports. It was also free to set its excise duty at any level so long as it did not discriminate between local and imported products. The opening of the domestic market to foreign producers initially led to an increase in cigarette consumption, but it also served to strengthen national tobacco control efforts against both foreign and domestic cigarettes.

chemical-laced cigarettes were indeed less harmful than the Thai alternatives. In a later panel, this precautionary reasoning is demonstrated.

Fortunately, the case did not end with this trade ruling. Soon after, in 1992, the Thai parliament passed two important tobacco control acts designed to restrict tobacco sales. The measures included increased sales taxes, smoking bans in public buildings, disclosure of ingredients, and requirements for prominent health warnings on cigarette packages. As a result, smoking prevalence declined in the mid and late 1990s.

The EC - Hormones Dispute

The WTO dispute entitled '*European Community - measures concerning meat and meat products (hormones), complaints by the United States and Canada'* emerged due to concerns related to known and unknown effects of hormones. European consumers' concern over the use of hormones for growth promotion purposes in livestock grew steadily throughout the 1970s. The WHO -Food and Agriculture Organisation (FAO) Joint Expert Committee on Food Additives (JECFA) examined the use of these hormones and their health implications. On the basis of the JECFA recommendations, the *Codex Alimentarius* adopted standards for five of the growth-promoting hormones. The standards specified the maximum level of hormone residues in foods that are safe for human consumption. Despite these standards, several scandals concerning the use of illegal hormonal substances prompted the European Union in 1988 to completely ban the use of growth-promoting hormones.

In January 1996, the US, followed by Canada in June of the same year, challenged this EU decision as inconsistent with the 1994 WTO Agreement on Sanitary and Phytosanitary Standards (SPS Agreement). In 1998, the Appellate Body ruled that the EC was in violation of SPS Agreement rules. As the international *Codex Alimentarius* standards existed for five of the six hormones at issue, the panel judged that the EC was required to justify its ban, and hence its non-application of the international standards, on the basis of its own assessment of the risks to human health. In the EC-Hormones case, the EC did not invoke Article 5.7 of the SPS Agreement. The EC attempted to justify its hormones ban by arguing that the precautionary principle was a general principle under international law. In other words, the EC invoked the precautionary principle in general terms as an overriding principle, while never claiming that the ban on imports of hormone-treated meat was in any way "provisional". The Appellate Body noted that the precautionary principle, other than as reflected in Article 5.7, did not override the treaty law obligation, as agreed between the parties to the WTO, to base SPS measures on a risk assessment. This meant that according to the WTO, parties could contract out of precautionary obligations, leaving the burden of proof in the instance of scientific instability, squarely upon the EU. And according to the Appellate Body, the scientific evidence presented by the EU did not support the ban on hormones.

While holding that the EU ban was GATT illegal as it was not based on a risk assessment, the WTO Appellate Body did confirm the rights of Members to have the level of health protection they want, even above international standards, and that it is for the Member challenging an SPS measure to bear the burden of proof. According to the WTO Appellate Body, the *WTO Agreement on the Application of Sanitary and Phytosanitary Measures* (WTO SPS Agreement) has incorporated the precautionary principle in Art. 5.7.[100] In the SPS Agreement Preamble and in Art. 3.3, the right of Members to establish their own appropriate level of sanitary protection is explicitly recognised. These may be higher (i.e., more cautious) than existing international standards, guidelines and recommendations.[101] Although the term "precautionary principle" is not explicitly used in the SPS Agreement, the Appellate Body in the *EC- Hormones* report stated that it finds reflection in Article 5.7. This reads that "[i]n cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available scientific information, including that from the relevant international organizations as well as from sanitary and phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time."[102]

The SPS Agreement provides that measures adopted in the context of inadequate scientific evidence must respect certain conditions. For example, measures must be of a provisional nature pending the availability of more reliable scientific data, and this provisional nature is linked to the development of scientific knowledge rather than to a time factor (research must be carried out to elicit the additional scientific data required for a more objective assessment of the risk). In addition, measures must be periodically reviewed to take account of new scientific data. The results of scientific research should make it possible to complete risk evaluation and if necessary to review the measures on the basis of the conclusions. Hence the reasonable period envisaged in the SPS Agreement includes the time needed for completion of the necessary scientific work and if necessary, that needed for performance of a risk evaluation based on the conclusions of this scientific work. In addition, it should not be possible to invoke budgetary constraints or political priorities to justify excessive delays in obtaining results, re-evaluating the risk or amending the provisional measures. These conditions concern only the scope of the SPS Agreement. The WTO jurisprudence on this issue is actually based on another case, that of *Japan- Varietals.*[103] In this case, the Appellate Body clarified the four requirements which must be met in order to adopt and maintain provisional SPS measures.[104]

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[100] See *EC-Hormones*, Appellate Body report, para. 120 and confirmed in *Japan – Agricultural Products* (AB-1998-8), WT/DS76/AB/R of 22.02.1999, para. 81.
[101] *EC-Hormones*, Appellate Body report, para. 124.
[102] *EC Measures Concerning Meat and Meat Products (Hormones),* adopted on 13 February 1998, WT / DS26 / AB /R, WT / DS48 / AB /R at para 124
[103] *Japan- Measures Affecting Agricultural Products*, adopted on 19 March 1999, WT / DS76 / AB / R.
[104] A Member may provisionally adopt an SPS measure if the measure is: 1) imposed in respect of a situation where "relevant scientific information is insufficient"; and 2) adopted "on the basis of available pertinent information." Such a provisional measure may not be maintained unless the Member which adopted the measure: 3) "seek(s) to obtain the additional information necessary for a more objective risk assessment"; and 4) "review(s) the … measure accordingly within a reasonable period of time." See *Japan-Measures Affecting Agricultural Products* adopted on 19 March 1999, WT / DS76 / AB / R., at para 89.

These four requirements are clearly cumulative and are equally important for the purpose of determining consistency with the provisions of Article 5.7. Whenever one of these four requirements is not met, the measure is inconsistent with Article 5.7. As to what constitutes a "reasonable period of time" to review the measure, the Appellate Body points out that this has to be established on a case-by-case basis and depends on the specific circumstances of each case, including the difficulty of obtaining the additional information necessary for the review *and* the characteristics of the provisional SPS measure.[105] The Appellate Body agreed with the panel that several years (as in the *Japan-Varietals* case) would exceed this period.[106] Though the principle and the conditions which determine consistency appear in accordance with the precautionary principle as described above, they are considerably more restrictive. As such, the SPS Agreement can be said to incorporate a precautionary element into the WTO, but a very narrow one. This is more clearly explained by the Appellate Body in the Hormones report, which recognized ... "that there is no need to assume that Article 5.7 exhausts the relevance of a Precautionary Principle."[107] In this report, it was recognised that Members have the "right to establish their own level of sanitary protection, which level may be higher (i.e. more cautious) than that implied in existing international standards, guidelines and recommendations." Furthermore, the Appellate Body accepted that "responsible, representative governments commonly act from perspectives of prudence and precaution where risks of irreversible, e.g. life-terminating, damage to human health are concerned." The Appellate Body, in the Hormones case, also stated that some regard the precautionary principle as having reached the level of custom in the field of international environmental law,[108] but held that it would be unnecessary to take a position on whether this yet had been authoritatively formulated as a general principle of international customary law. Indeed, in the *Hormones* and the *Japan-Varietals* cases, there was no need to define the legal value of precaution because the SPS Agreement incorporated many of the necessary elements in its treaty language.

In May 1998, an arbitrator gave the EC until 13 May 1999 to implement the recommendations of the Dispute Settlement Body. As the EC was unable to act accordingly and failed to lift its import ban, on 12 July 1999, the WTO authorized the United States and Canada to impose compensatory measures in the form of the suspension of tariff concessions covering trade to a maximum amount of $US 116.8 million per year for the United States and CDN$ 11.3 million per year for Canada. These measures are still in force, and the EC prefers to pay than to change their policy.[109]

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[105] *Japan-Measures Affecting Agricultural Products* adopted on 19 March 1999, WT / DS76 / AB / R., at para 93.
[106] *Japan-Measures Affecting Agricultural Products* adopted on 19 March 1999, WT / DS76 / AB / R., at para 93
[107] *EC Measures Concerning Meat and Meat Products (Hormones),* adopted on 13 February 1998, WT / DS26 / AB /R, WT / DS48 / AB /R at para 124.
[108] *Ibid,* at para 123.
[109] WT/DS26/R/USA and WT/DS48/R/CAN, dated 18 August 1997 and the Appellate Report WT/DS26/AB/R, WT/DS48/AB/R, dated 16 January 1998.

The *EC – Asbestos* Dispute

In the dispute titled '*European Communities - Measures affecting asbestos and asbestos containing products*',[110] a French Decree prohibiting the manufacture, sale, export, import and use of asbestos fibres and products containing asbestos fibres. The EU argued the case on France's behalf. Asbestos is the leading cause of occupational cancer and its health risks are of high concern to not just France, but many countries.[111] In France alone, asbestos was said to claim the lives of about 2,000 people each year and a ban on chrysotile (white) asbestos was already in place in nine of the fifteen European member states, with many other developed and developing countries considering similar measures. In this case, the EC was clearly legitimately concerned as to health risks associated with the use of a known carcinogen, and the Decree was consistent with other policy measures that had been taken over the years to reduce risk.[112] The decree was challenged by Canada in 1998 on the grounds of less favourable treatment of imported asbestos as compared to domestic substitutes for asbestos, contrary to Article III:4 of GATT 1994. Canada also argued that banning asbestos was an unnecessarily extreme measure because the 'controlled' use of asbestos could reduce the health risks to acceptable levels. France produces substitutes for asbestos, for example, polyvinyl alcohol, cellulose and glass fibres, and through the ban, sought to ensure that these substitutes were used instead of the carcinogenic asbestos imports. The precautionary principle is meant to be applied when these is scientific uncertainty. While the scientific case for the carcinogenicity of asbestos is well established, the case did not turn on this issue. Rather, as in the Thai-Cigarettes case, the legal debate centered around the scientific evidence for whether the French substitutes were, in fact, less harmful than asbestos itself when properly used (controlled use). The scientific evidence on this point was still uncertain, and indeed, the main issue was upon whom the burden of proof should fall.

In September 2000, the WTO dispute panel ruled in favour of the EU. The panel found that chrysotile asbestos and the substitute products had, *inter alia,* similar "end-uses", making the products alike.[113] Thus, the French ban violated the national treatment provisions of GATT Article III.4. Nevertheless, the panel decided that France had a

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[110] *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products* WT/DS135/AB/R 12 March, 2001[herinafter *EC – Abestos case*].

[111] See ICTSD, *Bridges*, Year 4 No. 7, at p. 9. For reference to the carcinogenic nature of Chrysotile Asbestos, see for example International Agency for Research on Cancer *Monograph on the Evaluation of Carcinogenic Risk of Chemicals to Man – Asbestos*, 1977, Lyon, Vol. 14 which recognised that all varieties of asbestos, including chrysotile, are carcinogenic and classified them as in Group 1, 'Known Carcinogens'; International Labour Organisation, *Convention Concerning Safety in the Use of Asbestos* (Convention No. 162), adopted 24 June 1986, http://www.ilo.org/public, Article 10 which recommended replacement of Asbestos by other materials and total prohibition in certain circumstances; World Health Organisation, *Chrysotile Asbestos Evaluated by Health Experts*, Press Release WHO/51/REV.1, 10 September, 1986, http://www.who.int/archives which recommended that asbestos, including chrysotile, should be replaced with safer substitutes; World Health Organisation, International Programme on Chemical Safety, *Environmental Health Criteria (203): Chrysotile Asbestos*, 1998 which recognised carcinogenic effects of chrysotile and reiterated calls for replacement of chrysotile.

[112] Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances OJ 196 16.8.1967 p.1 which as amended, classified all types of asbestos as category I carcinogens; Council Directive 76/769/EEC of 27 July 1967 on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations OJ L 262 27.9.1976 p.201 which as amended, recognised that asbestos and certain products can cause cancer and asbestosis, prohibited the marketing and sale of certain forms of asbestos; Council Directive 87/217/EEC of 19 March 1987 on the prevention and reduction of environmental pollution by asbestos OJL 85, 28.3.1987 p. 40-45 which as amended, introduced controls on wastes containing asbestos; Council Directive 91/689/EEC of 12 December 1991 on hazardous waste OJ L 377, 31.12.1991 p. 20-27 (as amended, lists asbestos as hazardous waste). This replaced Council Directive 78/319/EEC of 20 March 1978 on toxic and dangerous waste OJ L 84, 31.3.1978 p.43 which introduced measures to prevent and reduce environmental pollution, including control on wastes containing asbestos.

[113] See *EC-Asbestos*, Panel report at para 8.112.

right to apply the ban under GATT Article XX (b) (which provides an exemption for trade restrictive measures designed to protect "human, plant or animal health", but had never before been successfully argued to defend such a measure).[114] There were limited precautionary elements to their reasoning, even at this level. The standard applied in the application of GATT Article XX(b) to the French decree was, at each point, that of a fictive '*decision-maker responsible for taking public health measures'*,[115] not simply an average WTO member country. In determining necessity, the panel stated that it was 'not for the party invoking Article XX to prove that the arguments put forward in rebuttal by the complaining party are incorrect until the latter has backed them up with sufficient evidence.'[116] In doing so, the panel rightly rejected an *inverse* precautionary principle argument put forward by Canada, admonishing that accepting their argument would essentially require "waiting until scientific certainty, which is often difficult to achieve, has been established over the whole of a particular field before public health measures could be implemented."[117] Canada appealed the ruling to the WTO Appellate Body.

In March 2001, the WTO Appellate Body issued its ruling, affirming the dispute panel's ruling in favor of the EU, while clarifying several important issues. They applied precautionary reasoning in two instances. They confirmed that WTO Members have the undisputed right to determine the level of health protection they deem appropriate. This recognition had strong precautionary overtones, applied to the area of human health. According to the principle, lack of scientific certainty should not be used as an excuse to prevent taking measures to address a threat of serious or irreversible damage. The burden of proof shifts to the proponent of the harmful activity. Certainly, the threat of over 2,000 deaths a year constitutes such a serious, indeed irreversible, damage. Without explicitly stating that their decision was precautionary, let alone bound by the principle, the WTO Appellate Body managed to make exactly this finding. France could only be held to be discriminating between domestic and foreign products if the products were, indeed, similar.[118] First, the Appellate Body reiterated the classic 4 general criteria for likeness, namely (i) the physical properties of the products, (ii) their end uses, (iii) consumer tastes and habits and (iv) the tariff classification of products, emphasizing that all four criteria must be examined in all cases but that this is not a closed list and that all pertinent evidence must be taken into account. They examined whether imported asbestos fibres and domestic alternative fibres were "like products," emphasising that this question must be informed by the obligation of Members to ensure "equality of competitive conditions" between domestic products and like imports. But then, unlike the original panel in the decision, they found that the health risks inherent in a product may be pertinent and could influence at least two of those criteria: the physical characteristics of products and consumer tastes and habits. In particular, it is appropriate to consider whether the physical characteristics influence the relative health risk of a product in evaluating its 'likeness' under Article III (4) of GATT 1994. The Appellate Body agreed that evidence showed that chrysotile fibres were more toxic than the substitute products used in France. They then placed the burden was upon Canada to demonstrate that the fibres were still 'like products'. The characterization

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[114] See *EC-Asbestos*, Panel report at para 8.119.
[115] See *EC – Asbestos*, Panel report, at paras 8.193, 8.217.
[116] *EC – Hormones*, panel report, at para 104.
[117] See *EC – Asbestos*, Panel report at para 8.221.
[118] *Japan- Taxes on Alcoholic Beverages,* Appellate Body report adopted on 1 November 1996, WT / DS8; DS10DS11/AB/R at p. 23.

was not conclusive- indeed, the earlier panel had determined *on the basis of the same science* that these products *were* similar. But once the burden of proof was reversed, then Canada could not satisfy it either to prove likeness. The French ban was saved.

A second level of analysis was still required. They examined the measure under the 'exception'- Article XX of the GATT 1994, and here again, the Appellate Body took a precautionary stance. In general, in GATT law, it is quite difficult for a measure to qualify for an exception In order to determine whether Article XX(b) applies, the WTO dispute settlement mechanism must find that the ban a) falls within the range of policies designed to protect human life or health, and b) is *necessary* to fulfil the policy objective, in the sense that no less restrictive alternative measure would be sufficiently effective and is reasonably available. On this point in the *EC - Asbestos case*, the Appellate Body moved the goal posts. They found that there is no requirement under to quantify the risk to human life or health- rather, a risk may be evaluated either in qualitative or quantitative terms. They also confirmed that countries can base their health or environmental measures on qualified and respected scientific opinions held by only a minority of scientists, stating that "a Member is not obliged, in setting health policy, automatically to follow what, at a given time, may constitute a majority scientific opinion" (p. 64). For the Appellate Body, the determination of whether a measure which is not 'indispensable' may nevertheless be 'necessary' involved a process of weighing and balancing a series of factors which include the importance of the common interests or values protected by the measure, the efficacy of such measure in pursuing the policies aimed at, and the accompanying impact of the law or regulation on imports or exports. As stated in the report, one aspect of the "weighing and balancing process … in the determination of whether a WTO-consistent alternative measure" is reasonably available is the extent to which the alternative measure "contributes to the realization of the end pursued." This reasoning bears strong resemblance to the *proportionality* aspect of the precautionary approach. Indeed, the Appellate Body went on to state that "[t]he more vital or important [the] common interests or values" pursued, the easier it would be to accept as 'necessary' measures designed to achieve those ends.

In this case, the objective pursued by the measure was the preservation of human life and health through the elimination, or reduction, of the life-threatening health risks posed by asbestos fibres. The value pursued was both vital and important in the highest degree. Both the original WTO panel and the Appellate Body shifted the burden of proof onto Canada, the proponent of the exports, to prove that their 'controlled use' alternative would achieve the same level of protection- something Canada could not do. Controlled use of asbestos could still pose a significant residual risk to the workers and was unlikely, therefore, to achieve the level of health protection desired by France - a halt to asbestos induced illness and death. As there was little conclusive scientific evidence as to the results of one strategy versus the other, Canada was unable to meet the burden. Thus, the ban was deemed "necessary" to protect human health within the meaning of the Article XX(b) exception, and it passed the test in trade law.

The case strengthened arguments by civil society about the need for tougher laws on the use of asbestos. After the French Decree passed WTO scrutiny, Chile and other countries soon passed bans or other laws phasing out chrysotile asbestos products. In the last two years, cities and states across Brazil - including the city of Sao Paulo, the largest city in Latin America - enacted laws banning the use of asbestos, covering about 70 per cent of the asbestos market nation-wide. (International Ban Asbestos Campaign, 2000).

4. Precaution and Developing Countries

Developing countries have not always supported the implementation of the precautionary principle in the WTO. Indeed, as will be seen below, certain developing countries have resisted its recognition for fear that this principle will simply raise further barriers to their access to developed country markets. However, increasing use of precaution in international trade law might also benefit developing countries. In particular, there are two ways in which developing countries stand to benefit from precautionary reasoning being taken into account in the WTO.

4.1 Trade in Domestically Prohibited Goods

The precautionary principle is of particular relevance to developing countries in the WTO. In part, this is due to the concerns raised above, but in particular, the principle is relevant to a related issue of great concern to developing countries: trade in domestically prohibited goods (DPGs).

As early as 1982, concern was raised by a number of developing countries about goods being exported to them in situations where their domestic sale in the exporting countries had been either prohibited or severely restricted on health and environmental grounds. At the 1982 Ministerial Meeting of GATT, it was agreed to examine the issue.[119] Governments decided to begin notifying any goods produced and exported by them but banned for health reasons by their national authorities for sale in their domestic markets. While the notification system began to function following this Decision, Parties tended to notify DPGs whose export had also been prohibited rather than the ones which they continued to export. The notification system was not successful, and no notifications have been received after 1990 (despite the fact that the 1982 Decision remains in force).[120]

In 1989, a Working Group on the Export of DPGs was established in GATT. The Working Group met 15 times between 1989 and 1991, when its mandate expired, but failed to resolve the issue.[121] Indeed, at the July 1991 meeting

[119] Ministerial Declaration, adopted 28 November 1982, BISD 29S/9.
[120] For more details, see WTO Secretariat, *Trade and Environment* L/6896 (18 September 1991), and WTO Secretariat, Exports of Domestically Prohibited Goods, PC / SCTE/W/7 (22 December 1994).
[121] In these debates, it became clear that the DPG issue was of high concern to many developing countries. See, e.g. Technical Note on Domestically Prohibited Goods, Communication by Cameroon, Cote d'Ivoire, Nigeria, Sri Lanka and Zaire, MTN.GNG/W18 (17 November 1998); Outline of a Possible GATT Framework of Rules in the Area of Domestically Prohibited Goods and Other Hazardous Substances,

of the Council, the Chairman of the Working Group submitted a report together with the text of a draft Decision on Products Banned or Severely Restricted in the Domestic Market, and explained that one country remained unable to accept it without amendments.[122] Although its mandate was extended, the Working Group never met again. In the 1994 Ministerial Decision on Trade and Environment it was agreed to incorporate DPGs into the terms of reference of the Committee on Trade and the Environment (CTE),[123] where it has circulated without being resolved to date.

Numerous other international instruments already address the export of DPGs,[124] but without access to the same 'teeth' as has the WTO. The issue of DPGs is of importance to developing countries, which mainly import DPGs, but not of great significance (or even contrary to strong commercial interests) in developed countries. The explicit recognition of the precautionary principle in the WTO might help to advance this debate, and give the WTO better legal tools to finally address this issue more effectively. A precautionary approach would certainly support addressing this issue more fully, and perhaps even resolving it.

4.2 Access to science: Lower Hurdles for Health in Developing Countries

In addition, though this particular dispute is between Canada and the European Communities, developing countries are directly implicated. As health and environment regulatory frameworks are modernised, often in a regional context, developing countries will increasingly find themselves in situations similar to those of France and the European Communities. While developing countries can be exporters, they are often in the position of receiving inherently hazardous goods for sale or processing. In terms of asbestos, designated a carcinogen by the World Health Organisation since 1977, top chrysotile consumers include China, Brazil, Thailand, India, Indonesia, Mexico, Colombia and other developing countries. Should any of these nations choose to follow the lead of France, Germany, Italy and others to ban asbestos, they could face a similar challenge in the WTO. Chile has just banned asbestos, for example. This could also be true for other hazardous products, including those domestically prohibited in a producing country and not yet regulated in the developing country, or those covered by multilateral environmental accords to which particular WTO Members are not Parties.

Communication by Nigeria and Cameroon, DPG/W/8 (30 March 1990). The issue is also of importance to the EU. See, e.g. Understanding on Trade in Domestically Prohibited Goods and Other Hazardous Substances, Communication by the European Community, DPG/W/9 (12 April 1990).

[122] L/8672 (2 July 1991).

[123] MTN.TNC/45(MIN) (6 May 1994).

[124] DPGs are the subject of international treaties such as the *Basel Convention on the Transboundary Movement of Hazardous Wastes* as well as the *PIC* and *POPs Conventions*, instruments which principally address chemicals, pharmaceuticals, and hazardous wastes, and have significant explicit precautionary elements, as mentioned above in Section 3.

The *prima facie* burden of proof established when the panel discounts precautionary analysis risked proving more onerous in a country where few resources are available for public health studies and other scientific data. However, in the legal test of whether a public health measure is 'necessary', as developed in the *US – Shrimp*[125] case, the WTO has affirmed that "it is important to assess whether consistent or less inconsistent measures are reasonably available." In the *EC – Asbestos case*, the panel went further. They stated that:

> *"the existence of a reasonably available measure must be assessed in the light of the economic and administrative realities facing the Member concerned but also by taking into account the fact that the State must provide itself with the means of implementing its policies."*[126]

Thus, the Panel considered that it is legitimate to expect a country such as France with advanced labour legislation and specialized administration services to deploy administrative resources proportionate to its public health objectives and to be prepared to incur the necessary expenditure. In particular, the Panel recognised that "it is important to assess whether consistent or less inconsistent measures are reasonably available in the light of the economic and administrative realities facing the Member concerned" by being willing to consider the need for Members to have means of implementing their policies. This reasoning implies that a developing country requiring special and differential treatment would find their policy challenges taken into account. Reminiscent of earlier WTO debates on 'margins of appreciation', this confirmed deference to the judgement of domestic policy makers, particularly those faced with constraints. It followed on recognitions of conditions in one earlier case, the U*nited States – Gasoline* report, but offered a clearly recognition of challenges and realities faced even by countries attempting to fulfil legitimate public policy objectives.[127] The Appellate Body did not overturn this part of the reasoning, and it stands as a forward step in making the WTO strictures more sensitive to developing country concerns. By developing this line of reasoning further, the WTO can potentially grant lower 'hurdles' for developing countries exemptions on health and potentially environment or other public interest measures affecting trade.

5.3 Precaution in the World Summit for Sustainable Development

The *World Summit for Sustainable Development* (WSSD) was held in Johannesburg, South Africa, in September of 2002. International debates, conducted through a two year preparatory process, raised many tangled legal issues. It was clear that while international and domestic laws have developed over the past ten years, the enforcement and implementation of these laws has often been limited by poor governance. Social, economic and environmental laws often overlap or even conflict, rather than complement each other. This, combined with a lack of capacity and knowledge, often blocks access to justice and prevent compliance with sustainable development law. Not only is it

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[125] *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, 20 September, 1999, WT/DS58/AB/R
[126] *EC-Asbestos,* Panel report at para 8.207.
[127] *United States – Standards for Reformulated and Conventional Gasoline*, Panel Report WT/DS2/R, adopted 20 May 1996, as modified by the Appellate Body Report AB-1996-1, WT/DS2/AB/R, at para 6.20.

possible to change this situation; it is necessary. The need for integration was explicitly highlighted by heads of state in the WSSD. In the 2002 Johannesburg Declaration[128] governments committed to "assume a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development - economic development, social development and environmental protection - at the local, national, regional and global levels." The commitments outlined in the 2002 Johannesburg Plan of Implementation[129] seek to "promote the integration of the three components of sustainable development - economic development, social development and environmental protection - as interdependent and mutually reinforcing pillars."

In the 2002 Johannesburg Declaration, governments also reaffirmed their commitment to "the principles and purposes of the Charter of the United Nations and international law, as well as to the strengthening of multilateralism."[130] According to the CISDL, the precautionary principle figured prominently in the negotiations which ensued at the World Summit and can provide significant guidance in the implementation of the Johannesburg Programme of Action and in key related processes, such as the WTO 'Doha Development Agenda' negotiations launched in Qatar in 2001.[131]

Precaution is raised in the 2002 Johannesburg Plan of Implementation as a general commitment to "[p]romote and improve science-based decision-making and reaffirm the precautionary approach as set out in principle 15 of the *Rio Declaration on Environment and Development*." As mentioned above, precaution has been touted as a solution to all environmental problems, as well as an end to all economic activities. In the WSSD negotiations, it was conclusively found to be neither.

Debates surrounding the principle served to clarify myths and eventually focused on how the legal concept of precaution has evolved since the 1992 UNCED.[132] Countries examined the nature of precaution with reference to its place in legal methodology and policy-making nature, its utility, and observations as to its present status in domestic and international law of sustainable development. As was clear in the Johannesburg Plan of Implementation, the precautionary principle has developed considerably in specific areas of international law, with application in new areas such as health. For example, with reference to chemicals management, governments in Johannesburg committed to address problems and meet targets "in ways that lead to the minimization of significant adverse effects on human health and the environment, using transparent science-based risk assessment procedures and science-

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[128] Johannesburg Declaration on Sustainable Development Report of the World Summit on Sustainable Development Johannesburg, South Africa, 26 August- 4 September 2002 A/CONF.199/20 [hereinafter '*Johannesburg Declaration*'].
[129] *Johannesburg Declaration, ibid.*
[130] *Johannesburg Declaration, ibid.*
[131] M. Cordonier Segger, A.Khalfan and S. Nakhjavani, Weaving the Rules for our Common Future: Principles, Practices and Prospects for an International Sustainable Development Law (Montreal: CISDL, 2002). See also M. Cordonier Segger, Ashfaq Khalfan, Markus Gehring and M. Toering "Prospects for Principles of International Sustainable Development Law after WSSD: Common but differentiated responsibilities, Precaution and Participation" RECIEL Journal Spring 2003 [forthcoming].
[132] A more detailed overview of the development on precaution between Rio and Johannesburg is provided in *Precaution from Rio to Johannesburg*, *supra* note 14.

based risk management procedures, taking into account the precautionary approach, as set out in principle 15 of the Rio Declaration on Environment and Development…"[133]

While, as demonstrated above, precaution is not alien to the United States legal system,[134] the US was very reluctant to accept the precautionary principle in the WSSD negotiations. Indeed, if the principle is emerging as an international customary norm, the US and Australia might be described as 'persistent objectors.'[135] (As such, precaution would not apply to their actions on an international level).

In the past decade, developing countries often fought hard for reference to precaution, in order to cope with lack of full scientific knowledge and certainty about environmental and social impacts, as well as other related issues. In addition, many developing countries have deliberately incorporated precaution into their domestic law, or even into their constitutions, as they recognize it as a useful legal tool. However, in Johannesburg developing countries showed hesitation about references to precaution in the area of international trade, due to a perceived danger that it could justify unilateral trade barriers, especially if precaution were applied without internationally agreed guidelines of application.[136]

In sum, the WSSD demonstrated that precaution can be considered part of today's international law. In some areas, especially in specific areas of international law for sustainable development, such as straddling fish stocks or international chemicals management, it can even be considered international customary law.[137] Formulations of the tool should take into account international progress on its modalities since 1992. These were often carefully negotiated in the context of particular sustainable development problems, and should be used where appropriate in specific international regimes. But in most other areas, especially at the area of intersection with international economic and social/human rights laws, this concept is at best *lex ferenda*, a principle in the process of becoming international customary law, with persistent objectors properly on record. Essentially, in the WSSD, the question of the legal validity of a precautionary principle *per se* became less relevant internationally, and discussions focused more specifically on the scope and nature of precaution. The answers to these questions are both scientific and legal. It became clear that the manner of application and implementation will be crucial to both its acceptance and utility in the future.

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[133] Report of the World Summit on Sustainable Development Johannesburg, South Africa, 26 August- 4 September 2002 Plan of Implementation of the World Summit on Sustainable Development A/CONF.199/20 [hereinafter 'Johannesburg Plan of Implementation'].

[134] There are numerous domestic environmental laws with a *precautionary purpose*, recognised by US courts, including the Endangered Species Act, National Environmental Policy Act, the Clean Air Act, the Federal Food, Drug and Cosmetic Act, the Clean Water Act, Safe Drinking Water Act, Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, and the Oil Pollution Act. See *Tennessee Valley Authority* v. *Hill*, 437 U.S. 153, 178-88 (1978); *Reserve Mining Co.* v. *EPA*, 514 F.2d 492, 528 (8th Cir.1975); *Ethyl Corp.* v. *EPA*, 541 F.2d 1, 24-25 (D.C. Cir. 1976), *cert. denied*, 426 U.S. 941 (1976); *Lead Indus. Ass'n, Inc.* v. *EPA*, 647 F.2d 1130, 1152-58 (D.C. Cir. 1980), *cert. denied*, 449 U.S. 1042 (1980); *United States* v. *A&N Cleaners & Launderers*, 854 F.Supp. 229, 237-39 (S.D.N.Y. 1994); but see *Industrial Union Dept., AFL-CIO* v. *American Petroleum Institution*, 448 U.S. 607 (1980).

[135] *Case concerning Military and paramilitary activities in and against Nicaragua (Nicaragua v. Costa Rica)* [1986] I.C.J. Rep. 14, *Case concerning Continental Shelf (Libyan Arab Jamahiriya/Malta)* [1985] I.C.J. Rep. 29.

[136] See G. Marceau, *The precautionary principle under WTO Law*, in *Precaution from Rio to Johannesburg supra* note 13, at 23.

[137] Under the most restricted view, precaution is only relevant to scientific decision-making with regard to environmental concerns or the use of new technologies, at the moment of decision whether to proceed or not in cases where there is scientific uncertainty. However, a growing majority see the precautionary principle as a broader mechanism. Certain applications, such as the use of impact assessment procedures and consultation with affected parties in the case of transboundary projects, are likely to be required by international customary law.

Overall, precaution can be supported as a reasonable, transparent policy tool for decisions being taken in the face of scientific uncertainly after assessments or evaluations have been carried out. As stated by the CISDL, "precaution is a principle at the intersection of three areas of law, within the broader rubric of international law for sustainable development. It can be useful and legitimate in social (health) or environmental law and policy, and certain formulations are increasingly recognized by economic (trade) law."[138] As such, precaution is far from being vague or imprecise. It is a principle which demonstrates the characteristic of the integration from the 2002 WSSD Plan of Implementation, and holds the potential to reconcile sometimes clashing interests for constructive, long term solutions to challenging policy dilemmas.

6. Future Directions for WTO Precaution Jurisprudence

The *EC-Asbestos, EC- Hormones* and *Thailand-Cigarette* cases, illustrates some ways in which WTO agreements may influence national environmental and health policies. Other environmental policy issues relevant to trade and health include the conservation of biological diversity, environmental standards relating to the use of process and production methods and, at a more general level, the use of precaution.[139]

6.1 Changing Procedures through WTO Precaution Jurisprudence

Sustainability has an important procedural element. Two small procedural steps towards co-operation with other regimes have generated initial hope for future openness and policy co-ordination in WTO disputes.

First, it is recognised that in cases where scientific assessment is problematic or uncertain, including the vast majority of cases where environmental quality or public health measures are at stake, international trade lawyers and officials may not be best placed to resolve the issues alone.[140] In the *EC – Asbestos case*, the WTO panel recognised this problem, and established an eleven-step procedure to consult with individual scientific experts.[141] International

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[138] M. Cordonier Segger, M. Toerning at al. "Common but Differentiated Responsibilities and Precaution: Two of the driving principles behind sustainable development." RECIEL Journal Spring 2003 [forthcoming].

[139] For a discussion of these issues and others, see *Environment and Trade: A Handbook published by the UN Environment Programme and the International Institute for Sustainable Development* (Winnipeg: UNEP and IISD, 2000). The full mandate and scope of the CTE's work programme is contained in the Ministerial Decision on Trade and Environment of 15 April 1994. This Decision establishes the Committee on Trade and Environment.

[140] See e.g. D. Wirth, *The Role of Science in the Uruguay Round and NAFTA Trade Disciplines,* Environment and Trade Series 8 (Geneva: UNEP, 1994).

[141] *EC - Asbestos*, Panel report, at para. 5.1. The EC requested the Panel to consult a technical expert group but the Panel decided that individual experts were more appropriate. See para. 5.19.

organisations and institutions such as the World Health Organization (WHO), the International Labour Organization (ILO), the International Programme on Chemical Safety (IPCS), the International Agency for Research on Cancer (IARC) and the International Organization for Standardization (ISO) helped the WTO panel and the parties to the dispute in identifying the experts. This new consultation process was built step by step, and is not controversial. The authority of the General Council to consult and co-operate with non-governmental organisations under Article V.2 of the WTO Agreement is not an exclusive authority. It is also within the authority of WTO panels and the Appellate Body to consider and solicit submissions and information from non-parties, including non-government organisations. In particular, the Appellate Body has stated that "as long as [they] act consistently with the provisions of the DSU and the covered agreements, [they] have the authority to decide whether or not to accept and consider any information that [they] believe is pertinent and useful in an appeal."[142] The decision of the Panel in this case is nonetheless a very small step towards coherence and co-operation with other regimes, an essential element of procedural sustainability. It generates hope for openness and policy coordination in future WTO disputes.

Second, the WTO dispute settlement mechanism is under increasing pressure to go much further, and agree to accept *amicus curiae*, or 'friend of the court' briefs from NGOs and others concerned with cases.[143] The most telling example of movement along this fault line occurs in the *EC – Asbestos* case, where the Appellate Body took it upon itself to issue an Additional Working Procedure accepting *amicus curiae* briefs[144] whereby "any person, whether natural or legal, other than a party or a third party to this dispute, wishing to file a written brief with the Appellate Body" was invited to apply to do so upon a specific deadline. The application had to contain information about the applicant, the special interest in the dispute, and the specific issues of law. The decision to publish the criteria was made "in the interest of fairness and orderly procedure in the conduct of this appeal."[145] This decision to establish the 'Additional Procedure' (AP) came in part because the Appellate Body had already received 13 spontaneous submissions, many from developing country industry associations, and expected to receive more in a case closely watched by public interest groups. They reviewed the applications and had the discretion to invite certain organisations to submit *amicus curiae* briefs.

The interesting aspect of this procedure is that independent *amicus* briefs, those which were not included the submissions of a Party or a third party, were never before taken into account by the WTO dispute settlement mechanism.[146] While the Appellate Body certainly had the authority to accept and consider *amicus* briefs where it was

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[142] *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, 20 September, 1999, WT/DS58/AB/R at para 106-7. *United States – Imposition of Countervailing Duties on Certain Hot-Rolled Lead and Bismuth Carbon Steel Products Originating in the United Kingdom*, Report of the Appellate Body adopted 7 June AB-2000-11, 8 November 2000, WT/DS138/AB/R at para 39.
[143] See D. Esty, "The World Trade Organisation's Legitimacy Crisis" World Trade Review (2002) 1: 1, 7 – 22.
[144] *Communication from the Appellate Body,* WT/DS135/9, 8 November 2000. See also G. Marceau and P. Pedersen, "Is the WTO Open and Transparent?" 33 1 Journal of World Trade (1999), D. Esty, "Non-Governmental Organisations at the World Trade Organisation: Cooperation, Competition, or Exclusion" Journal of International Economic Law, 1 1 (1998) at 123.
[145] WT/DS 135/9.
[146] It should be noted that, relying in part on conclusions of the Appellate Body, a North American Free Trade Agreement tribunal has recognised that there is legitimate public interest arising out of certain subject matter. The tribunal also found that its dispute settlement

'pertinent and useful' to do so,[147] non-state actors had never been offered a formal procedure to be taken into account before. This potentially opened an avenue for under-resourced developing country civil society groups to participate, too, and indeed, many of the requests to file were submitted by organisations in developing countries. As mentioned above, 13 written submissions were received from non governmental organisations before the AP was established, from groups in countries as diverse as Swaziland, Sri Lanka, Korea, El Salvador, Senegal, Japan, and Colombia.[148] Submissions that were received prior to the adoption of the application process were returned to senders with a letter informing them of the new procedure, and inviting them to apply. Pursuant to the Additional Procedure, the Appellate Body received 17 application requesting leave to appeal, six of which were received after the deadline and hence resulted in denial. The 11 applications which arrived within time limits were 'carefully reviewed and considered.'

According to the Appellate Body report in the *EC – Asbestos case*, Canada and the EC not only consented to the additional procedure, but wrote to request copies of all applications filed. However, certain WTO Members reacted angrily to the procedure. A special General Council meeting was held immediately to discuss concerns that the Appellate Body might not have acted in consistency with WTO law. It appears that after this meeting, the Appellate Body backed down. The leave to submit a brief was denied to all applicants. In spite of the denial, a written brief was submitted by FIELD, on its behalf and on behalf of Ban Asbestos Network, Greenpeace International, International Ban Asbestos Secretariat and WWF. The brief was not accepted. [149] According to *ICTSD Bridges*,[150] shaken by the outrage expressed by certain members of the WTO (for whom treatment of *amicus* briefs is among the most controversial aspects of external transparency), the Appellate Body members and the WTO secretariat then refused to answer any questions on the Additional Procedure, and organisations which had requested leave to file written briefs were turned down with tersely-worded letters.

In the law, the additional procedure itself was not controversial. Under the WTO Dispute Settlement Understanding, the Appellate Body may, in consultation with the chair of the DSB and the Director General, develop working procedures for individual cases.[151] It was therefore simply consistent and no violation of WTO rules to establish a procedure, particularly in a case which has attracted strong public interest. Unfortunately, a restrictive procedure and tight deadlines limited the effectiveness of this step, and the reaction of other WTO members (in spite of the prior written consent of the Parties to the dispute) blunted the attempt in this case. This

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mechanism "could benefit from being perceived as more open or transparent; or conversely be harmed if seen as unduly secretive." See In the Matter of an Arbitration under Chapter 11 of the North American Free Trade Agreement and the UNCITRAL Arbitration Rules, *Methanex Corporation* v. *United States of America,* Decision of the Tribunal on Petitions from Third Persons to Intervene as 'Amicus Curiae', 15 January 2001, at para 49, available at http://www.iisd.org/investment_regime.htm

[147] *United States – Imposition of Countervailing Duties on Certain Hot-Rolled Lead and Bismuth Carbon Steel Products Originating in the United Kingdom*, Report of the Appellate Body adopted 7 June AB-2000-11, 8 November 2000, WT/DS138/AB/R at para 39.

[148] *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products* WT/DS135/AB/R 12 March, 2001 at para. 53.

[149] *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products* WT/DS135/AB/R 12 March, 2001 at paras. 54 - 57.

[150] ICTSD, *Amicus* Brief Storm Highlights WTO's Unease with External Transparency, *Bridges Between Trade and Sustainable Development,* Year 4 No.9, Geneva, November-December 2000.

[151] Working Procedures for Appellate Review, 28 February 1997, WT/AB/WP/3, drawn up pursuant to Article 17.9 of the *Understanding on Rules and Procedures Governing the Settlement of Disputes*.

may have been quite unfortunate. Due process has been recognised by the WTO as applying to panels' procedures and as being implicit in certain provisions of the GATT 1994.[152] Indeed, the Appellate Body has expressly noted that a party to a WTO appeal is "always entitled to its full measures of due process" and that WTO Members themselves are bound to administer domestic procedures in accordance with standards of basic fairness and due process.[153]

This 'consistent respect for fairness and due process' should extend not only to parties to the dispute but to any organisation engaged in the dispute settlement process, including persons invited to apply for leave to submit a written submission in accordance with a new procedure. At a minimum, the WTO should have given reasons for not granting the requested leave to submit amicus curia briefs. Much more work will be needed to move forward on access to information and justice in the WTO. In international environmental law, and in international law related to sustainable development more broadly, these are essential pre-conditions to effective public participation.[154] Perhaps the WTO has more than just precaution to learn from these regimes.

While this paper focused on the precautionary element of the WTO's legal reasoning in three cases, these disputes also raise broader policy questions with regard to environmental quality. Environmental instruments have been challenged before in the WTO – with some success. As mentioned above, the *EC - Asbestos* case was the *first ever* in GATT / WTO law to grant an exemption on health and environment grounds. Why? One facile answer would be that the WTO is not capable of addressing serious environmental issues, and has no business 'passing judgement' on environmental measures. Some might even argue that the WTO itself, particularly its dispute settlement system, has begun to overstep its mandate, with resulting reductions in legitimacy and viability.[155] But this is far too simple an explanation.

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[152] *European Communities – Regime for the Importation, Sale and Distribution of Bananas,* Report of the Appellate Body adopted 25 September 1997, WT/DS27/AB/R at para 144*; India – Patent Protection for Pharmaceutical and Agricultural Chemical Products*, Report of the Appellate Body adopted 16 January 1998, WT/DS50/AB/R, at para 95; *Argentina – Certain Measures Affecting Imports of Footwear, Textiles, Apparel and Other Items*, Report of the Appellate Body adopted 20 March 1997, WT/DS56/AB/R, at para 79; *Brazil- Measures Affecting Desiccated Coconut*, Report of the Appellate Body adopted 20 March 1997, WT/DS22/AB/R at p 15. For measures implicit, see *United States – Restrictions on Imports of Cotton and Man-Made Fibre Underwear*, Report of the Appellate Body adopted 25 Feburary 1997, WT/DS24//AB/R, at p 10.

[153] *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, 20 September, 1999, WT/DS58/AB/R at paras 97 and 181.

[154] The 1998 *Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters*, 25 June 1998, 38 I.L.M. 517, online: UNECE <http://www.unece.org/env/pp> (*Aarhus Convention*) has developed the principle of public participation significantly. This regional convention is open to participation by members or consultative members of the UNECE (including North America and the former Soviet States of Central Asia). An annex lists the activities and installations in respect of which public participation provisions apply, including refineries, power stations, nuclear reactors and installations, smelters, chemical plants, mines and waste management installations. It applies not just to transboundary but to national activities. Concluded under the auspices of the United Nations Economic Commission for Europe (UNECE) at its fourth "Environment for Europe" Convention in Aarhus, Denmark in June 1998.[154] The convention is one of the first binding international instruments to recognize "the right of every person of present and future generations to live in an environment adequate to his or health and well- being." Relevant background material includes important case-law of the European Court; see esp. *Plaumann* v. *Commission*, C-25/62, [1963] E.C.R. 95 at 107. See also *Spijker* v. *Commission*, C-231/82, [1983] E.C.R. 2559*; Deutsche Lebensmittelwerke* v. *Commission,* C-97/85, [1987] E.C.R. 2265; *Cook* v. *Commission*, C-198/91, [1993] E.C.R. I-2487; *Matra* v. *Commission*, C-225/92, [1993] E.C.R. I-3203; *Air France* v. *Commission*, T-2/93, [1994] E.C.R. II-323; *Consorzio Gruppo di Azione Locale "Murgia Messapica"* v. *Commission*, T-465/93, [1994] E.C.R. II-361.

[155] See e.g. E. Gudynas, *Vendiendo la Naturaleza – Impactos ambientales del comercio internacional en America Latina* (La Paz, Bolivia : Instituto de Ecologica, CLAES y GTZ, 1996). See also H. Ward and D. Brack, *Trade, Investment and the Environment* (London: Earthscan / RIIA, 1999).

In general, the WTO dispute settlement system offers an opportunity for smaller developing countries to challenge the restrictions placed upon them by larger, more powerful economies, and occasionally to win.[156] But as such, it is a place where countries which find that another is either protecting their own industry from competition, or unilaterally attempting to impose their standards through trade, come for redress. Why do such measures become domestic law in the first place? Industry groups which fear competition in an open, liberalised market, seek to have restrictions placed on their foreign competition at the borders. Protectionism, in this instance, has nothing to do with the 'protection' of environmental or health objectives. It is done to ensure the protection of inefficient domestic industry. The WTO rules are established to judge and condemn this type of behaviour.[157] As such, cases which make their way through the various domestic hurdles up to the WTO, including environmental cases, challenge the reasons or means by which another has taken a measure which restricts trade. According to the WTO law more generally, once a discriminatory restriction has been demonstrated, it is incumbent upon the country being challenged to defend their measure.[158]

But the 'logic of trade law' can come into conflict with sensitive public policy issues of environmental quality and health. This occurs particularly when the question is not about easily summarized quantitative facts and scientific evidence, but rather about the level of acceptable risks and the burden of proof. In this situation, serious questions can arise. For example, in many countries there is a serious ethical and policy imperative to protect the human health of their citizens. The choice of a practical strategy which can achieve this protection is not only politically sensitive, but morally binding. And the WTO does not appear blind to these issues.

Nowhere is this better demonstrated than in the *EC – Abestos case* itself. For the first time in GATT/WTO law, a member of the Appellate Body broke ranks to make a 'concurring' statement regarding ethical considerations in the case at issue. At para. 149 of the EC – Asbestos Appellate Body report, the Appellate Body simply states that *"[o]ne Member of the Division hearing this appeal wishes to make a concurring statement."* While it seems commonplace in the report, this practice was up to this point, unheard of. In spite of a strong tradition of consensus, a member felt compelled to explain something that the fellow judges (usually two other internationally recognised experts) could not agree with, but that *even these judges wanted and permitted the 'dissenter' to be heard.* This particular anonymous 'member' then goes on to state: "[t]he Panel… ruled that it "[has] sufficient evidence *that there is in fact* a serious carcinogenic risk associated with the inhalation of chrysotile fibres." (emphasis added) In fact, the scientific evidence of record for this finding of carcinogenicity of chrysotile asbestos fibres is so clear, voluminous, and is confirmed, a number of times, by a

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[156] See e.g. J. Bhagwati, "The Case for Free Trade." Scientific American Nov 1993 at 42 – 29; see also J. Bhagwati "On Thinking Clearly About the Linkage Between Trade and the Environment." *Environment and Development Economics* 5:4 2000 at 485 – 96.
[157] The complaining party bears the burden of proving discrimination between ‚like products; under Article III:4. *See Indonesia – Certain Measures Affective the Automobile Industry*, Report of the Panel adopted 23 July 1998, WT/DS54/R; WT/DS55/R; WT/DS64/R at para 14.169.
[158] The party claiming the benefit of the exception bears the burden of proving that the requirements of Article XX have been satisfied in *United States – Measures Affecting Imports of Woven Wool Shirts and Blouses*, Report of the Appellate Body adopted 23 May 1997, WT/DS33/AB/R, at pp.10-11; *United States – Standards for Reformulated and Conventional Gasoline*, Panel Report WT/DS2/R, adopted 20 May 1996, as modified by the Appellate Body Report AB-1996-1, WT/DS2/AB/R, at pp 14-15. The burden with respect to the introductory clauses is heavier than that which is required with respect to provisional justification under subparagraph (b). See *United States – Section 337 of the Tariff Act of 1930*, Report of the Panel adopted 7 November 1989, BISD 36S/345, at para 5.27.

variety of international organisations, as to be practically overwhelming… It is difficult for me to imagine what evidence relating to economic competitive relationships as reflected in end-uses and consumers' tastes and habits could outweigh and set at naught the undisputed deadly nature of chrysotile asbestos fibres, compared with PCG fibres, when inhaled by humans, and thereby compel a characterization of 'likeness'…"

The 'member' then concludes with a second point that "… in future concrete contexts, the line between a 'fundamentally' and 'exclusively' economic view of 'like products' under Article III:4 may well prove very difficult, as a practical matter, to identify. It seems to me the better part of valour to reserve one's opinion on such an important, indeed, philosophical matter, which may have unforeseeable implications…"

These statements are significant in a procedural, but also substantive sense. In substance, the 'member' in question is stating first that in this particular case, to him, carcinogenicity is a valid reason in itself to find that the fibres in question are not 'like' the non-carcinogenic alternatives. The 'member' is also stating that he has substantial doubts about the necessity or appropriateness of adopting a fundamentally economic interpretation of product likeness- he thinks that other questions may sometimes be more relevant and that as such, it will become less possible to adhere to commercial criteria alone. These statements recognise, fundamentally, the manner in which WTO law is increasingly affecting, and being affected by, non-traditionally trade law concerns.

This step indicates an increasing flexibility for dissenting views in the Appellate Body mechanism, and a recognition of the important policy issues increasingly raised by the application of world trade law. This type of situation highlights the need for progress toward a more 'rules-based' or even 'principles-based' international trading regime, one which encourages more comprehensive international law and hence, international judgements which can encompass a richer consideration of the plurality of the issues.

6.2 Making Trade Law More Sustainable through Precaution in the WTO

Expectations that the WTO will take sustainable development concerns into account have only increased in the three years since the *EC-Asbestos case*, the *EC - Hormones case* and the earlier *Thai – Cigarettes case*. While there is no *stare decisis*, WTO law can and does develop incrementally through the findings of the dispute settlement mechanism. Adopted Panel reports were found to be 'an important part of the GATT *acquis*', created legitimate expectations among WTO Members and should thus be taken into account when they are relevant to any dispute.[159]

[159] See *Japan – Taxes on Alcoholic Beverages,* adopted on 1 November 1996, WT/DS8; DS10DS11/AB/R, at pp 14-15. The Appellate Body emphasized that 'the legal history and experience under the GATT 1947' could be brought into the new WTO.

In the *EC - Asbestos case*, the WTO Appellate Body was presented with a unique opportunity to make environment, health and trade liberalisation objectives more mutually supportive, and they appear to have risen to the challenge. There are several legal reasons that the WTO could move forward to take precaution into account.

First, the Appellate Body has indicated that the WTO system, as any other legal sub-system, cannot be construed in a "clinical isolation" from the widespread sources of public international law.[160] As mentioned above, general international law is in the process of recognising the precautionary principle as a central tenet in treaty and customary regimes. [161] Indeed, the precautionary principle is gaining legitimacy as an emerging customary norm of public international law. It is not unheard of for the WTO to take accepted principles into account. For example, Article 3.2 of the WTO *Understanding on Rules and Procedures Governing the Settlement of Disputes* dictates that WTO dispute settlement panels must clarify the terms of the WTO Agreement in accordance with customary rules of interpretation of public international law.[162] This principle is further recognised in the *United States – Shrimp* Appellate Body report, where international, conventional and customary principles are considered relevant aids to interpretation.[163] As such, the Appellate Body could use the precautionary principle as a guide to interpretation of the WTO Agreement in the development of WTO jurisprudence.

Second, the precautionary principle can be taken into account in WTO law due to the commitment to sustainable development voiced in the *Preamble* to the WTO Agreement itself. As recognised in the *Vienna Convention on the Law of Treaties*, the object and purpose of a treaty can be deduced in part by consulting its preamble.[164] As such, references to sustainable development in the WTO Agreement *Preamble* ought to be reflected in treaty interpretation, though it should be pointed out that the legal value of the language can in no way overturn the actual treaty obligations. Indeed, in the *US-Shrimp* case, it was held that the Preamble serves to add colour, texture and shading to our interpretation of the agreements annexed to the *WTO Agreement*.[165] One way to incorporate sustainable development goals into WTO law is to take the precautionary principle into account.

There is also an important policy argument for taking the precautionary principle into account in WTO law. Scientific uncertainty is part of the entire body of 'modern' domestic and international environmental law, as comprehensive legislation replaced traditional approaches to worker health and safety, the control of industrial facilities and land use planning. Since all governments face this dilemma of uncertainty in one form or another, the question is not whether precautionary measures are being taken but *on what issues, on what basis, and with what safeguards*

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[160] *United States – Standards for Reformulated and Conventional Gasoline*, note 94, at para 17.
[161] See International Law Association, 2002 New Dehli Declaration on Principles of International Law Relating to Sustainable Development, online: www.hq-ila.org; Report of the UNCED, I (1992) UN Doc. A/CONF.151/26/Rev/ 1; Birnie and Boyle, *'International Law and the Environment*,' 2nd edn. (Oxford, forthcoming), at ch. 3; P. Sands, *'International Law in the Field of Sustainable Development'* (1994) 65 BybIL at 303.
[162]Particularly those set out in Articles 31, 32 and 33 of the 1969 *Vienna Convention on the Law of Treaties* United Nations Document A/CONF. 39/27 (1969).
[163] See *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, 20 September, 1999, WT/DS58/AB/R at paras 130 and 154.
[164] Report of the Appellate Body in *European Communities – Customs Classification of Certain Computer Equipment*, adopted on 22 June 1998, WT/DS62/AB/R; WT/DS68/AB/R at para. 88. See also I. Sinclair: The Vienna Convention on the Law of Treaties (1980) at pp. 127 and 130.
[165] See *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, 20 September, 1999, WT/DS58/AB/R at paras 153.

to avoid arbitrary action. The principle is likely to become more rather than less important as time goes by. In order to contribute to a more coherent international legal order, it would be wise to avoid a confrontation between the trade regime and environmental regimes on the issue of the precautionary principle. Such a confrontation would be damaging to all concerned, and hold the possibility of being truly challenging to the trade regime, as citizens in the developed world come to the conclusion that the perceived environmental 'price' for trade liberalization is simply too high. Once this perception takes root it will be all but impossible to eradicate.

The precautionary element of international law for environmental quality and health is more than a mechanism of risk management for policy makers. It is a guiding principle and a manner to ensure that balanced decisions can be made at all levels, and in all bodies of law, when there is scientific uncertainly and a threat of serious or irreversible harm. Nowhere is this better illustrated than in the *EC – Asbestos case.*[166] It is estimated that in France the total number of deaths by mesothelioma over the whole of the period of 1996-2020 will be 20,000 for men and 2,900 for women.[167] The potential deaths of over 22,900 DIY enthusiasts and builders constitute an irreversible harm. It is absolutely reprehensible that a country would consider themselves justified - could somehow defend on a moral level - the deliberate use of international trade law to try to force France to accept such a risk *against the will of their people*. The principle was, in the end, used implicitly as a guide to interpretation in the *Asbestos* case, toxicity was considered relevant to the determination of product likeness, and no discrimination was found.

But while the WTO deserves recognition for the steps they have taken to ensure increasingly healthy decision-making, there is much more to be done. The WTO dispute settlement mechanism has had several opportunities to put preventive measures in place, and even find aspects of a cure for these ongoing policy conflicts. The further incorporation of precautionary reasoning into the WTO may well prove crucial to ensure that international trade law can foster and not frustrate the legitimate goals of domestic and international public health and environment law.

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[166] *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products* WT/DS135/AB/R 12 March, 2001

[167] See Gilg Soit Ilg, A. *et al*, *Estimation of the Past and Future Burden of Mortality from Mesothelioma in France,* Occupational Environmental Medicine, 1998; 55:760-765, mentioned at para 3.320 of the *EC – Asbestos* Panel report.

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