# Erring on the Side of Precaution: An Assessment of the Application of the Precautionary Principle in International Trade Law

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I. INTRODUCTION .......... 988
II. THE PRECAUTIONARY PRINCIPLE .......... 995
   A. *Brief History and Background*
   B. *Concept and Definition*
   C. *Elements*
   D. *Sources of the Precautionary Principle*
   E. *Effects of the Application of the Precautionary Principle*
III. THE WTO AGREEMENTS .......... 1008
   A. *Brief Background on WTO and the GATT*
   B. *General Obligation of Non-Discrimination and the Prohibition on the Imposition of Trade Restrictions under the GATT*
   C. *General Exceptions under GATT Article XX*
   D. *Rights and Obligations under the SPS Agreement*
IV. APPLICABILITY OF THE PRECAUTIONARY PRINCIPLE IN WTO LAW: ENTRY POINTS IN WTO PROVISIONS .......... 1017
   A. *Precautionary Principle in the Preamble of the WTO Agreement*
   B. *Precautionary Principle as Customary International Law*
   C. *Precautionary Principle as Embodied in Articles 3.3 and 5.7 of the SPS Agreement*
V. WTO JURISPRUDENCE ON THE APPLICATION OF THE PRECAUTIONARY PRINCIPLE IN TRADE DISPUTES .......... 1034
   A. *EC-Hormones Case*
   B. *Australia-Salmon Case*
   C. *Japan-Varietals Case*
   D. *EC-Asbestos Case*
   E. *Japan-Apples Case*
   F. *EC-Biotech Case*
   G. *US-Continued Suspension Case*
   H. *Summary of Relevant WTO Case Law*
   I. *Apprehensive Attitude of the WTO Towards the Precautionary Principle*

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J. *Strict Standard of Review by the Dispute Settlement Bodies*
VI. RECONCILING THE PRECAUTIONARY PRINCIPLE AND THE WTO LAW ........................................................................ 1057
A. *Operationalizing the Precautionary Principle in Risk Management*
B. *A New Approach in Reviewing Science-Based Requirements under the GATT and the SPS Agreement*
C. *Safeguards of the WTO*
VII. CONCLUSION ........................................................................ 1067
VIII. RECOMMENDATION ........................................................................ 1069
A. *Standards in Reviewing if an SPS Measure is "Based on Risk Assessment"*
B. *Standards in Reviewing a Measure Seeking Justification Under Article XX of the GATT*

## I. INTRODUCTION

One of the most contentious issues under international law is the incessant conflict between global free trade and environmental protection.[1] On one hand, international trade law seeks to promote fair and free trade and stimulate domestic and worldwide economic growth through the widespread abolition of trade restrictions.[2] On the other hand, environmentalists — including States, organizations, and individuals — claim that liberalized international commerce and economic expansion inconsiderately depletes

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1. *See* Hannes Veinla, *Free Trade and the Precautionary Principle*, JURIDICA INT'L., Volume VIII, at 186.
2. *Id.* & DAVID HUNTER, ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 1125 (2d. ed. 2002).

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natural resources and severely injures the environment.[3] The Precautionary Principle has played a key role in this long-standing antagonism.[4]

In the last few decades, the rapid advancement of science and technology has brought about an "emergence of increasingly unpredictable, uncertain, and unquantifiable, but possibly catastrophic, risks"[5] to our environment such as "[g]enetically [m]odified [o]rganisms [and] climate change[.]"[6] The potential perils of these developments are, more often than not, far from certainty either due to inadequate evidence or contradicting information.[7] Hence, societies have constantly been confronted with the need to devise an approach that will protect humans and the environment against uncertain risks produced by various activities and objects.[8] The problem, however, is the very element of uncertainty which has often been used as an excuse to delay or refuse responsive action from governments.[9] As a consequence, the Precautionary Principle was introduced.[10]

Essentially, the Precautionary Principle is a strategic approach in dealing with scientific uncertainties in the assessment and management of risks to

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3. *Id.* at 1131. *See* Veinla, *supra* note 1, at 186.
4. *See generally* Sabrina Shaw & Risa Schwartz, Trading Precaution: The Precautionary Principle and the WTO (Report prepared for the United Nations University — Institute of Advanced Studies) at 6, *available at* http://collections.unu.edu/eserv/UNU:3103/Precautionary_Principle_and_WTO.pdf (last accessed Jan. 26, 2018) & Veinla, *supra* note 1, at 188.
5. World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) & United Nations Educational, Scientific, and Cultural Organization (UNESCO), The Precautionary Principle (Report by COMEST Expert Group Members), at 7, *available at* http://unesdoc.unesco.org/images/0013/001395/139578e.pdf (last accessed Jan. 26, 2018).
6. *Id.*
7. International Union for the Conservation of Nature, Guidelines for Applying the Precautionary Principle to Biodiversity Conservation and Natural Resource Management at 1, *available at* http://cmsdata.iucn.org/downloads/ln250507_ppguidelines.pdf (last accessed Jan. 26, 2018) [hereinafter IUCN Guidelines].
8. COMEST & UNESCO, *supra* note 5, at 7.
9. IUCN Guidelines, *supra* note 7, at 1.
10. *Id.*

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human life, health, and the environment.[11] In simplistic terms, it conveys the old adage, "better safe than sorry."[12] The Precautionary Principle prescribes the taking of measures to protect the environment and human health even prior to the availability of conclusive scientific evidence on the perilous effects of certain activities or substances.[13] With the ushering in of the Precautionary Principle, the world saw a drastic shift from the curative approach to the preventive and anticipatory risk management methodology in dealing with possible health and environmental hazards.[14]

Recognizing its undeniable relevance to the global environment, States and international institutions have increasingly incorporated the Precautionary Principle in various international instruments and conventions.[15] Principle 15 of the Rio Declaration on Environment and Development (Rio Declaration)[16] has become the standard reference for the Precautionary Principle, being the most broadly accepted expression of the Principle.[17]

In light of the unprecedented expansion of technology encompassing food and biological engineering as well as the production of complex goods and activities, States have taken more and more advantage of the Precautionary Principle as a safety measure in health and environment risk regulation.[18] Hence, although impacts on international trade are inevitable, States have employed the concept of the Precautionary Principle as a

11. COMEST & UNESCO, *supra* note 5, at 8.

12. *Id.*

13. Veinla, *supra* note 1, at 187.

14. COMEST, *supra* note 5, at 7.

15. *See* PIERRE-MARIE DUPUY & JORGE VINUALES, INTERNATIONAL ENVIRONMENTAL LAW 62-64 (2015).

16. U.N. Conference on Environment and Development, Rio de Janeiro, June 3-14, 1992, *Rio Declaration on Environment and Development*, princ. 15, U.N. Doc. A/CONF.151/26 (vol. 1), (Aug. 12, 1992).

17. Julian Morris, *Defining the Precautionary Principle*, *in* RETHINKING RISK AND THE PRECAUTIONARY PRINCIPLE 5 (Julian Morris ed., 2000).

18. Henry I. Miller & Gregory Conko, *Genetically Modified Fear and the International Regulation of Biotechnology*, *in* RETHINKING RISK AND THE PRECAUTIONARY PRINCIPLE 101-02 (Julian Morris, ed., 2000).

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rationale behind the imposition of trade regulations allegedly induced by health and environmental considerations.[19]

The Philippines is no stranger to the Precautionary Principle. Congress incorporated the language of the Precautionary Principle in the provisions of the Food Safety Act of 2013.[20] Furthermore, the Philippine government has made use of precautionary measures in the form of import bans to prevent the entry and spread of diseases. For instance, in 2009, the Department of Agriculture prohibited the importation of hogs and hog meat from Mexico and the United States (US) to ward off the entry of the fatal swine flu.[21] Precautionary measures were put in place even if the government did not have adequate information and technological devices to detect the new strain of virus.[22]

Internationally, however, the application of Precautionary Principle in the field of foreign trade has long been doubtful and controversial.[23] The World Trade Organization (WTO) has, in several cases, consistently refrained from applying this principle in favor of States imposing trade restrictions allegedly for the purpose of environmental protection.[24] Although the WTO has increasingly recognized the Precautionary Principle as an emerging source of obligation under international law and even within

19. Shaw & Schwartz, *supra* note 4, at 11 & Veinla, *supra* note 1, at 188.

20. An Act to Strengthen the Food Safety Regulatory System in the Country to Protect Consumer Health and Facilitate Market Access of Local Foods and Food Products, and for Other Purposes [Food Safety Act of 2013], Republic Act No. 10611, § 10 (2013). Section 10 provides that "[i]n specific circumstances, when the available relevant information for use in risk assessment is insufficient to show that a certain type of food or food product does not pose a risk to consumer health, precautionary measures shall be adopted." *Id.*

21. ABS-CBN News, RP officials say prepared to prevent swine flu entry, *available at* http://news.abs-cbn.com/nation/04/26/09/rp-officials-says-prepared-prevent-swine-flu-entry (last accessed Jan. 26, 2018).

22. AIE Balagtas See, Govt undertakes precautionary measures vs. swine flu, *available at* http://www.gmanetwork.com/news/story/159355/news/nation/govt-undertakes-precautionary-measures-vs-swine-flu (last accessed Jan. 26, 2018).

23. *See* Shaw & Schwartz, *supra* note 4, at 6-8.

24. *See* Daniel Kazhdan, *Precautionary Pulp: Pulp Mills and the Evolving Dispute between International Tribunals over the Reach of the Precautionary Principle*, 38 ECOLOGY L. Q. 527, 536-39 (2011).

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the WTO framework, the WTO has unfailingly refused to apply said principle due to serious ramifications and irreconcilable conflict with trade that may possibly emanate from such application.[25] This attitude was manifested by the WTO Panels and Appellate Body in a long series of cases, beginning with *EC Measures Concerning Meat and Meat Products (Hormones)* when it expressed that the Precautionary Principle does not exculpate the erring party and relieve it from the duty of justifying measures which otherwise infringe its trade obligations.[26]

Because of the adamant position of the WTO against the Precautionary Principle,[27] members struggle to balance the need to take precautionary action with the legal commitment to abide by the obligations undertaken under the WTO agreements.[28] In addition, the lack of necessary guidance from the WTO on the question of whether and to what extent valid reliance can be had upon the Precautionary Principle has augmented the difficulty of domestic decision-making and, to some degree, compromised the prerogative of States to protect public health and the environment.[29] Unsurprisingly, therefore, the debate on the suitability and the effects of the Precautionary Principle in the area of trade persists.[30]

This Note seeks to unravel the inherent and palpable inconsistency between the WTO trade liberalization policy and the conservative and preventive approach of the Precautionary Principle. On one hand, WTO law prescribes stringent requirements such as the "necessity test" or "least trade-restrictive[ness]" as well as compelling scientific evidence before trade measures may be justifiably imposed.[31] On the opposite side, however, the application of the Precautionary Principle necessitates only a "lack of full scientific certainty"[32] prior to the adoption of precautionary measures to

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25. *Id.*

26. Appellate Body Report, *EC Measures Concerning Meat and Meat Products (Hormones)*, ¶ 124, WT/DS26/AB/R (Jan. 16, 1998) [hereinafter *EC-Hormones AB Report*].

27. *Id.* & *See* Panel Report, *European Communities — Measures Affecting the Approval and Marketing of Biotech Products*, WT/DS291/R, ¶ 7 (Sep. 29, 2006) [hereinafter *EC-Biotech Panel Report*].

28. *Id.*

29. *Id.*

30. Shaw & Schwartz, *supra* note 4, at 5-6.

31. *Id.* at 6 & 8.

32. *Rio Declaration on Environment and Development, supra* note 16, princ. 15.

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protect health and environment, and, as such, seems to diminish the rigidity of WTO requirements.[33]

Because of this contradiction and the unfavorable repercussions to trade, the WTO Dispute Settlement Body (DSB) continually desists from making clear pronouncements on the circumstances under which the Precautionary Principle could validly operate in international trade regulation.[34] Although several rulings under the Agreement on Application of Sanitary and Phytosanitary Measures (SPS Agreement) have expressly recognized the Precautionary Principle, the strict interpretation and application of trade law effectively renders illusory (i) the realization of the purpose of the Precautionary Principle to avert risks to health and the environment and (ii) more importantly, the prerogative of States to safeguard its people and environment from potential hazards.

The issue which the Author wishes to delve into and resolve is whether and to what extent the Precautionary Principle can be used as a justification for the imposition of trade restrictions for health and environment protection.

The potential impact of the use of precaution on inter-country trade and national decision-making cannot be discounted. Rational, and often prompt, decisions have to be made by governments for the protection of public health and the environment. At the same time, they have to keep in mind the obligation to espouse trade liberalization which they voluntarily assume under the WTO Agreement. Hence, while national authorities have the prerogative to implement policies and parameters to ensure sound health and environment within their jurisdiction, the principles of fair and free trade hamper their ability and discretion in risk assessment and management. The exacting requirements to vindicate a trade measure under the WTO law seem to inhibit the availability of a precautionary approach in policy-making.

In a localized context, the Philippines, as a developing country, may find itself at a huge economic disadvantage if the country to which it seeks to export imposes a trade restriction on the basis of precaution. The trade measure could be a veiled protectionist measure that could adversely affect not only Philippine exports but also the economy as a whole. A case in point

33. Shaw & Schwartz, *supra* note 4, at 11.

34. *Id.*

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is the so-called "Banana Wars" between the Philippines and Australia.[35] For more than a decade, Australia dreaded the possible transmission of pests such as Sigatoka and mealy bugs and consequently banned the imports of Philippine bananas.[36] The agricultural antagonism even reached the settlement mechanism of the WTO.[37] Australia's sanitary and phytosanitary prohibition cost the Philippines approximately $50 million annually, which is the estimated value of the Australian banana market.[38] The impact of the import ban to the Philippines was massive, considering that it is one of the top banana producers globally.[39]

Conversely, however, the Philippines may uphold its legitimate interests by taking a precautionary stance with respect to imports which could have a detrimental effect to life or health, notwithstanding the absence of scientific conclusiveness. A good example is the import ban imposed against chicken and poultry products exported by US States that were massively struck by bird flu.[40] Also, in 2011, the Philippines, along with other concerned States, prohibited the imports of certain fruits and vegetables from Japan due to reports of radioactive contamination following a nuclear accident.[41]

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35. *See generally* Stewart Lockie, *"Banana Wars": The Food Security Implications of the Australia-Philippines Agricultural Trade Dispute*, 51 PHIL. STUD. 284 (2003).

36. *See* GMA News Online, Philippine mulls haling Australia to WTO, *available at* http://www.gmanetwork.com/news/story/3535/money/philippines-mulls-haling-australia-to-wto (last accessed Jan. 26, 2018).

37. *See generally* Rocel C. Felix, *Australia to lift ban on RP bananas*, PHIL. STAR, Feb. 20, 2004, *available at* http://www.philstar.com/business/239684/australia-lift-ban-rp-bananas (last accessed Jan. 26, 2018).

38. *See generally* Riza T. Olchondra, *PH Banana firms push WTO case vs Australia*, PHIL. DAILY INQ., May 18, 2011, *available at* http://business.inquirer.net/1949/ph-banana-firms-push-wto-case-vs-australia (last accessed Jan. 26, 2018).

39. *Id.*

40. *See generally* Mayen Jaymalin, *RP to ban chicken imports from Texas*, PHIL. STAR, Feb. 25, 2004, *available at* http://www.philstar.com/headlines/240272/rp-ban-chicken-imports-texas (last accessed Jan. 26, 2018).

41. *See generally* GMA News Online, *PHL bans Japanese agri products on radiation fears*, *available at* http://www.gmanetwork.com/news/story/219595/money/phl-bans-japanese-agri-products-on-radiation-fears (last accessed Jan. 26, 2018) & Kristine L. Alave, *PH bans Japan milk chocolates; global embargo widens*, PHIL. DAILY INQ., Mar. 25, 2011, *available at* http://newsinfo.inquirer.net/1489/ph-bans-japan-milk-chocolates-global-embargo-widens (last accessed Jan. 26, 2018).

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In these crucial situations, it becomes relevant to know whether a party can legally invoke the Precautionary Principle. And, if so, to what extent can it be invoked? How can a balance be struck between a State's purely domestic interests and the international policy of free commerce among States?

In contemporary times when technology is more complex, and concomitant risks are unprecedented, yet science retains some form of methodological and informational limitations, the taking of precautionary action is ever more relevant as a defense against threats to health and the environment.

## II. THE PRECAUTIONARY PRINCIPLE

### *A. Brief History and Background*

Early environmental protection policies revolved around a curative model of rehabilitation and compensation.[42] The *Polluter Pays Principle* was introduced to allocate the costs of pollution and repair to the polluter.[43] Realizing the need to limit the damage itself, however, environmentalists thereafter instituted the *Prevention Principle*.[44] This principle entails the avoidance or diminution of environmental damage and reflects the expression "prevention is better than cure."[45] Eventually, however, the advent of indeterminable but potentially devastating risks necessitated a new approach towards environmental protection.[46] Thus, the *Precautionary Principle* emerged to address threats of serious environmental damage even in situations of uncertainty.[47]

The origins of the Precautionary Principle can be traced back to the 1970s in Germany where it was termed as *Vorsorgeprinzip*.[48] The

42. COMEST & UNESCO, *supra* note 5, at 7.

43. *Id.*

44. *Id.*

45. *Id.*

46. *Id.*

47. *Id.*

48. JACQUELINE PEEL, THE PRECAUTIONARY PRINCIPLE IN PRACTICE: ENVIRONMENTAL DECISION-MAKING AND SCIENTIFIC UNCERTAINTY 16 (2005) & Elizabeth Fisher, et al., *Implementing the Precautionary Principle: Perspective and Prospects*, *in* IMPLEMENTING THE

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Precautionary Principle was first incorporated in a law which sought to achieve and maintain clean air.[49] When the North Sea was severely polluted,[50] uncertainty surrounded the causation of waste dumping as well as the effectivity of existing pollution regulations.[51] This prodded the North Sea States, including France and Germany, to gather in the Second International Conference on the Protection of the North Sea and produce a Declaration expressing the adoption of the Precautionary Principle.[52] Consequently, discharges to the North Sea were restricted, although no definite scientific evidence can prove that they caused environmental harm.[53]

Since then, the Precautionary Principle has been assimilated in various international agreements and documents, the most widely known of which is the 1992 Rio Declaration on Environment and Development.[54]

*B. Concept and Definition*

There is no singular and uniform definition of the Precautionary Principle due to the variety of its formulations in different legal instruments.[55] However, Principle 15 of the Rio Declaration offers the most widely supported definition of the Principle,[56] to wit —

PRECAUTIONARY PRINCIPLE: PERSPECTIVE AND PROSPECTS 2 (Elizabeth Fisher, et al. eds., 2006).

49. COMEST & UNESCO, *supra* note 5, at 9 & Peter deFur & Michelle Kaszuba, *Implementing the Precautionary Principle*, 288 SCI. OF THE TOTAL ENVT. 155, 156 (2002).

50. deFur & Kaszuba, *supra* note 49, at 155-56.

51. *Id.* at 158.

52. *Id.*

53. *Id.*

54. *Id.* at 157 & U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26 (vol. 1), June 3-14, 1992, (Aug. 12, 1992).

55. *See* Jonathan Wiener, *Precaution*, *in* THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW 602 (Daniel Bodansky, et al. eds., 2007) & JOAKIM ZANDER, THE APPLICATION OF THE PRECAUTIONARY PRINCIPLE IN PRACTICE: COMPARATIVE DIMENSIONS 26 (2010).

56. PHILIPPE SANDS, PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW 268 (2nd ed., 2003) & HUNTER, ET AL., *supra* note 2, at 406.

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> In 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 full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.[57]

The Principle, as enshrined in the Rio Declaration, has been regarded as the international standard definition for the Precautionary Principle in policy-making and the drafting of international agreements.[58] It is thus the most oft-cited provision whenever the Precautionary Principle is invoked.[59]

Notwithstanding the diverse articulation of the Precautionary Principle, there exists a "common understanding" of its concept.[60] It is applied in situations of scientific uncertainty where government decision-makers have to decide whether, and if so, how they will counter the possible harm to the environment.[61] It is often viewed as an approach towards coping with scientific uncertainties in risk assessment and management.[62] The Precautionary Principle necessitates action to avoid potential harm and costs to the environment before they occur, and even prior to the acquisition of absolute scientific evidence.[63] In other words, it is a "better safe than sorry" approach as opposed to a wait-and-see-strategy.[64] Applying this principle would entail giving the environment the benefit of the doubt.[65] That is why "erring on the side of environmental protection" (*in dubio pro natura)* best

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57. *Rio Declaration on Environment and Development*, *supra* note 16, princ. 15.
58. Morris, *supra* note 17, at 5.
59. Rosie Cooney, The Precautionary Principle in Biodiversity Conservation and Natural Resource Management (An Issues Paper for Policy-Makers, Researchers and Practitioners) at 7, *available at* https://portals.iucn.org/library/sites/library/files/documents/pgc-002.pdf (last accessed Jan. 26, 2018).
60. ULRICH BEYERLIN & THILO MARAUHN, INTERNATIONAL ENVIRONMENTAL LAW 53 (2011).
61. *Id.*
62. COMEST & UNESCO, *supra* note 5, at 8.
63. HUNTER, ET AL., *supra* note 2, at 406.
64. COMEST & UNESCO, *supra* note 5, at 8.
65. PATRICIA BIRNIE, ET AL., INTERNATIONAL LAW AND THE ENVIRONMENT 157 (3d ed. 2009).

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embodies the gist of the principle.[66] Hence, when a risk of serious or irreversible harm is identified, even if the scientific understanding about such risk is not complete or absolute,[67] necessary measures should be instituted and the lack of full scientific certainty shall not be a reason to postpone or omit the taking of measures to prevent environmental ruin.[68]

The rationale for the emergence of the Precautionary Principle is two-fold.[69] *First*, communities have become aware that, in many cases, environmental harm arising from human activities are graver and more difficult to undo.[70] *Second*, uncertainty and limited predictability of environmental impacts is but a natural consequence of the complex and intricate system of science and the natural world.[71] In light of these two realities, the Precautionary Principle seeks to promote and emphasize anticipation and action in order to avert, at the earliest opportunity, risks of serious damage to the environment without being delayed by the gathering of solid scientific evidence.[72]

In applying the Precautionary Principle, it is crucial to keep in mind that central to its operation is the existence of a situation that presents scientific uncertainty.[73] The Precautionary Principle operates under the premise that scientific conclusiveness is often too late to draw up a responsive measure to prevent environmental harm.[74] In line with this, the principle responds to the reality that science also has its limitations and shortcomings in assessing risks,[75] and, in a way, functions as a "stopgap" measure. Hence, national authorities need not wait for complete and perfect scientific basis before they can enact legislation or implement regulations to ward off serious environmental perils that are yet to be conclusively and empirically

66. Arie Trouwborst, *Prevention, Precaution, Logic and Law: The Relationship Between the Precautionary Principle and the Preventative Principle in International Law and Associated Questions*, 2 ERASMUS L. REV. 105, 110 (2009).

67. HUNTER, ET AL., *supra* note 2, at 406.

68. *See* Trouwborst, *supra* note 66, at 110.

69. *Id.* at 107.

70. *Id.*

71. *Id.*

72. *See* IUCN Guidelines, *supra* note 7 & HUNTER ET AL., *supra* note 2, at 406.

73. Wiener, *supra* note 55, at 607 & PEEL, *supra* note 48, at 34.

74. HUNTER, ET AL., *supra* note 2, at 405.

75. BEYERLIN & MARAUHN, *supra* note 60, at 52.

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established. Otherwise, if they await irrefutable scientific evidence, the anticipated adversities would have already materialized and caused damage. As one commentator observed, "precaution aims to bridge the gap between scientists working on the frontiers of scientific knowledge and decision-makers willing to act to prevent environmental degradation."[76] Accordingly, if an environmental threat and its attributes are scientifically well-defined, the Precautionary Principle loses its significance.[77] In such cases, it is the *Preventive Principle* that applies.[78]

Contrary to the observations of critics, the diverse expressions of the Precautionary Principle across legal instruments, whether national or international, should not be viewed as an inherent weakness.[79] The Principle assumes a different form depending on the context in which it is utilized, such as biodiversity or pollution.[80] This attribute of the Precautionary Principle reveals that it is a flexible rather than a hard-and-fast rule.[81] Arguably, its open-endedness and fluidity may be regarded as its strength.[82]

### *C. Elements*

Notwithstanding the varying formulations of the Precautionary Principle, there are three basic and common elements that trigger its application: (1) there must be a threat of damage to the environment; (2) the threat of damage is serious or irreversible; and (3) there is lack of scientific certainty.[83]

#### 1. Threat of Damage to the Environment

The Precautionary Principle applies only where threat of environmental damage is present.[84] Anticipation and prevention of threatened harm is the core purpose of the Principle.[85] But the mere possibility of change in

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76. *Id.* at 53.

77. ZANDER, *supra* note 55, at 15.

78. *Id.*

79. PEEL, *supra* note 48, at 18.

80. *Id.*

81. *Id.*

82. COMEST & UNESCO, *supra* note 5, at 21.

83. IUCN Guidelines, *supra* note 7, at 2.

84. ARIE TROUWBORST, PRECAUTIONARY RIGHTS AND DUTIES OF STATES 37 (2006).

85. *Id.*

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environmental status quo is insufficient to set the principle in action.[86] To activate the principle, there must be an adverse or negative change that amounts to an environmental injury or loss.[87] Furthermore, the threatened harm needs to be grounded on scientific information and not based lightly on speculations or conjectures.[88]

2. The Threat is Serious or Irreversible

It is not enough that there is simply a threat to health or environment.[89] A certain threshold must be met to trigger the application of the Precautionary Principle.[90] In order for the Principle to legally operate, the threatened harm must be one that is serious or irreversible.[91] This element implies the degree of unacceptability of the risk.[92] It indicates a minimum level of risk which must be reached in order to justify a precautionary measure.[93] Hence, if the threatened damage is merely insignificant, negligible, or reversible, the principle finds no application.[94]

*a. Serious Damage*

The seriousness of the threatened damage is a minimum standard which has to be met in the application of the Precautionary Principle. Seriousness implies the gravity or the severity of the threatened environmental harm.[95] One indication of seriousness is the breadth of the geographical scope of the potential injury. Another factor to consider is the duration or the persistence of the harm.[96] Long-term detrimental effects qualify as "serious damage."[97]

86. *Id.* at 40.
87. *Id.*
88. COMEST & UNESCO, *supra* note 5, at 13.
89. *See* Trouwborst, *supra* note 66, at 110.
90. *Id.* at 121.
91. *Id.*
92. *Id.*
93. ZANDER, *supra* note 55, at 36.
94. Cooney, *supra* note 59, at 7.
95. TROUWBORST, *supra* note 84, at 56.
96. *Id.*
97. *Id.*

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*b. Irreversible Damage*

Alternatively, the harm sought to be avoided may also be irreversible in character.[98] If not serious, the adverse impact on the environment must be irreparable in nature.[99] An illustration would be the irremediable finiteness of natural resources imperiled by overexploitation.[100] Irreversibility may also be associated with the span of time the environment may recover from its damaged condition.[101] The rapid decline in marine population as a result of overfishing may be considered as irreversible damage.[102]

3. Lack of Scientific Certainty

The Precautionary Principle becomes relevant only in situations where there is scientific uncertainty.[103] Uncertainty is generally described as the "lack of precise knowledge as to what the truth is, whether quantitative or qualitative."[104] This can be illustrated by a situation where scientific knowledge or evidence is scarce or inadequate to ascertain the risks.[105] Uncertainty can stem from a variety of causes such as the use of different variables, lack of information, gaps in scientific theories, and imperfect scientific methodologies.[106] It may also pertain to different aspects of a situation such as the source of the threat, the cause and effect relationship, the nature and extent of the threatened harm, the probability of occurrence, or the long-term consequences of the damage.[107] But where the causative relationship between an action and the damage can be established, the

98. deFur & Kaszuba, *supra* note 49, at 157.

99. TROUWBORST, *supra* note 84, at 57.

100. *Id.*

101. *Id.*

102. *Id.*

103. *Id.*

104. LUKASZ GRUSZCZYNSKI, REGULATING HEALTH AND ENVIRONMENTAL RISKS UNDER WTO LAW: A CRITICAL ANALYSIS OF THE SPS AGREEMENT 30-31 (2010) (citing NATIONAL RESEARCH COUNCIL, COMMITTEE ON RISK ASSESSMENT OF HAZARDOUS AIR POLLUTANTS COMMISSION ON LIFE SCIENCES, SCIENCE AND JUDGMENT IN RISK ASSESSMENT 161 (1994)).

105. deFur & Kaszuba, *supra* note 49, at 157.

106. GRUSZCZYNSKI, *supra* note 104, at 31.

107. COMEST & UNESCO, *supra* note 5, at 14.

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prospects of occurrence can be calculated, and the damage insured against can be estimated, the principle loses its relevance.[108]

This key element, however, does not dispense with the need for scientific evidence.[109] The principle still mandates scientific analysis and rejects speculations of threatened damage.[110] The harm sought to be avoided must be plausible in light of the available scientific information.[111] There still has to be scientific basis in forecasting the possibility of harmful effects but not necessarily on the basis of majority expert opinion. The deficiency in information or the divergent views presented by qualified and reliable experts may suffice to establish a state of scientific uncertainty.[112]

A timely and relevant example of the application of the Precautionary Principle relates to the global concern for climate change.[113] Fully definitive science as to the exact cause, consequences, and circumstances affecting global warming is still not wholly accessible, but it is internationally understood that the world faces climate change as an irreversible and inevitable phenomenon.[114] Consequently, a precautionary approach was devised through the Vienna Convention on the Protection of the Ozone Layer.[115]

*a. Categories of Scientific Uncertainty*

No single established classification of "uncertainty" exists in scientific literature.[116] For purposes of this Note, the categorization offered by researchers Andreas Klinke and Ortwin Renn[117] shall be used as an aid in

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108. IUCN Guidelines, *supra* note 7, at 2.

109. COMEST & UNESCO, *supra* note 5, at 14.

110. *Id.*

111. *Id.*

112. BIRNIE, *supra* note 65, at 156.

113. Sonia Boutillon, *The Precautionary Principle: Development of an International Standard*, 23 MICH. J. INT'L L. 429, 435 (2002).

114. *Id.*

115. *Id.* (citing Vienna Convention on the Protection of the Ozone Layer, Mar. 22, 1985, pmbl., T.I.A.S. No. 11,097, at 2, 1513 U.N.T.S.).

116. GRUSZCZYNSKI, *supra* note 104, at 31.

117. Andreas Klinke & Ortwin Renn, *A New Approach to Risk Evaluation and Management: Risk-Based, Precaution-Based, and Discourse-Based Strategies*, 22 RISK ANALYSIS 1071 (2002).

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ascertaining the different types of scientific uncertainty that could set the Precautionary Principle into action.

There are four categories of scientific uncertainty based on the source.[118] The *first* type of uncertainty is "variability."[119] This refers to the variations in responses to an identical stimulus among the subjects of scientific analysis, whether humans, animals, or plants.[120] The differences may result from the individual characteristics of the target such as age, sex, and lifestyle.[121] For example, sensitivity to stimulus may differ between young children, adults, and elderly. The *second* type of uncertainty is the "systematic and random measurement errors."[122] This includes the imprecision or imperfection of scientific measurement, problems of drawing inferences, extrapolation from experimental data onto humans, uncertainties of models and functional relationships, among many others.[123] The *third* category is "indeterminacy" which emanates from the random probabilities and behavior between cause and effect, and other relationships between variables.[124] The *last* classification is "lack of knowledge."[125] This category encompasses lack of observations and measurements, conflicting evidence, and competing theories.[126]

Needless to say, apart from the four typologies, there always remains the inherent uncertainty of science.[127] This results from the nature of science that it is constantly evolving, and, as such, its claims continue to be valid only as long as no contrary evidence surfaces.[128] Being naturally innate in science, this kind of uncertainty is normally disregarded in scientific assessments and experiments.[129]

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118. *Id.* at 1079.

119. *Id.*

120. *Id.*

121. GRUSZCZYNSKI, *supra* note 104, at 32.

122. Klinke & Renn, *supra* note 117, at 1079.

123. *Id.*

124. *Id.*

125. *Id.*

126. GRUSZCZYNSKI, *supra* note 104, at 32.

127. *Id.* & HUNTER, ET AL., *supra* note 2, at 405.

128. GRUSZCZYNSKI, *supra* note 104, at 31 & HUNTER, ET AL., *supra* note 2, at 405.

129. GRUSZCZYNSKI, *supra* note 104, at 31.

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*b. Degrees of Scientific Uncertainty*

Aside from classifying uncertainty based on sources, scientific uncertainty may also be described according to "degree of uncertainty" ranging from "inexactness" to "indeterminacy."[130] *First* in the spectrum is "inexactness" which represents the natural incertitude in scientific data and, as such, is considered the closest to "certainty."[131] This recognizes the reality that empirical information will never be one hundred percent accurate, for there will always be some margin of doubt.[132] *Second* is the "lack of observations or measurements."[133] This level of uncertainty is attributable to the deficiency of information which, however, may be remedied through further studies and research.[134] The *third* degree of uncertainty is "conflicting evidence."[135] Divergent scientific opinions and evidence regarding the same subject matter may be caused by varying methods of appreciating and evaluating the scientific data available as well as different variables utilized in scientific experiments.[136] The *fourth* degree is "practical immeasurability."[137] It refers to the impossibility to obtain the data necessary to reach the desired level of certainty.[138] Finally, the *fifth* degree is "ignorance," which means that the actual risk is hidden or unexpected and is, therefore, impossible to consider.[139] The Precautionary Principle most properly applies in the contexts of the second and third degrees of uncertainty which are the lack of information and conflicting scientific evidence.[140]

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130. ZANDER, *supra* note 55, at 16.

131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.*

135. *Id.*

136. ZANDER, *supra* note 55, at 16.

137. *Id.*

138. *Id.*

139. *Id.*

140. *Id.* at 17.

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*D. Sources of the Precautionary Principle*

Since its emergence, the Precautionary Principle has been incorporated in more than 50 international legal instruments and domestic laws.[141] These legal documents are diverse in terms of subject matter; they tackle issues such as climate change, biosafety, biodiversity, and pollution.[142] Outside of the field of pure environmental law, the Precautionary Principle has been frequently used in relation to the protection of life and health[143] and has even made its way into the provisions of the WTO law.[144] The assortment of areas in which the Precautionary Principle is utilized highlights the flexibility of its application.

1. Multilateral Environmental Agreements

Numerous fields of environmental law, including climate change, sustainable development, and biodiversity, have embraced the ideology of the Precautionary Principle as an approach in obviating environmental perils.[145] The United Nations Framework Convention on Climate Change[146] relies on the Precautionary Principle as a means to "anticipate, prevent[,] or minimize" the causes and effects of climate change.[147] The formulation it adopted resembles that of Principle 15 of the Rio Declaration.[148] The 1992 Convention on Biodiversity[149] expressed its adherence to the concept of the Precautionary Principle in its preamble.[150] The Cartagena Biosafety

141. Wiener, *supra* note 55, at 601 & BEYERLIN & MARAUHN, *supra* note 60, at 49. *See also* discussion in Chapter IV of this Note.

142. GRUSZCZYNSKI, *supra* note 104, at 160-61.

143. *Id.* at 160.

144. *See* discussion in Chapter IV of this Note.

145. BIRNIE, ET AL., *supra* note 65, at 157.

146. United Nations Framework Convention on Climate Change *adopted* May 9, 1992, 1771 U.N.T.S. 107 [hereinafter United Nations Framework Convention on Climate Change].

147. *Id.* art. 3, ¶ 3.

148. *See Rio Declaration on Environment and Development*, *supra* note 16, princ. 15.

149. Convention on Biological Diversity, *opened for signature* June 5, 1992, 1760 U.N.T.S. 79 [hereinafter CBD].

150. *Id.* pmbl.

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Protocol,[151] which deals with the handling of living modified organisms, also incorporated the Precautionary Principle in its text by expressly referring to Principle 15 of the Rio Declaration[152] and requiring States to bear in mind possible risks to human health when dealing with living, modified organisms.[153]

Among the multifarious expressions of the Precautionary Principle, Principle 15 of the Rio Declaration, remains to be the most generally accepted phraseology. Under the Rio Declaration, the requirement of taking action is mandatory, considering the use of the word "shall."[154] Therefore, once the threshold requirements are satisfied, precaution becomes "legally required."[155]

2. WTO Agreement on Sanitary and Phytosanitary Measures (SPS Agreement)

Beyond the sphere of environmental law, the Precautionary Principle has extended its reach to international trade.[156] The WTO Agreement on Sanitary and Phytosanitary Measures (SPS Agreement)[157] espouses a precautionary approach in addressing legitimate State concerns regarding the protection of human, animal, and plant life or health.[158]

As will be discussed further, the SPS Agreement generally requires sufficient scientific basis before any trade measure may be legally implemented. By way of an exception, Article 5, paragraph 7 of the SPS Agreement permits States to adopt provisional measures in cases of scientific

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151. Cartagena Protocol on Biosafety to the Convention on Biological Diversity, *adopted* Jan. 29, 2000, 2226 U.N.T.S. 208 [hereinafter Biosafety Protocol].

152. *Id.* arts. 1 & 10 (6).

153. *Id.* art. 2 (2). Article 2 (2) of the Biosafety Protocol provides that "[t]he Parties shall ensure that the development, handling, transport, use, transfer[,] and release of any living modified organisms are undertaken in a manner that prevents or reduces the risks to biological diversity, taking also into account risks to *human health.*" *Id.* (emphasis supplied).

154. SANDS, *supra* note 56, at 272-73.

155. Kazhdan, *supra* note 24, at 529.

156. *See* Shaw & Schwartz, *supra* note 4, at 11 & Veinla, *supra* note 1, at 187.

157. Agreement on the Application of Sanitary and Phytosanitary Measures, *opened for signature* Apr. 15, 1994, 1867 U.N.T.S. 493 [hereinafter SPS Agreement].

158. *Id.* art. 5, ¶ 7.

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insufficiency in order to achieve their objective of protecting health or the environment.[159] In the *EC-Hormones Case*, the Appellate Body expressly declared Article 5, paragraph 7 of the SPS Agreement to be an expression of the Precautionary Principle.[160] The SPS Agreement will be discussed extensively in Chapter IV onwards.

### *E. Effects of the Application of the Precautionary Principle*

The effects of the operation of the Precautionary Principle elude precise definition due to its different formulations, often classified into "strong" or "weak" versions.[161] Nevertheless, it is commonly understood that *first*, the principle operates as a "license to act."[162] The Precautionary Principle provides a rationale for taking early and anticipatory action when confronted with scientific uncertainty.[163] In doing so, the principle affords government decision-makers a lower threshold to justify intervention through policy-making.[164]

*Second*, pursuant to the language of Principle 15 of the Rio Declaration, uncertainty should not be used as a reason for inaction.[165] Reduction and prevention of environmental impacts should be undertaken, although risks are yet to be certain.[166]

*Third*, a procedural outcome of the operation of the principle is the shifting of burden of proof.[167] According to the Guidelines for Applying the Precautionary Principle issued by the International Union for Conservation of Nature, "those who propose and/or derive benefits from an activity

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159. *Id.*

160. *EC-Hormones AB Report*, *supra* note 26, ¶ 124.

161. *See generally* Noah M. Sachs, *Rescuing the Strong Precautionary Principle from its Critics*, 2011 U. ILL. L. REV. 1285, 1295 (2011).

162. BEYERLIN & MARAUHN, *supra* note 60, at 54.

163. Rene Von Schomberg, *The Precautionary Principle and its Normative Challenges*, *in* IMPLEMENTING THE PRECAUTIONARY PRINCIPLE: PERSPECTIVES AND PROSPECTS 23 (Elizabeth Charlotte Fisher, et al. eds., 2006).

164. *Id.*

165. Wiener, *supra* note 55, at 604.

166. Gregory Fullem, *The Precautionary Principle: Environmental Protection in the Face of Scientific Uncertainty*, 31 WILLAMETTE L. REV. 495, 498 (1995).

167. RONNIE HARDING & ELIZABETH FISHER, PERSPECTIVES ON THE PRECAUTIONARY PRINCIPLE 46 (1999).

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which raises threats of serious or irreversible harm should bear the responsibility and costs of providing evidence that those activities are, in fact, safe."[168] In other words, once the essential requirements of the Principle are satisfied, the burden of proof is passed on to the party who claims that there is no threat of harm or that it is only insubstantial.[169] Hence, for instance, a potential environment polluter should not be legally permitted to carry out activities that could possibly harm the environment until he has proven that there would be no resulting harm or that it is inconsequential. Instead of requiring the opponents of an activity to establish that there is possible and impending danger, it would be the proponents who will be obliged to demonstrate to the satisfaction of the concerned authorities that the activity is safe or at least acceptable.[170]

## III. THE WTO AGREEMENTS

To understand the application of the Precautionary Principle in the context of trade, it is imperative to discuss the legal framework and the mechanism of international trade law. International trade is a field heavily regulated by a complex system of laws and agreements. The overarching agreement that institutionalized the standards and rules governing international trade relations is the Agreement establishing the World Trade Organization or the "WTO Agreement."[171]

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168. IUCN Guidelines, *supra* note 7, at 8.

169. Kazhdan, *supra* note 24, at 530 (citing The MOX Plant Case (Ir. v. U.K.), Case No. 10, Judgment, ITLOS Rep. 95 (Dec. 3, 2011) (J. Wolfrum, separate opinion); U.N. Fisheries and Agric. Dep't, New York, U.S., July 24, 1995-Aug. 4, 1995, *The Precautionary Approach to Fisheries with Reference to Straddling Fish Stocks and Highly Migratory Stocks*, at 7, U.N. Doc A/Conf.164/INF/8 (Aug. 4, 1995); Dispute Concerning Access to Information Under Article 9 of the OSPAR Convention (Ir. v. U.K.), Final Award, ¶ 72 (Perm. Ct. Arb. July 2, 2003) (J. Griffith, dissenting opinion)).

170. Cooney, *supra* note 59, at 8.

171. Marrakesh Agreement Establishing the World Trade Organization, *entered into force* Jan. 1, 1995, 1867 U.N.T.S. 154 [hereinafter WTO Agreement] & PETER VAN DEN BOSSCHE, THE LAW AND POLICY OF THE WORLD TRADE ORGANIZATION: TEXT, CASES AND MATERIALS 36-37 (2d ed. 2008).

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### *A. Brief Background on WTO and the GATT*

The principal source of international trade law is the WTO Agreement.[172] Concluded out of the Uruguay Rounds of trade negotiations in 1994, the WTO Agreement established the WTO, the international body that facilitates the execution, supervision, and management of multilateral trade agreements among Member-States.[173] The basic text annexed several other trade agreements which, taken together, seek to promote free trade by imposing obligations, disciplines, and restraints on national governments.[174] The WTO Agreement, together with its annexes, constitutes a single body of law equally binding on all WTO Members.[175] It is an "inseparable package of rights and disciplines which have to be considered in conjunction."[176]

The multilateral agreement most relevant to products and goods is the 1994 General Agreement on Tariffs and Trade (GATT).[177] It expressly adopted the provisions of the 1947 GATT[178] and formally replaced it.[179] The GATT laid out the basic rules and standards in the conduct of trade in goods,[180] such as the most favored nation treatment (Article I),[181] national treatment (Article III),[182] and the prohibition on quantitative restrictions (Article XI).[183]

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172. WTO Agreement, *supra* note 171.

173. *Id.* art. 3 & VAN DEN BOSSCHE, *supra* note 171.

174. *See* WTO Agreement, *supra* note 171, art. 3.

175. *Id.* art. 2 & MITSUO MATSUSHITA, ET AL., THE WORLD TRADE ORGANIZATION: LAW, PRACTICE, AND POLICY 9-11 (3d ed. 2015).

176. VAN DEN BOSSCHE, *supra* note 171, at 46 (citing Appellate Body Report, *Brazil — Desiccated Coconut*, 177, WT/DS22/AB/R (Feb. 1, 1997)) & MATSUSHITA, ET AL., *supra* note 175, at 9.

177. General Agreement on Tariffs and Trade, *entered into force* Jan. 1, 1995, 1867 U.N.T.S. 187 [hereinafter GATT].

178. General Agreement on Tariffs and Trade art. I, *opened for signature* Oct. 30, 1947, 55 U.N.T.S. 187 [hereinafter 1947 GATT].

179. VAN DEN BOSSCHE, *supra* note 171, at 47.

180. *Id.* at 44-45.

181. 1947 GATT, *supra* note 178, art. I.

182. *Id.* art. III.

183. *Id.* art. XI.

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*B. General Obligation of Non-Discrimination and the Prohibition on the Imposition of Trade Restrictions under the GATT*

A fundamental principle in international trade law is the principle of non-discrimination.[184] Under the GATT, this principle is reflected in two obligations: the Most Favored Nation (MFN) Treatment and the National Treatment. The MFN, as embodied in Article I,[185] requires a State to accord equal treatment to similar products originating from and destined to other countries.[186] The MFN principle guarantees that any advantage conferred upon a particular type of goods should be extended to all like products from any exporting WTO Member immediately and unconditionally.[187] The National Treatment principle, found in Article III,[188] obligates a State not to discriminate against imported goods and to treat them in the same manner that it treats like products of domestic origin.[189] Once foreign goods have entered the local market, they should not be afforded differentiated treatment by imposing extra duties and charges not otherwise levied on domestic products.[190]

Another obligation and oft-disputed provision of the GATT is the obligation not to impose quantitative trade restrictions embodied in Article XI.[191] "Quantitative trade restrictions" include import and export quotas, licenses, and other measures but excludes duties, taxes, and other charges.[192] This provision covers any measure imposed by one State which effectively restrains another State's exportation.[193] The imposition of quantitative

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184. VAN DEN BOSSCHE, *supra* note 171, at 308.

185. 1947 GATT, *supra* note 178, art. I.

186. JOHN JACKSON, THE JURISPRUDENCE OF GATT AND THE WTO: INSIGHTS ON TREATY LAW AND ECONOMIC RELATIONS 57 (2000).

187. PETROS C. MAVROIDIS, TRADE IN GOODS 123 (2007).

188. 1947 GATT, *supra* note 178, art. III.

189. Peter M. Gerhart & Michael S. Baron, *Understanding National Treatment: A Participatory Vision of the WTO*, 14 IND. INT'L & COMP. L. REV. 505, 505 (2004).

190. 1947 GATT, *supra* note 178, art. III, ¶ 2.

191. *Id.* art. XI.

192. *Id.* art. III & MAVROIDIS, *supra* note 187, at 43-44.

193. WORLD TRADE ORGANIZATION, WTO ANALYTICAL INDEX: GUIDE TO WTO LAW AND PRACTICE 315 (3d ed. 2012).

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restriction, regardless of the actual effect, violates Article XI due to its adverse impact on equal competition.[194]

*C. General Exceptions under GATT Article XX*

Although trade restrictions are generally prohibited under the GATT, a State may nonetheless impose such measures if justified under Article XX.[195] Among the ten exceptions, the provisions relevant to health and environmental protection are Articles XX (b) on "necess[ity] to protect human, animal[,] or plant life or health,"[196] and Article XX (g) "relating to the conservation of exhaustible natural resources[.]"[197] For purposes of invoking these exceptions, members have the discretion in choosing the level of protection appropriate for their community.[198] Furthermore, every measure grounded on Article XX must not only conform to the requirements of the particular exception but also satisfy the chapeau or the introductory clause of the Article.[199] To comply with the chapeau, the measure must not constitute (i) "a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail"; or (ii) a "disguised restriction on international trade."[200]

1. Article XX (b): Necessary to Protect Human, Animal, or Plant Life or Health

There are three steps to justify a measure under this exception: *first*, the challenged measure must be designed to protect human, animal, plant life or health; *second*, the measure must be "necessary" to protect human, animal, plant life or health; *third*, it must comply with the chapeau of Article XX.[201]

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194. *Id.*

195. 1947 GATT, *supra* note 181, art. XX.

196. *Id.* art. XX (b).

197. *Id.* art. XX (g).

198. Panel Report, *European Communities — Measures Affecting Asbestos and Asbestos-Containing Products*, ¶ 8.179, WT/DS135/R (Sep. 18, 2000) [hereinafter *EC-Asbestos Panel Report*]. *See also* Panel Report, *United States — Standards for Reformulated and Conventional Gasoline*, WT/DS2/R (Jan. 29, 1996) [hereinafter *US-Gasoline Panel Report*].

199. 1947 GATT, *supra* note 178, art. XX.

200. *Id.*

201. *US-Gasoline Panel Report*, *supra* note 198, ¶ 6.20.

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At the outset, a "risk" against life or health must exist.[202] In determining the "necessity" of a trade measure, the *Korea-Beef*[203] case requires the weighing of certain factors such as the contribution of the measure to the realization of the objective, the values sought to be protected, and the effect of the regulation on international trade.[204] The *European Communities — Measures Affecting Asbestos and Asbestos-Containing Products*[205] case added that the "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."[206] Lastly, the chapeau of Article XX must be satisfied.[207] An import ban against asbestos and asbestos products is an example of a measure protecting human life and health against carcinogens.[208]

2. Article XX (g): Relating to the Conservation of Exhaustible Natural Resources

To successfully invoke this provision, a three-step approach must be followed: *first*, the questioned policy must fall within the range of measures to conserve exhaustible natural resources; *second*, it must be "relating to" the conservation of exhaustible natural resources and made "effective in conjunction with restriction on domestic production or consumption"; *third*, the chapeau of Article XX must be complied with.[209]

Clean air,[210] sea turtles,[211] salmon, and herring[212] are examples of "exhaustible natural resources" recognized by the WTO under this

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202. *EC-Asbestos Panel Report*, *supra* note 198, ¶ 8.170.

203. Appellate Body Report, *Korea — Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, WT/DS169/AB/R (Dec. 11, 2000) [hereinafter *Korea Beef Report*].

204. *Id.* ¶ 164.

205. *See generally* Appellate Body Report, European Communities — Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/AB/R (Mar. 12, 2001) [hereinafter *EC-Asbestos AB Report*].

206. *Id.* ¶ 172 (citing *Korea Beef Report*, *supra* note 204, ¶ 162).

207. 1947 GATT, *supra* note 181, art. XX.

208. *See generally EC-Asbestos AB Report*, *supra* note 205.

209. Panel Report, *United States — Restrictions on Imports of Tuna*, ¶ 5.12, DS29/R (June 16, 1994) [hereinafter *US-Restrictions Panel Report*].

210. *US-Gasoline Panel Report*, *supra* note 198, ¶ 6.36.

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exception. The requirement of "relating to" has been interpreted in the *US-Gasoline* case to mean "primarily aimed at."[213] Thus, a measure which has conservation only as a secondary objective might fall short of this standard.[214] The next requisite[215] signifies the element of even-handedness.[216] This means that there must be a restriction imposed on the State's local production or consumption that complements its international trade restriction.[217] Hence, if no restrictions on domestic products are imposed, the measure will be inconsistent with Article XX (g).[218] Finally, the measure must be consistent with the chapeau.[219]

*D. Rights and Obligations under the SPS Agreement*

The SPS Agreement is one of the annexed documents to the WTO Agreement. Its main objective is "to establish a multilateral framework of rules that regulates the development, adoption, and enforcement of SPS measures in order to minimize their negative trade effects."[220] It seeks to balance the values of market access with the sovereign right of States to protect health and environment within their jurisdiction.[221] Accordingly, the

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211. *See* Appellate Body Report, *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 134, WT/DS58/AB/R (Oct. 12, 1998) [hereinafter *US-Shrimp AB Report*].

212. *See* Panel Report, *Canada — Measures Affecting Exports of Unprocessed Herring and Salmon*, L/6268-35S/98 (Mar. 22, 1988).

213. *US-Gasoline Panel Report, supra* note 198, ¶ 6.39 (citing Panel Report, *Canada — Measures Affecting Exports of Unprocessed Herring and Salmon*, ¶ 4.96, L/6268 - 35S/98 (Mar. 22, 1988).

214. FIONA MACMILLAN, WTO AND THE ENVIRONMENT 26 (2001).

215. GATT Art. XX (g) requires that the measure must be "made effective in conjunction with restrictions on domestic production or consumption." 1947 GATT, *supra* note 178, art. XX (g).

216. Appellate Body Report, *United States — Standards for Reformulated and Conventional Gasoline*, 21, WT/DS2/AB/R (Apr. 29, 1996) [hereinafter *US-Gasoline AB Report*].

217. Appellate Body Report, *China — Measures Related to the Exportation of Rare Earths, Tungsten, and Molybdenum*, ¶ 5.132, WT/DS431/AB/R (Aug. 7, 2014).

218. MACMILLAN, *supra* note 214, at 85-86.

219. *See US-Restrictions Panel Report, supra* note 209.

220. GRUSZCZYNSKI, *supra* note 104, at 38.

221. VAN DEN BOSSCHE, *supra* note 171, at 694.

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Agreement permits and restricts the imposition of "sanitary and phytosanitary measures"[222] for the purpose of protecting human, animal, or plant life or health.[223]

The SPS Agreement supplements Article XX (b) of the GATT in governing the validity of measures intended to protect humans, animals, and plants.[224] In situations of conflict, the GATT shall defer to the application of the more specific provisions of the SPS Agreement.

For the SPS Agreement to apply, two requirements must be fulfilled: *first*, the trade restriction must constitute a "sanitary or phytosanitary measure" as defined under the Agreement; and *second*, the measure may affect international trade, directly or indirectly.[225] Unlike Article XX (b) which is an exception to the GATT requirements, the SPS Agreement contains specific obligations in order for a Member to validly institute SPS measures.[226]

1. SPS Measures

Annex A of the SPS Agreement defines a "sanitary or phytosnanitary measure" (SPS measure) as any measure applied:

> (a) to protect animal or plant life or health within the territory of the Member from risks arising from the entry, establishment[,] or spread of pests, diseases, disease-carrying organisms[,] or disease causing organisms;
>
> (b) to protect human or animal life or health within the territory of the Member from risks arising from additives, contaminants, toxins[,] or disease-causing organisms in foods, beverages[,] or feedstuffs;
>
> (c) to protect human life or health within the territory of the Member from risks arising from diseases carried by animals, plants[,] or products thereof, or from the entry, establishment[,] or spread of pests; or
>
> (d) to prevent or limit other damage within the Territory of the Member from the entry, establishment[,] or spread of pests.

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222. MACMILLAN, *supra* note 214, at 32.

223. SPS Agreement, *supra* note 157, art. 2, ¶ 1.

224. *Id.* pmbl. & MATSUSHITA, ET AL., *supra* note 175, at 433.

225. Panel Report, *EC Measures Concerning Meat and Meat Products (Hormones)*, ¶ 8.36, WT/DS26/R/CAN (Aug. 18, 1997) [hereinafter *EC-Hormones Panel Report*].

226. *Id.* ¶ 8.39.

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> Sanitary or phytosanitary measures include all relevant laws, decrees, regulations, requirements[,] and procedures including, *inter alia*, end product criteria; processes[,] and production methods; testing, inspection, certification[,] and approval procedures; quarantine treatments including relevant requirements associated with the transport of animals or plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures[,] and methods of risk assessment; and packaging and labelling requirements directly related to food safety.[227]

SPS measures are narrowly tailored to address specific concerns that are essentially related to environmental protection.[228] Measures that do not fit the definition of SPS measures may be covered either by GATT or the Agreement on Technical Barriers to Trade (TBT Agreement).[229]

2. Requisites of an SPS Measure

Article 2, paragraphs 2 and 3 of the SPS Agreement laid down the essential requirements to enact valid SPS measures.[230] These requirements are summarized as follows:

(1) The SPS measure must be "applied only to the extent necessary to protect human, animal[,] or plant life or health[;]"[231]

(2) It must be "based on scientific principles and [must] not [be] maintained without sufficient scientific evidence[;]"[232]

(3) It must "not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail[;]"[233] and

(4) The measure must "not be applied in a manner which would constitute a disguised restriction on international trade[.]"[234]

To satisfy the second element of sufficient scientific evidence, a SPS measure must primarily be based on international standards prescribed by

227. SPS Agreement, *supra* note 157, annex A, ¶ 1.

228. MACMILLAN, *supra* note 214, at 33.

229. ZANDER, *supra* note 55, at 40.

230. MACMILLAN, *supra* note 214, at 116.

231. SPS Agreement, *supra* note 157, art. 2, ¶ 2.

232. *Id.*

233. *Id.* art. 2, ¶ 3.

234. *Id.*

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recognized institutions under SPS Agreement Article 3 (4).[235] If the measure adopts such international standards, it secures a disputable presumption of conformity with the SPS Agreement.[236] However, States may derogate from this provision and choose a level of protection higher than that suggested by the international standard.[237] In such a case, the measure must be supported by scientific justification.[238] In any event, Article 5.1 requires that the measure must be "based on a risk assessment" before it can be legitimately imposed. The risk to be identified must be (i) one that is identifiable, as opposed to mere theoretical uncertainty; and (ii) one that is a potential risk in the real world, and not only in laboratories.[239] Determined on a case-by-case basis, a measure is considered "based on" a risk assessment if the Member concerned proves that there is a "rational or objective relationship" between the SPS measure enacted and the scientific evidence gathered.[240]

One concern about the requirement of scientific justification is that scientific data may not always be sufficient or available to support the adoption of SPS measures. The SPS Agreement addresses this reality in Article 5 (7) by allowing the provisional institution of SPS measures "on the basis of available pertinent information" and only in situations where there is insufficiency of scientific evidence.[241] As such, it is considered as an exception to the requirements set forth in Articles 2 (2) and 5 (1).[242] Article

235. *Id.* art. 3, ¶ 4 & MAVROIDIS, *supra* note 187, at 298.

236. SPS Agreement, *supra* note 157, art. 3, ¶ 2 & GRUSZCZYNSKI, *supra* note 104, at 41-42.

237. David A. Wirth, *The World Trade Organization Dispute Over Genetically Modified Organisms: The Precautionary Principle Meets International Trade Law*, 37 VT L. REV. 1153, 1167 (2013).

238. *Id.* (citing SPS Agreement, *supra* note 157, art. 3, ¶ 3).

239. *See generally* GRUSZCZYNSKI, *supra* note 104, at 178; SPS Agreement, *supra* note 157, art. 5; *EC-Hormones AB Report*, *supra* note 26, ¶ 186-187; & MAVROIDIS, *supra* note 187, at 300.

240. Appellate Body Report, *Japan — Measures Affecting Agricultural Products*, ¶ 84, WT/DS76/AB/R (Feb. 22, 1999) [hereinafter *Japan-Varietals AB Report*]; Appellate Body Report, *Japan-Measures Affecting the Importation of Apples*, ¶ 164, WT/DS245/AB/R (Nov. 26, 2003) [hereinafter *Japan-Apples AB Report*]; & MAVROIDIS, *supra* note 187, at 299.

241. MACMILLAN, *supra* note 214, at 149 & SPS Agreement, *supra* note 157, art. 5, ¶ 7.

242. GRUSZCZYNSKI, *supra* note 104, at 178-79.

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5 (7) will be further discussed in Chapter IV in relation to the Precautionary Principle.

After fulfilling the scientific requirements, a Member must determine its appropriate level of protection and decide to what extent it can tolerate the potential risks it identified.[243]

Considering the overlap between the provisions of the SPS Agreement and the GATT, an SPS measure that satisfies the four essential requisites is considered as presumptively valid under GATT Article XX (b).[244]

## IV. Applicability of the Precautionary Principle in WTO Law: Entry Points in WTO Provisions

The WTO dispute settlement bodies have consistently declared that the status of the Precautionary Principle under international law remains undetermined.[245] The Appellate Body in *EC-Hormones* refused to make a stand on the issue and ruled that the Principle's status is unclear.[246] Similarly, the Panel in *European Communities — Measures Affecting the Approval and Marketing of Biotech Products* decided not to resolve what it perceived as a "complex issue" due to the disagreement on the status and content of the principle.[247] Because of these pronouncements, the applicability of the Precautionary Principle in trade law remains a doubtful and remote possibility. In quite the reverse, however, an examination of relevant provisions of WTO law and DSB rulings will demonstrate that the Precautionary Principle can be validly invoked by Member-States in trade regulation. For although no express mention of the Precautionary Principle

243. *EC-Hormones Panel Report*, *supra* note 225, ¶ 8.95. Article 5 (4) of the SPS Agreement provides that the reduction of negative trade impacts should be taken into account in the Member's determination of level of protection. Article 5 (5) seeks to ensure the consistent application of the appropriate level of protection by requiring Members to "avoid arbitrary or unjustifiable distinctions in the levels it considers to be appropriate in different situations." Article 5 (6) seeks to moderate the trade measure by providing that it "must not be more trade-restrictive than required to achieve the appropriate level of protection." *Id.* SPS Agreement, *supra* note 157, art. 5 (4)-(6).

244. MACMILLAN, *supra* note 214, at 33 & SPS Agreement, *supra* note 157, art. 2, ¶ 4.

245. GRUSZCZYNSKI, *supra* note 104, at 166.

246. *EC-Hormones AB Report*, *supra* note 26, ¶ 123.

247. *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.89.

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is made in any of the WTO trade agreements, there are provisions that may serve as "gateway[s]" for the principle to figure in the interpretation and application of WTO law.[248]

*A. Precautionary Principle in the Preamble of the WTO Agreement*

Contrary to the perceived incompatibility with environmental protection, the WTO Agreement expressly recognizes in its preamble the need for sustainable development in the interest of environmentalism.[249] The Precautionary Principle being a central element of Sustainable Development,[250] the preamble of the WTO Agreement is one gateway for the applicability of the principle in trade regulation.

1. Precautionary Principle as an Element of Sustainable Development

Sustainable development is commonly defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[251] Formally recognized by the

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248. Elisa Vecchione, *Is it Possible to Provide Evidence of Insufficient Evidence? The Precautionary Principle at the WTO*, 13 CHI. J. INT'L L. 153, 156 (2012) (citing Ilona Cheyne, *Gateways to the Precautionary Principle in WTO Law*, 19 J. ENVI. L. 155, 158 (2007)). *See generally* Markus Wagner, *Taking Interdependence Seriously: The Need for a Reassessment of the Precautionary Principle in International Trade Law*, 20 CARDOZO J. INT'L & COMP. L. 713, 726 (2012).

249. WTO Agreement, *supra* note 171, pmbl. The preamble provides —

> Recognizing that their relations in the field of trade and economic [endeavor] should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of *sustainable development*, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.

*Id.* (emphasis supplied).

250. PEEL, *supra* note 48, at 17.

251. *See* World Commission on Environment and Development, Report of the World Commission on Environment and Development: Our Common Future, *available at* http://www.un-documents.net/our-common-future.pdf (last accessed Jan. 26, 2018).

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International Court of Justice (ICJ),[252] it acknowledges that States have the sovereign right to explore and exploit their natural resources without, however, completely disregarding the possible negative effects on human rights or the environment.[253] Hence, this principle unites development and environmental protection.[254]

The 1992 Rio Declaration is an international instrument that embodies the principle of sustainable development.[255] Although no explicit reference to the term "sustainable development" was made, the substantive and procedural elements of the concept are enshrined mainly in Principles 3 to 8 and 10 to 17, respectively.[256] One of the central elements of sustainable development is the Precautionary Principle, which is expressed in Principle 15.[257] In fact, even prior to the Rio Declaration, the Precautionary Principle has already been strongly associated with sustainable development in the 1990 Bergen Ministerial Declaration on Sustainable Development.[258] Being a core component of sustainable development, it is evident, therefore, that the Precautionary Principle also forms part of the WTO Agreement.

2. Interpretation of the Preamble of the WTO Agreement

Appellate Body rulings have always referred to the Vienna Convention on the Law of Treaties (VCLT)[259] whenever the case calls for an interpretation of WTO provisions. This is in line with the mandate of Article 3 (2) of the Dispute Settlement Understanding (DSU)[260] which states that WTO law

252. Gabcikovo-Nagymaros (Hung. v. Slovk.), Judgment, 1997 I.C.J. 7, ¶ 140 (Sep. 25).

253. BIRNIE, ET AL., *supra* note 65, at 115.

254. HUNTER, ET AL., *supra* note 2, at 405.

255. PEEL, *supra* note 48, at 17.

256. BIRNIE, ET AL., *supra* note 65, at 115-16.

257. PEEL, *supra* note 48, at 17.

258. Bergen Ministerial Declaration on Sustainable Development in the European Commission for Europe (ECE) Region, ¶ 7, UN Doc A/CONF.151/PC/10 (May 1990). The Bergen Ministerial Declaration on Sustainable Development provides that "[i]n order to achieve sustainable development, policies must be based on the precautionary principle." *Id.*

259. Vienna Convention on the Law of Treaties, *opened for signature* May 23, 1969, 1155 U.N.T.S. 331 [hereinafter VCLT].

260. Understanding on Rules and Procedures Governing the Settlement of Disputes Apr. 15, 1994, 1869 U.N.T.S. 401 [hereinafter DSU].

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should be interpreted "in accordance with customary rules of interpretation of public international law."[261] In a long line of cases, the Appellate Body has consistently regarded such customary rules to refer to Articles 31, 32, and 33 of the VCLT.[262]

Article 31 of the VCLT lays down the general rules in treaty interpretation.[263] The first paragraph provides that "[a] treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and *in light of its object and purpose*."[264] This provision enumerates the factors to be considered in the interpretation of treaty stipulations. Of particular relevance to the present discussion is the final element — the object and purpose.

A common source of the object and purpose recognized by ICJ decisions[265] is the treaty's preamble.[266] The *US-Shrimp Case* likewise affirmed that the preamble "add[s] colour, texture[,] and shading to [the] interpretation of the agreements annexed to the WTO."[267] Against this background, it is submitted that WTO law should be read in light of sustainable development, as the object and purpose enshrined in the preamble.

A case in point is the *US-Shrimp Case*. The Appellate Body's ruling that sea turtles are "exhaustible natural resource[s]" under GATT Article XX (g) was influenced by the concept of sustainable development as expressed in the preamble of the WTO Agreement.[268] In a similar fashion, therefore, the same reference to sustainable development in the WTO Agreement's preamble should be taken into consideration by the adjudicatory bodies in interpreting the provisions of the GATT and the SPS Agreement. In doing so, the Precautionary Principle as a fundamental element of sustainable development can now be appropriately considered by the dispute settlement bodies in conferring meaning to WTO provisions. Consequently, the

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261. *Id.* art. 3, ¶ 2 & *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.65.

262. *US-Gasoline AB Report*, *supra* note 216, ¶ 17.

263. VCLT, *supra* note 259, art. 31.

264. *Id.* art. 31, ¶ 1 (emphasis supplied).

265. Case Concerning the Arbitral Award of 31 July 1989 (Guinea-Bissau v. Sen.), 1991 I.C.J. 53, 93 (J. Weeramantry, dissenting opinion).

266. RICHARD GARDINER, TREATY INTERPRETATION 192 (2008).

267. *US-Shrimp AB Report*, *supra* note 211, ¶ 153.

268. SANDS, *supra* note 56, at 255.

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Precautionary Principle becomes accessible and operational in trade cases as an aid in the interpretation of environment-related provisions such as the SPS Agreement and GATT Article XX (b) and (g).

*B. Precautionary Principle as Customary International Law*

Notwithstanding the absence of a categorical declaration from international tribunals on its binding effect, there is sufficient evidence to prove that the Precautionary Principle has attained the status of customary international law. As custom, the Precautionary Principle must be taken into account in the interpretation of WTO law.

1. Status of the Precautionary Principle

Despite its global endorsement and frequent invocation in environmental disputes, international courts have long refrained from making a definite pronouncement on the legal status of the principle.[269] In *Case Concerning the Gabcikovo-Nagymaros Project*[270] and the *Case Concerning Pulp Mills on the River Uruguay*,[271] the ICJ did not proclaim the principle's status.[272] Likewise, in the *Southern Bluefin Tuna Cases*,[273] the International Tribunal for the Law of the Sea (ITLOS) only permitted the provisional measure based on scientific uncertainty but made no decision on the status of the principle.[274] International trade law is no different as the DSB consistently declared in a series of cases that the principle's status remains uncertain.[275]

The foregoing notwithstanding, many highly qualified publicists, commentators, and States have robustly supported the Precautionary Principle as part of customary international law.[276] A considerable number of renowned international environmental law experts have positively identified

269. BEYERLIN & MARAUHN, *supra* note 60, at 55.

270. *Gabcikovo-Nagymaros*, 1997 I.C.J. at 7.

271. Pulp Mills on the River Uruguay (Arg. v. Uru.), 2006 I.C.J. 113 (July 13).

272. BIRNIE, ET AL., *supra* note 65, at 157 (citing *Gabcikovo-Nagymaros*, 1997 I.C.J. at 7 & *Pulp Mills on the River Uruguay*, 2006 I.C.J. at 113).

273. Southern Bluefin Tuna Cases (N.Z. v. Jap; Austl. v. Jap), Vol. XXIII (Aug. 4).

274. *Id.* ¶¶ 77-79. *See also* BIRNIE, ET AL., *supra* note 65, at 160.

275. BIRNIE, ET AL., *supra* note 65, at 160. *See* discussion in Chapter V of this Note.

276. *See* discussion in Chapter IV (B) (1) (a) of this Note.

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the Precautionary Principle as custom.[277] In any event, the extensive adoption of the principle across treaties, international instruments, domestic laws, and jurisprudence provides ample and satisfactory evidence that strongly bolsters the contention that the Precautionary Principle has indeed attained the status of international custom.[278]

*a. State Practice*

Custom, as a source of international law, consists of two elements: (i) State practice and (ii) *opinio juris*.[279] The first element refers to the actual conduct and behavior of States.[280] Evidence of State practice can be sourced from administrative acts, domestic legislations, national court decisions, pleadings of States before national and international tribunals, international activities, and resolutions of the United Nations General Assembly.[281] State practice on the adoption of the Precautionary Principle is reflected in its incorporation in a wide range of international documents, as well as its pervasive espousal by States in their official acts and declarations.

Regardless of its varying formulations, the Precautionary Principle has been integrated in numerous international declarations and agreements already numbering more than 50.[282] These instruments deal with various

277. *See generally* DONALD K. ANTON & DINAH L. SHELTON, ENVIRONMENTAL PROTECTION AND HUMAN RIGHTS 85 (2011).

278. *Id.*

279. Statute of the International Court of Justice, art. 38, ¶ 1 (b), *entered into force* Oct. 24, 1945, 993 U.N.T.S 1153 [hereinafter ICJ Statute] & North Sea Continental Shelf Cases (Ger. v. Den.; Ger. v. Neth.) 1969 I.C.J. 3, ¶¶ 74 & 77 (Feb. 20).

280. MALCOLM SHAW, INTERNATIONAL LAW 82 (6th ed. 2008).

281. *Id.* (citing Case Concerning the Arrest Warrant of 11 April 2000 (Dem. Rep. Congo v. Belg.) 2002 I.C.J. 3, 23-24 (Feb. 14)) & SANDS, *supra* note 56, at 144.

282. Wiener, *supra* note 55, at 601 & BEYERLIN & MARAUHN, *supra* note 60, at 49. *See generally* PEEL, *supra* note 48, at Annex B. Among the cited legal provisions are as follows: *Rio Declaration on Environment and Development*, *supra* note 16, princ. 15; *Bergen Ministerial Declaration on Sustainable Development in the European Commission for Europe (ECE) Region*, U.N. Doc A/CONF.151/PC/10, *supra* note 258; Treaty on the Functioning of the European Union, as amended by the Lisbon Treaty art. 191, ¶ 2, *signed* Dec. 13, 2007, 326 O.J. 47; Convention on the Protection and Use of Transboundary Watercourses and International Lakes art. 2, ¶ 5 (a), *opened for signature* Mar. 17, 1992, 1936 U.N.T.S. 269; Bamako Convention On The Ban Of The Import Into Africa And The

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issues including climate change,[283] persistent organic pollutants,[284] air pollution,[285] ozone layer depletion,[286] endangered species,[287] biosafety,[288]

Control Of Transboundary Movement And Management Of Hazardous Wastes Within Africa art. 4, ¶ 3 (f), *signed* Jan. 30, 1991, 2101 U.N.T.S. 177; U.N. Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, New York, July 24-Aug. 4, 1995, *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, art. 5 (c), U.N. Doc A/CONF.164/38 (Aug. 4, 1995); Convention for the Protection of the Marine Environment of the North East Atlantic art. 2, *opened for signature* Sep. 22, 1992, 2355 U.N.T.S. 67; Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area art. II, ¶ 4, *opened for signature* Nov. 24, 1996, 2183 U.N.T.S. 303; Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources and Activities pmbl., *opened for signature* May 17, 1980, 1328 U.N.T.S. 120; Convention on the Protection of the Rhine art. 4, Apr. 12, 1999, Official Journal of the European Communities L.289/31; Convention on the Control of Harmful Anti-Fouling Systems on Ships, *adopted* Oct. 5, 2001; The Energy Charter Treaty art. 19, ¶ 1, *opened for signature* Dec. 17, 1994, 2080 U.N.T.S. 95; U.N. FAO International Code of Conduct for Responsible Fisheries, art. 6, ¶ 5; International Convention on Oil Pollution Preparedness, Response, and Co-operation, pmbl., *entered into forced* May 13, 1995, 1891 U.N.T.S. 51; Convention on the Protection of the Marine Environment of the Baltic Sea Area art. 3, ¶ 2, *opened for signature* Mar. 22, 1974, 1507 U.N.T.S. 160; 1994 Agreement on the Protection of the River Scheldt art. 3, ¶ 2, Apr. 26, 1994, 34 ILM 851; 1994 Convention on Cooperation for the Protection and Sustainable Use of the River Danube, arts. 2 (4) & 2 (5), *signed* June 29, 1994, IER 35:0251; Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region art. 1, ¶ 13 (3), *opened for signature* Sep. 16, 1995, 2161 U.N.T.S. 91; & The World Summit on Sustainable Development, *Report of the World Summit on Sustainable Development*, ¶¶ 23, 109 (f) & 2002, U.N. Doc. A/Conf. 199/20 (Sep. 4, 2002).

283. *See, e.g.*, United Nations Framework Convention on Climate Change, *supra* note 146, art. 3, ¶ 3.

284. *See, e.g.*, Stockholm Convention on Persistent Organic Pollutants art. 1 & 8, ¶ 9, *adopted* May 22, 2001, 2256 U.N.T.S. 119.

285. *See, e.g.*, Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Further Reduction of Sulphur Emissions pmbl., *adopted* June 13, 1994, 2030 U.N.T.S. 122; Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants pmbl., *opened for*

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and the conservation of biodiversity,[289] yet all of them mention or allude to the Precautionary Principle.[290] These references in international legal instruments show that States generally and consistently recognize that the lack of scientific certainty on environmental risk should not be an excuse to delay action.[291] More importantly, its universal acceptance by States was exhibited in the 1992 UN Conference on Environment and Development[292] wherein renowned environmental instruments, all of which incorporated the Precautionary Principle, were signed and acceded to by almost all heads of State numbering at least 170.[293] These include binding agreements such as the United Nations Framework Convention on Climate Change with 197 signatories[294] and the CBD with 196 parties,[295] as well as non-binding instruments — namely the Agenda 21 and the Rio Declaration. Clearly, the

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*signature* June 24-25, 1998, 2230 U.N.T.S. 79; & Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-Level Ozone pmbl., *entered into force* May 17, 2005, 2319 U.N.T.S. 81.

286. *See, e.g.*, Vienna Convention on the Protection of the Ozone Layer pmbl, *entered into force* Sep. 22, 1988, 1513 U.N.T.S. 293 & Montreal Protocol on Substances that Deplete the Ozone Layer pmbl., *opened for signature* Sep. 16, 1987, 1522 U.N.T.S. 3.

287. *See, e.g.*, Convention on International Trade in Endangered Species of Wild Flora and Fauna art. 24, ¶ 1 (b), *opened for signature* Mar. 3, 1973, 993 U.N.T.S. 243.

288. *See, e.g.*, Biosafety Protocol, *supra* note 151, arts. 1, 10, ¶ 6, & 11, ¶ 8.

289. *See, e.g.*, CBD, *supra* note 149, pmbl.; Convention on the Conservation of Antarctic Marine Living Resources art. 2, ¶ 3, *opened for signature* Aug. 1, 1980, 1329 U.N.T.S. 47 & Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean arts. 5 (c) & 6, *opened for signature* Sep. 5, 2000, 2275 U.N.T.S. 43.

290. BIRNIE, ET AL., *supra* note 65, at 157.

291. BEYERLIN & MARAUHN, *supra* note 60, at 50.

292. *Rio Declaration on Environment and Development*, *supra* note 16.

293. DAVID FREESTONE & ELLEN HEY, THE PRECAUTIONARY PRINCIPLE AND INTERNATIONAL LAW: THE CHALLENGE OF IMPLEMENTATION 38 (1996).

294. Status of Ratification of the Convention, *available at* http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php (last accessed Jan. 26, 2018).

295. Convention on Biological Diversity List of Parties, *available at* https://www.cbd.int/information/parties.shtml (last accessed Jan. 26, 2018).

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abundant number of countries signing these declarations and instruments reflects widespread acceptance of the principle by the international community.[296]

A common source of concern and disagreement is the fact that the Precautionary Principle has different articulations in every instrument depending on the subject matter.[297] On the contrary, this should not diminish the customary status of the Precautionary Principle, consistent with the ICJ ruling in *Case Concerning Military and Paramilitary Activities in and against Nicaragua*[298] that it is not necessary for the practice to be "in absolutely rigorous conformity" with the purported customary rule.[299] It is "sufficient that the conduct of States should, in general, be consistent with such rules."[300] Following this line of reasoning, the common understanding by States of the elements and the essence of the Precautionary Principle suffices to conclude that there is a general and consistent practice among States of adopting the Precautionary Principle.

Another indication of State practice is the repeated invocation of the Precautionary Principle by States in their arguments in international disputes.[301] Reliance upon the Principle in pleadings have been expressed four times before the ICJ, particularly in the *French Nuclear Tests Cases*,[302] *Pulp Mills Case*,[303] *Gabcikovo-Nagymaros Project Case*,[304] and the *Aerial*

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296. BEYERLIN & MARAUHN, *supra* note 60, at 50.

297. PEEL, *supra* note 48, at 18.

298. Military and Paramilitary Activities in and against Nicaragua (Nicar. v. U.S.), 1986 I.C.J. 14 (June 27).

299. *Id.* & SHAW, *supra* note 280, at 77-78.

300. *Military and Paramilitary Activities in and against Nicaragua*, 1986 I.C.J. at 98.

301. Trouwborst, *supra* note 66, at 109.

302. Request for an 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.), Application Instituting Proceedings, ¶¶ 105-108 (Aug. 21, 1995), *available at* http://www.icj-cij.org/files/case-related/97/7187.pdf (last accessed Jan. 26, 2018). In the *French Nuclear Tests Cases*, New Zealand relied on the Precautionary Principle to argue that France had the burden of proof that the nuclear tests would not bring about environmental harm. *Id.*

303. Pulp Mills on the River Uruguay (Arg. v. Uru.), Memorial of Argentina, ¶¶ 3.194-97 & 5.13-19 (Jan. 15, 2007), *available at* http://www.icj-cij.org/files/case-related/135/15425.pdf (last accessed Jan. 26, 2018). Argentina

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*Herbicide Spraying Case*,[305] and three times before the ITLOS, namely *Southern Bluefin Tuna Cases*,[306] *Mox Plant Case*,[307] and the *Land Reclamation Case*.[308]

Domestic legal systems have also adopted the principle[309] through local legislation, including Germany, Belgium, the Nordic Countries, France, Australia, Canada,[310] Ecuador, Argentina, Peru, Costa Rica, Cameroon,

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invoked the Precautionary Principle against Uruguay's construction of pulp mills. *Id.*

304. *Gabcikovo-Nagymaros*, 1997 I.C.J. 7, ¶ 97. Hungary resorted to the argument of the Precautionary Principle to justify the unilateral suspension of its performance of a treaty obligation towards Slovakia. *Id.*

305. Aerial Herbicide Spraying (Ecuador v. Colom.), Memorial of Ecuador, ¶ 8.25 (Apr. 28, 2009), *available at* http://www.icj-cij.org/docket/files/138/17540.pdf (last accessed Jan. 26, 2018). Ecuador contended that Colombia should have taken precautionary measures to prevent transboundary damage instigated by the latter's spraying activities. *Id.*

306. *Southern Bluefin Tuna Cases*, Vol. XXIII, ¶¶ 28-29. Australia and New Zealand alleged that Japan failed to comply with the Precautionary Principle in the conduct of the latter's experimental fishing to the detriment of southern bluefin tuna stocks. *Id.*

307. *The Mox Plant Case*, ITLOS Rep. 95, ¶ 71. Ireland maintained that the United Kingdom had the duty to establish that no harm will result from the operation of the Mox Plant. *Id.*

308. Land Reclamation Case (Malay. v. Sing.), Case No. 12, Request for Provisional Measures, Order, ITLOS Rep. 10, ¶ 74 (Oct. 8, 2003). Malaysia charged Singapore with a violation of the precautionary principle in relation to the latter's reclamation activities in Malaysian waters. *Id.*

309. *See, e.g.*, Stakeholder Forum for a Sustainable Future, Review of Implementation of the Rio Principles: Detailed review of Implementation of the Rio Principles (Study prepared by the Stakeholder Forum for a Sustainable Future for the Sustainable Development in the 21st Century Project) at 94, *available at* https://sustainabledevelopment.un.org/content/documents/1127rioprinciples.pdf (last accessed Jan. 26, 2018).

310. Agne Sirinskiene, The Status of Precautionary Principle: Moving Towards a Rule of Customary Law at 355-57, *available at* https://www.mruni.eu/upload/iblock/b27/20sirinskiene.pdf (last accessed Jan. 26, 2018). Some of the local legislation cited by the author are as follows: La Constitution – Charte de l'environnement de 2004 (France), National Strategy for Ecologically Sustainable Development (Australia), Environmental Protection Act (Australia), Oceans Act of Canada (Canada).

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Mozambique, South Africa,[311] and the Philippines.[312] Similarly, abundant jurisprudence upholding the Precautionary Principle has emerged in India,[313] Canada, Australia, Pakistan, Kenya,[314] and Indonesia.[315]

A great number of highly qualified publicists also firmly argued that the principle has crystallized into customary international law.[316] Their conviction on the issue is largely anchored on the entirety of indubitable proof attesting to the extensive State approval of the Precautionary Principle.

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311. *See* Cooney, *supra* note 59, at 17. Cooney cited Legislacion Ambiental Secundaria. Libro IV: Biodiversidad (Ecuador), Ley National 25.675 Ley General Del Ambiente, art. 4 (Argentina), National Strategy for Biological Diversity (Peru), Ley de Biodiversidad (Costa Rica), Mozambique Environmental Legislation (Mozambique), General Environmental Law of Cameroon (Cameroon), and National Environmental Management Act (South Africa). *See also* Stakeholder Forum for a Sustainable Future, *supra* note 309.

312. 2010 RULES OF PROCEDURE IN ENVIRONMENTAL CASES, rule 20, §§ 1-2.

313. Justice B.N. Kirpal, Developments in India Relating to Environmental Justice, *available at* http://staging.unep.org/delc/Portals/119/publications/Speeches/INDIA%20.pdf (last accessed Jan. 26, 2018). The author cited Vellore Citizens Welfare Forum v. Union of India & ORS, AIR 1996 SC 2715 (1996) (Ind.) and A. P. Pollution Control Board v. Nayudu, AIR 1999 SC 812 (1999) (Ind.).

314. *See* Chris Tollefson & Jamie Thornback, *Litigating the Precautionary Principle in Domestic Courts*, 19 J. ENVTL. L. & PRAC. 33, 40-43 (2008). The author cited the following cases: 114957 Canada Ltée (Spraytech) v. Hudson (Town), 2 SCR 241 (2001) (Can.); Leatch v. National Parks and Wildlife Service, 81 LGERA 270 (1993) (Austl.); Simpson v. Ballina Shire Council, 2006 NSWLEC 76 (2006) (Austl.); Nicholls v. Director General of National Parks and Wildlife Service, 81 LGERA 397 (1994) (Austl.); Shehla Zia v. WAPDA, 1994 PLD 693 (Pak.) & Odera v. National Environmental Management Authority, 2006 eKLR, *available at* http://kenyalaw.org/caselaw/cases/view/34035/ (last accessed Jan. 26, 2018) (Kenya).

315. *See* Simon Butt, *The Position of International Law Within the Indonesian Legal System*, 28 EMORY INT'L L. REV. 1 (2014).

316. ARIE TROUWBORST, EVOLUTION AND STATUS OF THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL LAW 286 (2002); FREESTONE & HEY, *supra* note 293, at 52; SANDS, *supra* note 56, at 279; BEYERLIN & MARAUHN *supra* note 60, at 55; Fullem, *supra* note 166, at 500; & Owen Mcintyre & Thomas Mosedale, *The Precautionary Principle As a Norm of Customary International Law*, 9 J. ENV'L. L. 221, 235 (1997).

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Based on the foregoing, therefore, it cannot be denied that there is overwhelming evidence to bolster the conclusion that the Precautionary Principle now reflects a principle of customary international law.[317]

*b. Opinio Juris*

For the element of *opinio juris* to exist, a State must have acted under the influence of a belief "that this practice is rendered obligatory by the existence of a rule of law requiring it."[318] In other words, *opinio juris* refers to the belief that a State activity is legally obligatory.[319] Since *opinio juris* is a subjective element, it is evidenced only by external manifestations by States.[320] As affirmed by ICJ Judge Kotaro Tanaka, there is "no other way than to ascertain the existence of *opinio juris* from the fact of the external existence of a certain custom."[321] As such, *opinio juris* may be deduced also from the actual conduct and behavior of States.

*Opinio juris* regarding the adoption of the Precautionary Principle is evinced by the general assent of States to the various international conventions and declarations that embody the principle. Furthermore, its increased inclusion in municipal legal systems worldwide as part of national legislation and jurisprudence also validates the position that States adhere to the Principle as a legal obligation. Another compelling indication of *opinio juris* is the incorporation of the Precautionary Principle in the World Charter for Nature, a UN General Assembly (GA) Resolution.[322] The ICJ categorically declared that UNGA Resolutions evince *opinio juris*.[323] Therefore, the totality of evidence proving the existence of State practice and *opinio juris* points to the conclusion that the Precautionary Principle has indeed crystallized into customary international law.

317. BEYERLIN & MARAUHN, *supra* note 60, at 55.

318. *North Sea Continental Shelf Cases*, 1969 I.C.J. at 44.

319. SHAW, *supra* note 280, at 84.

320. *Id.* at 87.

321. *North Sea Continental Shelf Cases* (Ger. v. Den.; Ger. v. Neth.), 1969 I.C.J at 176 (J. Tanaka, dissenting opinion).

322. World Charter for Nature, G.A. Res. 37/7, ¶ 12 (b), U.N. Doc. A/37/51 (Oct. 28, 1982).

323. *Military and Paramilitary Activities in and against Nicaragua*, 1986 I.C.J. at 99-100.

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2. The Role of Customary International Law in the Interpretation of WTO Law

As previously discussed, the DSU directs the dispute settlement bodies to interpret the provisions of WTO law according to the customary rules of treaty interpretation prescribed by the VCLT.[324] Article 31 (3) (c) of the VCLT requires that, in interpreting a treaty, one must take into account the "relevant rules of international law applicable in the relations between the parties."[325] This provision highlights the unity of international law such that no particular rule should be isolated from the rest.[326] The application of Article 31 (3) (c) is one approach to integrate external laws and principles, such as the Precautionary Principle, to the system of WTO law.

For the proper operation of Article 31 (3) (c), certain parameters must be observed. *First*, the international law to be considered must be "relevant," that is, it relates to the same subject matter involved in the treaty provision being interpreted.[327] *Second*, it must be a "rule of international law" or any of the generally accepted sources of public international law under Article 38 of the ICJ Statute[328] such as (i) international conventions, (ii) international custom, and (iii) general principles of law.[329] *Third*, the rule must be "applicable in the relations of the parties." VCLT defines a "party" as "a State which has consented to be bound by the treaty and for which the treaty is in force."[330] The *EC-Biotech Case* construed this phrase to mean that "the rules of international law to be taken into account in interpreting the WTO agreements ... are those which are applicable in the relations between WTO Members."[331]

324. *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.65.

325. GRUSZCZYNSKI, *supra* note 104, at 166 & VCLT, *supra* note 263, art. 31 (c).

326. Philippe Sands, *Environmental Protection in the twenty-first century: Sustainable Development and International Law*, *in* ENVIRONMENTAL LAW, THE ECONOMY AND SUSTAINABLE DEVELOPMENT: THE UNITED STATES, EUROPEAN UNION AND THE INTERNATIONAL COMMUNITY 401-02 (Richard Revesz, et al. eds., 2000).

327. GARDINER, *supra* note 266, at 260.

328. *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.67.

329. ICJ Statute, *supra* note 279, art. 38.

330. VCLT, *supra* note 259, art. 2, ¶ 1 (g) & GARDINER, *supra* note 266, at 263-65.

331. *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.68.

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In line with the standards of Article 31 (3) (c) of the VCLT, the Precautionary Principle, being an international custom, is a rule of international law that is relevant to GATT Articles XX (b) and (g)[332] and the SPS Agreement due to the common concern for the protection of human, animal, plant life or health, and the conservation of natural resources. The principle is applicable in the relations of the WTO Member-States considering that it has attained the status of customary international law, and is therefore obligatory on all States.

In the *Shrimp-Turtle Case*, the Appellate Body referred to international environmental law such as the UN Convention on the Law of the Sea,[333] the Convention on International Trade in Endangered Species of Wild Fauna and Flora,[334] and the CBD[335] to define the term "exhaustible natural resources" as used in GATT Article XX (g).[336] Although the challenged measure was eventually held to be unjustified, the Appellate Body read the language of Article XX (g) in light of the relevant provisions of environmental law.[337]

Accordingly, similar to the *Shrimp-Turtle Case*, and pursuant to Article 31 (3) (c) of the VCLT, the Precautionary Principle should be considered by the DSB in the interpretation of WTO agreements, especially the environment-related provisions under the GATT and the SPS Agreement.

The VCLT is unambiguous and obligatory in character in requiring the consideration of other relevant rules of international law in treaty interpretation.[338] Owing to its compulsory nature, conformity to Article 31

332. 1947 GATT, *supra* note 178, art. XX (b) & (g).

333. United Nations Convention on the Law of the Sea, *opened for signature* Dec. 10, 1982, 1833 U.N.T.S. 3 (Nov. 16, 1994).

334. Convention on International Trade in Endangered Species of Wild Flora and Fauna, *supra* note 287.

335. CBD, *supra* note 149.

336. *US-Shrimp AB Report*, *supra* note 211, ¶¶ 129-132.

337. Giorgo Sacerdoti, *WTO Law and the "Fragmentation" of International Law: Specificity, Integration, Conflicts*, *in* THE WTO: GOVERNANCE, DISPUTE SETTLEMENT & DEVELOPING COUNTRIES 607 (Merit Janow, et al. eds., 2008) (citing *US-Shrimps AB Report*, *supra* note 211, ¶¶ 129-130).

338. *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.69; VCLT, *supra* note 259, art. 31 (3) (c); & GARDINER, *supra* note 266, at 259.

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(3) (c) is not optional.[339] Rather, the Panel and Appellate Body are enjoined to take into account the Precautionary Principle in the interpretation of WTO law.[340]

### C. *Precautionary Principle as Embodied in Articles 3 (3) and 5 (7) of the SPS Agreement*

The Precautionary Principle has, in several cases, been unequivocally declared by the WTO dispute settlement body to be reflected in certain provisions of the SPS Agreement. Such recognition was first made in the *EC-Hormones Case*, wherein the Appellate Body clarified several significant points regarding the relationship between the Precautionary Principle and the SPS Agreement — including the Principle's expression in Articles 3 (3), 5 (7) — and the preamble of the SPS Agreement.[341] The same pronouncement was reiterated in *Japan-Varietals*,[342] *Japan-Measures Affecting the Importation of Appless*,[343] and *EC-Biotech*.[344] The express recognition of the Precautionary Principle in the text of the SPS Agreement is clear-cut evidence that confirms the applicability of the Principle in the context of trade, at least within the confines of the SPS Agreement.

#### 1. Article 5 (7) of the SPS Agreement

For a measure to validly fall under Article 5 (7) of the SPS Agreement,[345] four requirements must be met:

(1) The measure is "imposed in respect of a situation where 'relevant scientific information is insufficient[;']"[346]

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339. *Id.*

340. *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.69.

341. *EC-Hormones AB Report*, *supra* note 26, ¶ 124 & GRUSZCZYNSKI, *supra* note 104, at 167.

342. *Japan-Varietals AB Report*, *supra* note 240, ¶ 81.

343. *Japan-Apples AB Report*, *supra* note 240, ¶ 233.

344. *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.87.

345. SPS Agreement, *supra* note 157, art. 5 (7).

346. *Japan-Varietals AB Report*, *supra* note 240, ¶ 89; *Japan-Apples AB Report*, *supra* note 240, ¶ 176; & Panel Report, *United States — Continued Suspension of Obligations in the EC-Hormones Dispute*, ¶ 7.593, WT/DS320/R (Mar. 31, 2008) [hereinafter *US-Continued Suspension Panel Report*].

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(2) The measure is "adopted 'on the basis of available pertinent information[;']"[347]

(3) The Member "'seek[s] to obtain additional information necessary for a more objective assessment of risk[;']"[348] and

(4) The Member must "'review[ ] the ... measure accordingly within a reasonable period of time[.']"[349]

Article 5 (7) is the sole exception to the general requirements of risk assessment and sufficient scientific evidence.[350] The *Japan-Apples Case* highlighted that Article 5 (7) was designed for situations where little, or no, reliable evidence was available on the subject matter.[351] The *EC-Biotech Case* likewise affirmed that Article 5 (7) can be availed of whenever there is insufficient scientific evidence.[352] Hence, the condition of insufficiency of scientific evidence puts into operation Article 5 (7).[353]

A condition of scientific insufficiency exists if "a body of available scientific evidence does not allow, in quantitative or qualitative terms, the performance of an adequate assessment of risks as required in Article 5 (1) and as defined in Annex A to the SPS Agreement."[354] The *Japan-Apples Panel Report* emphasized that insufficient scientific evidence is not equivalent to scientific uncertainty.[355] One concept cannot be substituted by another; therefore, scientific uncertainty cannot trigger the application of Article 5 (7).[356] Consequently, the "existence of unknown and uncertain elements does not justify a departure from the requirements of Articles 5 (1), 5 (2) and

347. *Id.*

348. *Id.*

349. *Id.*

350. *Japan-Varietals AB Report*, *supra* note 240, ¶ 80 & Panel Report, *Australia — Measures Affecting Importation of Salmon*, ¶ 8.57, WT/DS18/R (June 12, 1998) [hereinafter *Australia-Salmon Panel Report*].

351. Panel Report, *Japan-Measures Affecting the Importation of Apples*, ¶ 8.219, WT/DS245/R (July 15, 2003) [hereinafter *Japan-Apples Panel Report*].

352. *EC-Biotech Panel Report*, *supra* note 27, ¶ 106.

353. Wirth, *supra* note 237, at 1182.

354. *Japan-Apples AB Report*, *supra* note 240, ¶ 179.

355. *Id.* ¶ 184.

356. *Id.*

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5 (3)" on risk assessment.[357] Following the WTO interpretation, only in situations where scientific evidence is lacking can a WTO Member derogate from the SPS requirements of scientific basis. In such cases, a State is authorized to adopt a precautionary (but provisional) SPS measure to achieve its desired level of protection.[358]

While the measure is being implemented, the Member is obliged to gather further information that is germane to the conduct of risk assessment.[359] Furthermore, the measure must be periodically reviewed to maintain the SPS measure's legitimacy under Article 5 (7).[360]

All four requisites above-mentioned must be satisfied to avail of the exception under Article 5 (7).[361] Due to its narrow accessibility, Article 5 (7) is often referred to by commentators as a limited "safe harbor."[362]

It should be noted, however, that these meticulous qualifications are not present in the broader and more flexible concept of the Precautionary Principle as understood in environmental law. Resort to the Precautionary Principle does not confine the range of permissible measures to one that is interim pending further investigation.[363] Neither does it restrict the use of precautionary measures only in situations of inadequacy of scientific information, but encompasses all forms of uncertainty. In fact, the Precautionary Principle is intended to address conditions characterized by complex uncertainties whose extent in time and depth cannot be determined by the current state of science, and where early action is crucial.[364]

Despite the foregoing discrepancies, the Precautionary Principle is comprehensive and far-reaching enough to encompass the specific situations sought to be addressed by Article 5 (7) of the SPS Agreement. As discussed in the previous chapter, "insufficiency" of scientific evidence falls within the wide scope of the term "lack of scientific certainty" for purposes of the

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357. Appellate Body Report, *Australia — Measures Affecting Importation of Salmon*, ¶ 130, WT/DS18/AB/R (June 12, 1998) [hereinafter *Australia-Salmon AB Report*].

358. GRUSZCZYNSKI, *supra* note 104, at 179.

359. *Japan-Varietals AB Report*, *supra* note 240, ¶ 92.

360. *Id.* ¶ 93.

361. Wirth, *supra* note 237, at 1173.

362. *Id.*

363. *Id.* at 1171-72.

364. *Id.* at 1172.

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Precautionary Principle. Besides, the Appellate Body in *United States — Continued Suspension of Obligations in the EC-Hormones Dispute* noted that the elements of Article 5.7 "must be interpreted keeping in mind that the precautionary principle finds reflection in these provisions."[365]

2. Article 3 (3) of the SPS Agreement

Aside from Article 5 (7), the Precautionary Principle finds reflection in Article 3 (3) and the sixth clause of the preamble by affirming the Members' right to determine their own appropriate level of protection.[366] Article 3 (3) allows a Member to set a level of protection higher than that implied in the standards prescribed by the Agreement,[367] and thus permits a State to adopt a more precautious approach against health and environmental threats. However, this provision is not an absolute right. Where a State intensifies its protective measures, scientific justification through risk assessment becomes an indispensable precondition.[368]

In light of the WTO's open admission that the Precautionary Principle is indeed written into the words of the preamble, Article 3 (3), and especially Article 5 (7), the SPS Agreement is undoubtedly an explicit point of entry for the application of the principle in deciding cases involving SPS measures.

## V. WTO JURISPRUDENCE ON THE APPLICATION OF THE PRECAUTIONARY PRINCIPLE IN TRADE DISPUTES

In a long line of cases, the WTO had opportunities to shed light on the application of the Precautionary Principle in international trade law. Unfortunately, however, the WTO has not only consistently refused to rule on the Principle's status under international law, but also constantly evaded the discourse on its applicability in trade conflicts. The WTO's reluctance to accept the Precautionary Principle was aggravated by its strict construction of WTO law. In effect, the WTO has restrained the Members' discretion to

365. Appellate Body Report, *United States — Continued Suspension of Obligations in the EC-Hormones Dispute*, ¶ 680, WT/DS320/AB/R (Oct. 16, 2008) [hereinafter *US-Continued Suspension AB Report*].

366. SPS Agreement, *supra* note 157, art. 3 (3) & pmbl. & *EC-Hormones AB Report*, *supra* note 26, ¶ 124.

367. SPS Agreement, *supra* note 157, art. 3 (3) & *EC-Hormones AB Report*, *supra* note 26, ¶ 172.

368. *EC-Hormones AB Report*, *supra* note 26, ¶ 173.

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determine their desired level of protection and to take related action, whether or not precautionary in nature.

To date, there are seven relevant cases where the Precautionary Principle was involved, namely: (A) *EC-Hormones Case*; (B) *Australia — Measures Affecting Importation of Salmon*;[369] (C) *Japan — Measures Affecting Agricultural Products*;[370] (D) *EC-Asbestos Case*; (E) *Japan-Apples Case*; (F) *EC-Biotech Case*; and (G) *US-Continued Suspension Case*. None of these rulings addressed the questions of when, and how, the Precautionary Principle may appropriately be put into operation in the context of trade and consequently, be relied upon by the WTO Members.[371] Each case will be examined in chronological order.

*A. EC-Hormones Case*

The *EC-Hormones Case*,[372] which involved the US and Canada against the European Communities (EC), was the first case decided under the SPS Agreement.[373] Being the first to set a chain of SPS disputes in motion, the Panel and the Appellate Body discussed extensively the legal application of the SPS Agreement and touched upon the Precautionary Principle.[374]

The challenged measure is the prohibition imposed by the EC on the importation of meat and meat products that were administered with growth-promoting hormones.[375] The import ban was prompted by the growing concern among the European consumers with respect to the use of growth-promoting hormones in cattle after hormonal irregularities were reported among adolescents and cattle meat was suspected as the main cause.[376] Affected by the import ban, the US and Canada elevated their concerns to

369. Appellate Body Report, *Australia — Measures Affecting Importation of Salmon*, WT/DS18/AB/R (June 12, 1998) [hereinafter *Australia-Salmon AB Report*].

370. Panel Report, *Japan — Measures Affecting Agricultural Products*, WT/DS76/R (Oct. 27, 1998).

371. Wirth, *supra* note 237, at 1172.

372. *EC-Hormones Panel Report*, *supra* note 225.

373. Wirth, *supra* note 237, at 1168.

374. *Id.*

375. *EC-Hormones Panel Report*, *supra* note 225, ¶ 2.2.

376. *Id.* ¶ 2.26.

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the WTO dispute settlement body contending that the measure was in contravention of the GATT and SPS provisions.[377]

In its defense, the EC repeatedly insisted that it took a precautionary approach because none of the scientific reports it presented proved beyond doubt that the meat of hormone-treated animals were safe for human consumption and that it was reluctant to accept any risk of hormone residues and carcinogens in meat.[378] It intended to avoid health hazards that become apparent long after substances had been assumed to be safe.[379] In addition, the EC invoked the Precautionary Principle to support its argument that it complied with the required risk assessment under Article 5 (1) of the SPS Agreement.[380]

Unconvinced, the Panel stated that the Precautionary Principle cannot prevail over the requirements of Articles 5 (1) and 5 (2) on risk assessment.[381] But although the Panel rejected the EC' arguments it, nonetheless, made the first categorical pronouncement that the Precautionary Principle is assimilated into the provisions of the SPS Agreement, particularly Article 5 (7).

On appeal, the EC raised the issue of "[w]hether or to what extent, the Precautionary Principle is relevant in the interpretation of the SPS Agreement."[382] The EC argued that the Principle is already an international custom or, alternatively, a general principle of law.[383] It added that all scientific experts need not concur in assessing the detected risk or the

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377. *Id.* ¶ 3.1.

378. *Id.* ¶¶ 4.16 & 4.52

379. *Id.* ¶ 4.203

380. *Id.* ¶¶ 4.202 & 8.157.

381. *EC-Hormones Panel Report*, *supra* note 225, ¶ 8.157. According to the Panel —

> To the extent that this principle could be considered as part of customary international law and be used to interpret Articles 5.1 and 5.2 on the assessment of risks as a customary rule of interpretation of public international law, *this principle would not override the explicit wording of Articles 5.1 and 5.2*, in particular since the *precautionary principle has been incorporated and given a specific meaning in Article 5.7* of the SPS Agreement.

*Id.* (emphases supplied).

382. *EC-Hormones AB Report*, *supra* note 26, ¶ 96 (c).

383. *Id.* ¶ 121.

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likelihood of its occurrence.[384] Its precautionary measures did not violate the SPS Agreement since no specific form for compliance with the risk assessment requirement was given.[385]

The Appellate Body held that the status of the Precautionary Principle in international law is still contested.[386] Its acceptance by the WTO Members, whether as a general principle or customary law, was unclear and that the principle "at least outside the field of international environmental law, still awaits authoritative formulation."[387] Consequently, in the Appellate Body's view, taking a position on the controversy is unwarranted by the present dispute.[388]

Despite the refusal to make a stand on the issue, the appellate ruling made significant and helpful pronouncements on the relation between the Precautionary Principle and the SPS Agreement.[389] In summary, the

384. *Id.*

385. *Id.*

386. *Id.* ¶ 123.

387. *Id.*

388. *EC-Hormones AB Report*, *supra* note 26, ¶ 123.

389. *Id.* ¶ 124. This states —

> First, the principle has not been written into the SPS Agreement as a ground for justifying SPS measures that are otherwise inconsistent with the obligations of Members set out in particular provisions of that Agreement.
>
> Second [ ], the precautionary principle indeed finds reflection in Article 5.7 of the SPS Agreement. [ ] Article 5.7 does not exhaust the relevance of the precautionary principle. It is [also] reflected in the sixth paragraph of the preamble and in Article 3.3. These explicitly recognize the right of Members to establish their own appropriate level of sanitary protection which may be higher (i.e., more cautious) than that implied in existing international standards, guidelines[,] and recommendations.
>
> Third [ ], a panel charged with determining whether "sufficient scientific evidence" exists to warrant the maintenance of an SPS measure may and should bear in mind 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.
>
> Lastly, [ ] the precautionary principle does not, by itself, without a clear textual directive to that effect, relieve a panel from the duty of

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Appellate Body accepted the Panel's view that the Precautionary Principle indeed forms part of the SPS Agreement, specifically Articles 3 (3) and 5 (7) and the preamble. However, it also affirmed that the principle does not overrule the specific obligations under the SPS Agreement, particularly the requirements on risk assessment.[390] The principle cannot, in and of itself, validate trade measures that infringe on the provisions of the Agreement. These declarations by the Appellate Body suggest that although States may take a precautionary approach in the enactment of trade policies, they must still conform to the requirements of the SPS Agreement.

The Appellate Body also proposed that the Panel keep in mind that governments ordinarily have to decide and act based on prudence and precaution in situations involving irreversible risks to human health.[391] While it is true that this statement did not use the term "Precautionary Principle," and that the final verdict in the case did not validate the precautionary arguments of the EC, such statement is arguably a formulation that bears resemblance to the language of the Precautionary Principle.[392]

The Appellate Body also supported the claim that Members have an autonomous right to determine their own appropriate level of sanitary protection.[393] This right finds expression in Article 3.3, which is an embodiment of the Precautionary Principle. Accordingly, a WTO Member may elect its preferred degree of protection or the level of risk it is willing to tolerate, such as the EC' zero-risk policy by way of an outright prohibition of the hormone-treated meat and meat products.[394]

However, the Appellate Body cautioned that this discretion granted to WTO Members is neither absolute nor unqualified.[395] The risk assessment requirement was designed to balance and harmonize the policies underlying international trade and the Members' right to protect life and health.[396] On a

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> applying the normal [ ] principles of treaty interpretation in reading the provisions of the SPS Agreement.

*Id.*

390. *Id.* ¶ 125.

391. *Id.* ¶ 124.

392. *See* Wagner, *supra* note 248.

393. *EC-Hormones AB Report, supra* note 26, ¶ 172.

394. *EC-Hormones Panel Report, supra* note 225, ¶ 4.52.

395. *EC-Hormones AB Report, supra* note 26, ¶ 173.

396. *Id.* ¶ 177.

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more positive note, the Appellate Body stated that the risk assessment need not be built upon the majority opinion of scientific experts.[397] Opposing views may be considered as an indication of scientific uncertainty and that, as a consequence, "governments may act in good faith on the basis of what, at a given time, may be a divergent opinion coming from qualified and respected sources."[398]

Noticeably, the foregoing pronouncements indicate that the WTO does not completely isolate international trade from the concept of the Precautionary Principle. It recognized the reality that scientific certainty is not always within reach and that national authorities may rely and act upon divergent or minority views. More importantly, the Appellate Body had implicitly created a niche wherein (i) *first*, the Precautionary Principle may properly carry out its purpose in preventing harm, and (ii) *second*, its effects may be tempered by exacting compliance with the requirement of a risk assessment. That niche lies in the determination of a Member's appropriate level of protection.

Ultimately, the EC measure did not pass the scrutiny of the DSB as it was found to be inconsistent with the requirements of sufficient scientific evidence (Article 2 (2)) and risk assessment (Article 5 (1) of the SPS Agreement). The Precautionary Principle gained disfavor from both the Panel and the Appellate Body. Be that as it may, the explicit recognition of the Precautionary Principle in the SPS Agreement, as well as the right of the Members to determine their own level of protection, is undoubtedly a valuable starting point and a good precedent for establishing the applicability and the precise role of the Principle in trade.

*B. Australia-Salmon Case*

In *Australia-Salmon*,[399] the identification of disease agents associated with Canadian salmon[400] urged Australia to prohibit the importation of salmon products which have not been subjected to certain heat treatment.[401] Canada

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397. *Id.* ¶ 194.

398. *Id.*

399. Panel Report, *Australia — Measures Affecting Importation of Salmon*, WT/DS18/R (June 12, 1998) [hereinafter *Australia-Salmon Panel Report*].

400. *Id.* ¶ 2.11.

401. *Id.* ¶ 2.1.

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complained of violations of GATT Article XI prohibiting quantitative trade restrictions and the SPS Agreement.[402]

Australia argued that the import ban is a "sanitary measure" under the SPS Agreement and is intended to protect the life and health of domestic salmon and other aquatic animals against disease. It expressed fears that infected Canadian salmon could find its way to Australian waters where it might be consumed by aquatic animals, thus adversely affect animal health.[403] Australia contends that the determination of an appropriate level of protection is a sovereign prerogative of the State, and that it had always been conservative in setting its level of protection.[404] Australia, therefore, asserted its right to adopt a cautious approach and maintained that Members are entitled to take action even in the face of scientific uncertainty.[405]

The Panel found violations of the requirement on risk assessment because the scientific report and risk assessment submitted by Australia covered only a limited range of salmon products, and thus did not warrant the extensive scope of the imposed measure.[406]

Although no discussion was made on the Precautionary Principle, the Appellate Body confirmed that a Member may set its appropriate level of protection at "zero risk."[407] Such a declaration carries far-reaching implications for at one end, it is supportive of the Precautionary Principle, but on the flipside, it could encourage harsh trade restrictions in contravention of the spirit of WTO law.

*C. Japan-Varietals Case*

In *Japan-Varietals*, Japan prohibited the importation of eight agricultural products originating from the US, including apples and peaches, due to possible transmission of a pest called the coddling moth.[408] The import ban was only lifted after Japan verified the effectivity of the exporting State's

402. *Id.* ¶ 3.1.

403. *Id.* ¶ 8.32.

404. *Id.* ¶¶ 4.177-4.179.

405. *Australia-Salmon Panel Report, supra* note 399, ¶ 4.77.

406. *Id.* ¶¶ 9.1 & 8.59.

407. *Australia-Salmon AB Report, supra* note 357, ¶ 125.

408. *Japan-Varietals AB Report, supra* note 240, ¶¶ 1-2.

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quarantine treatment on each variety of agricultural product[409] and confirmed that it achieves the level of protection desired by Japan.[410] The US questioned the varietal testing requirement in order to gain access to the Japanese market, alleging violations of the SPS Agreement, including Articles 2 (2) and 5 (7).[411]

Japan argued that it conducted a risk assessment in compliance with the Food and Agriculture Organization's guidelines.[412] Based on a sufficient amount of scientific literature and data which revealed the possible significant differences in the efficacy of disinfestation measures across varieties of agricultural products,[413] Japan decided that the varietal testing requirement was the appropriate measure.[414]

The Panel consulted a group of experts pursuant to Article 11 of the DSU and concluded that the measure was maintained without sufficient scientific evidence.[415] Relying on expert opinion, the Panel ruled that there was no "causal link" between the different test results per variety and the varietal differences, as the former could have resulted from other factors unrelated to the latter.[416]

It should be noted that the Panel made a clarification that the experts' opinions are "opinions on the evidence submitted by the parties" and that it is "not empowered nor are the experts advising the Panel to conduct [their] own risk assessment."[417] However, it seems that the scientific findings and the risk assessment presented by Japan proving the risk of pest dispersal were effectively negated by expert opinion that the variations in testing results was

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409. *Id.*

410. *Id.*

411. Panel Report, *Japan-Varietals AB Report - Measures Affecting Agricultural Products*, ¶ 8.30, WT/DS76//R (Oct. 27, 1998) [hereinafter *Japan-Varietals Panel Report*].

412. *Id.* ¶ 4.26.

413. *Id.* ¶¶ 4.60-4.70.

414. *Id.*

415. *Id.* ¶¶ 6.2 & 8.53 & DSU, *supra* note 261, art. 11. Article 11 of the DSU provides that "a panel should make an objective assessment of the matter before it, including an objective assessment of the facts of the case and the applicability of and conformity with the relevant covered agreements." *Id.*

416. *Japan-Varietals Panel Report*, *supra* note 411, ¶¶ 8.40-8.43.

417. *Id.* ¶ 8.32.

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not attributable to product varieties. In effect, therefore, the Panel's ruling employed the judgment of the experts as basis.

At the appellate level, Japan expressly incorporated the Precautionary Principle in its submissions. In Japan's view, the requirement of a "causal link" between the test results and the agricultural varieties denied the application of the Precautionary Principle.[418] Japan also contended that the varietal testing requirement had to be appreciated considering the Precautionary Principle.[419]

The Appellate Body mainly upheld the Panel's findings regardless of Japan's comprehensive risk assessment. Regarding the Precautionary Principle, the Appellate Body merely noted Japan's argument and, in response, reiterated the ruling in *EC-Hormones* that the Precautionary Principle is not a justification for a measure that runs contrary to the requirements of the SPS Agreement.[420]

Disappointingly, the DSB mainly endorsed the experts' scientific views in concluding that no sufficient scientific evidence warranted Japan's varietal testing requirement despite Japan's risk assessment.

*D. EC-Asbestos Case*

*EC-Asbestos* is the first case which successfully hurdled the strict exception under GATT Article XX (b).[421] Here, Canada complained of the French government's import ban on asbestos and asbestos products.[422] On behalf of France, the EC submitted that asbestos is internationally recognized to be carcinogenic and that the import ban is intended to stop the spread of health risks associated with asbestos, hence, necessary to protect human life and

418. *Japan-Varietals AB Report*, *supra* note 240, ¶ 9.

419. *Id.* ¶ 10.

420. *Id.* ¶ 81.

421. Hans-Joachim Priess & Christian Pitschas, *Protection of Public Health and the Role of the Precautionary Principle under WTO Law: A Trojan Horse before Geneva's Walls?* 24 FORDHAM INT'L L.J. 519, 540 (2000). *See generally EC-Asbestos Panel Report*, *supra* note 198.

422. *EC-Asbestos Panel Report*, *supra* note 198, ¶¶ 2.3 & 3.4.

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health.[423] Both the Panel and the Appellate Body found satisfactory justification in GATT Article XX(b).[424]

Although the Precautionary Principle was not delved into, the Panel and Appellate Body rulings resonated the relevance of precaution in international trade. The Panel affirmed that under Article XX, absolute certainty is not required, and to require otherwise would effectively render impossible the enactment of public health laws.[425] The Appellate Body seconded the Panel's stand and declared that "a Member may also rely, in good faith, on scientific sources which, at that time, may represent a divergent, but qualified and respected, opinion".[426] In sum, both adjudicating bodies recognized the reality of scientific uncertainty and the possibility of contradicting scientific views. Consequently, in setting a health policy, a State is not required to follow "automatically what, at a given time, may constitute a majority scientific opinion."[427]

Because of the foregoing declarations, commentators have remarked that the *EC-Asbestos* decision may have opened the door for the Precautionary Principle to be applied under GATT Article XX (b).[428] To a considerable extent, the Panel and Appellate Body not only accorded deference to domestic authorities' preference in terms of the acceptable level of risk, but also took into account the importance of public health as a societal value to be protected.[429] The ruling's implication on the Precautionary Principle is unprecedented. A Member may, therefore, validly rely on scientific information that may be contradictory or lacking in certainty upon which it could base its appropriate level of protection and corresponding action, including one that is precautionary in character.

It should be noted, however, that the French government is not confronted with a situation of scientific uncertainty. There was abundant information available confirming the health risk posed by asbestos and asbestos-containing products.[430] Nevertheless, the Panel dealt with a

423. *Id.* ¶¶ 3.109 & 3.276.

424. *Id.* ¶ 8.241.

425. *Id.* ¶ 8.221.

426. *EC-Asbestos AB Report*, *supra* note 205, ¶ 178.

427. *Id.*

428. Wagner, *supra* note 248, at 747-48.

429. *Id.*

430. Priess & Pitschas, *supra* note 417, at 541.

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situation where the parties were in disagreement on the existence of the risk.[431] And, pertinently, the above-quoted pronouncements clearly demonstrated, at the very least, an affirmation of the essence of the Precautionary Principle in relation to trade regulations.

*E. Japan-Apples Case*

In *Japan-Apples*, the Japanese government prohibited the importation of apples from the US for being potential host plants for fire blight bacteria.[432] The ban may be lifted if the exporting country satisfied Japan's requirements for fire blight treatment and achieved its desired level of protection.[433] The US questioned the measure alleging that Japan imposed nine requirements before US apples were permitted entry contrary to the provisions of the SPS Agreement.[434]

Japan argued that numerous scientific literature established that fire blight bacteria were capable of long-term survival on mature and ostensibly symptomless apples.[435] The apple fruit could be found fit for exportation but is actually contaminated all along with the symptoms appearing only much later on.[436] Once introduced into Japan, the bacteria could grow and spread infection to Japan's agricultural products, and thus result in irreversible economic injury to the country.[437]

To support its contentions, Japan performed two full pest risk analyses.[438] Its scientific evidence determined the steps in the pathway in order for fire blight bacteria to propagate through the importation of apple fruits from the US, with each step backed by scientific reports.[439] Japan also referred to previous occurrences of fire blight dissemination across States and emphasized that no study had identified the exact pathway for the

431. *Id.* at 538.

432. *Japan-Apples Panel Report*, *supra* note 351, ¶ 2.18.

433. *Id.*

434. *Id.* ¶ 4.17.

435. *Id.* ¶ 4.50.

436. *Id.*

437. *Id.* ¶ 4.50.

438. *Japan-Apples Panel Report*, *supra* note 351, ¶ 4.129.

439. *Id.* ¶ 4.148.

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transmission of the bacteria.[440] It argued, therefore, that apple fruit could not be excluded as a means for the bacteria to spread geographically.[441]

The Panel consulted with scientific experts who all concurred that the risk of fire blight transmission through apples is "negligible."[442] According to them, evidence suggested that the pathway through contaminated fruits could not be completed and hence, the spread of the bacteria is highly unlikely.[443]

Ultimately, the Panel decided against Japan due to its non-observance with the requirements of sufficient scientific evidence (Article 2 (2)), risk assessment (Article 5 (1)), and provisional SPS measure (Article 5 (7)).[444] The Panel deduced that since the probability of bacterial transmission by mature apple fruit is unlikely and negligible, Japan's import ban was maintained without sufficient scientific evidence.[445] This conclusion was reached by the Panel relying heavily on expert opinion notwithstanding Japan's risk assessment and scientific studies strongly corroborating its position and rationalizing its trade restriction.

On appeal, Japan raised the Panel's failure to take into account "the Precautionary Principle and the need for caution that was expressed by the experts."[446] The Appellate Body retorted by saying that the Precautionary Principle still lacks "authoritative formulation" outside the field of environmental law, but nevertheless remained relevant for purposes of applying the SPS Agreement.[447] But, like the previous rulings, the Appellate Body merely reaffirmed that the Precautionary Principle does not relieve compliance with the specific obligations contained in the WTO agreements.[448]

In arriving at its decision, the Appellate Body interpreted Japan's argument of Precautionary Principle to be an expression of disagreement

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440. *Id.* ¶ 8.73.

441. *Id.*

442. *Id.* ¶¶ 6.2-6.194.

443. *Id.*

444. *Japan-Apples Panel Report*, *supra* note 351, ¶¶ 6.2-6.194.

445. *Id.* ¶¶ 8.173-8.176.

446. *Japan-Apples AB Report*, *supra* note 240, ¶¶ 50 & 232.

447. *Id.* ¶ 233.

448. *Id.*

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with the Panel's evaluation of the experts' opinion.[449] In the Appellate Body's understanding, Japan was contending that the Panel did not consider the experts' advice of taking caution against the immediate and complete elimination of Japan's trade measures.[450] The Appellate Body thus quickly brushed aside Japan's contention and stressed that there was reference to the experts' note of caution in the Panel report.[451]

It may be argued that the Appellate Body misconstrued Japan's submission. From a reading of Japan's contention, it may be observed that Japan raised two matters which the Panel allegedly failed to consider: (1) the Precautionary Principle *and* (2) the caution expressed by the experts. Following this interpretation, the Appellate Body should have addressed the issue of Precautionary Principle independently from the experts' opinion.

Another argument raised by Japan revealed its precautionary perspective on the issue. In Japan's view, the Panel should have interpreted the SPS requirements of scientific basis in such a way that an importing Member is afforded "a certain degree of discretion."[452] According to Japan, its approach, which was based on historical facts of fire blight expansion and the uncertainty surrounding the bacteria's pathway transmission, was guided by prudence and precaution.[453] The Panel deprived Japan of such discretion when it examined the evidence per the experts' judgment, notwithstanding Japan's evidence to the contrary.[454] The Panel further declared that Japan's risk assessment lacked the required specificity considering that Japan examined a range of potential hosts including apple, but not apple fruit exclusively.[455]

The Appellate Body addressed Japan's concerns by referring to Article 11 of the DSU which prescribes an "objective assessment of the facts."[456] According to the Appellate Body, deference to domestic scientific analysis would not guarantee an "objective assessment of the facts" and that the Panel, as trier of facts, is entitled to a margin of discretion to consider and

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449. *Id.* ¶ 234.

450. *Id.*

451. *Id.* ¶ 237.

452. *Japan-Apples Panel Report*, *supra* note 351, ¶ 150.

453. *Id.*

454. *Id.*

455. *Id.* ¶ 203.

456. *Id.* ¶¶ 165-167.

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place more weight on expert opinion.[457] Consequently, the Appellate Body sustained the finding that the risk assessment was not specific enough as required by Article 5 (1).[458]

From the discussion above, it can be gleaned that the *Japan-Apples Case* is an exceptional ruling for three reasons. *First*, the Appellate Body abstained from explaining the applicability of the Precautionary Principle apparently due to a misunderstanding of Japan's contention. *Second*, the case clearly demonstrated the adjudicating bodies' propensity to adhere to expert views. The ruling showed a blatant disregard of Japan's pool of scientific evidence despite the strong validation of the presence of the risk of bacterial transmission. *Third*, what is more disturbing is the Appellate Body's judgment that the risk was "negligible" and hence, the trade measure was maintained without sufficient scientific evidence. The experts confirmed the real existence of the risk. Yet, the Appellate Body decided to appraise it as "negligible" — an evaluation that is not for the Appellate Body to make, but for Japan. Essentially, therefore, Japan was denied the prerogative to set its appropriate level of protection and to take precautionary measures in light of its own characterization of the identified risks, whether negligible or not.

*F. EC-Biotech Case*

The *EC-Biotech Case* involved the US, Canada, and Argentina as Complainants, and the EC as the Respondent.[459] The challenged measures were the (1) EC' prior approval scheme for biotech products, (2) the alleged moratorium on the approval scheme, and (3) the individual Member's trade restrictions on specific biotech products.[460]

With the objective of protecting human health and environment, the EC placed a system that evaluated the health and environment-related risks which bioengineered items might produce and, subsequently, authorized their entry in the EC.[461] The complainants alleged that the EC had suspended the approval of biotech products for nearly five years.[462]

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457. *Id.*

458. *Japan-Varietals AB Report*, *supra* note 240, ¶¶ 165-167.

459. *EC-Biotech Panel Report*, *supra* note 27, ¶ 7.98.

460. *Id.* ¶ 2.4.

461. *Id.*

462. *Id.* ¶ 4.202.

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The Panel engaged in a comprehensive discussion of the relevance of other rules of international law in the interpretation of WTO agreements citing Article 31 (3) (c) of the VCLT.[463] In response to the EC' contention that the "precautionary principle has, by now, become a full-fledged and general principle of law," the Panel quoted pertinent portions of the *EC-Hormones Case* regarding the indefinite status of the principle.[464] The Panel acknowledged the incorporation of the Precautionary Principle in various international conventions and declarations, but noted that the debate over the status of the principle is not yet over and, that to date, no adjudicatory body has confirmed such status as general principle or custom.[465]

The Panel did not address the issue of the Precautionary Principle in greater detail believing that it was irrelevant to the dispute.[466] However, contrary to the Panel's reasoning, the EC' prior approval scheme is in itself a concrete representation of precautionary action. By requiring approval before a product may be placed in domestic markets, the EC assumed a cautious position to prevent the introduction of potentially destructive bioengineered products. Thus, the excuse of the Panel in sidestepping the discussion on the Precautionary Principle lies on flimsy grounds.

The Precautionary Principle was again raised as a defense by the EC in relation to alleged violations of Article 8 of the SPS Agreement. Article 8 requires compliance by WTO Members with Annex C which, in turn, mandates that the procedure in the fulfillment of the SPS measure be carried out without "undue delay."[467] According to the EC, the delay in approving the biotech products was excused by legitimate requests for additional information necessary for risk assessment. The Precautionary Principle should be considered when assessing the "undueness" of the delay.[468] The EC adopted a prudent and precautionary approach in the identification, assessment and management of health and environmental risks due to the current unreliability of science as regards GMOs.[469]

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463. *Id.*

464. *Id.* ¶ 7.87.

465. *EC-Biotech Panel Report, supra* note 27, ¶ 7.88.

466. *Id.* ¶ 7.3211.

467. SPS Agreement, *supra* note 261, art. 3.

468. *EC-Biotech Panel Report, supra* note 27, ¶ 7.1485.

469. *Id.* ¶ 7.1521.

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Although the Panel did not address the argument on the Precautionary Principle, nonetheless, its ruling expressed a distinctly open attitude towards the Principle. The Panel ruled that "Annex C (1) (a) does not preclude the application of a prudent and precautionary approach to identifying, assessing, and managing of risks to human health and environment arising from GMOs[,]" and that it allows Members to take reasonable time to determine with adequate confidence whether its SPS requirements are fulfilled.[470] Such declarations divulged its amenability to the application of the Precautionary Principle. Without violating the provisions of Annex C, a Member may, therefore, assume a precautionary position and put on hold the approval of potentially harmful products pending the presentation of adequate proof and information establishing their safety.

### G. *US-Continued Suspension Case*

The *US-Continued Suspension Case* is an offshoot of the *EC-Hormones Case* which involved the EC' prohibition on meat products from animals treated with growth-promoting hormones. Due to the EC' failure to abide by the ruling in *EC-Hormones* within a reasonable time, the US and Canada secured the DSB's permission to suspend some obligations under the WTO agreements.[471] As a result, both the US and Canada imposed 100 percent import duties on certain products originating from EC Member States.[472]

Meanwhile, the EC issued a Directive maintaining a ban on meat treated with specific hormones.[473] Citing as its basis three opinions from a recognized scientific institution and 17 commissioned studies,[474] the EC claimed that its trade measure had complied with DSB rulings and covered agreements.[475] Therefore, the US' and Canada's continued suspension of concession lacked justification.[476]

To determine if the previously invalidated EC measure had been eradicated and whether the continued suspension was still authorized, the

470. *Id.* ¶¶ 7.1522-7.1523.

471. *US-Continued Suspension AB Report*, *supra* note 365, ¶ 266.

472. *Id.*

473. *Id.* ¶ 267.

474. *Id.*

475. *Id.* ¶ 268.

476. *Id.*

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Panel verified if the new import ban complied with the SPS Agreement.[477] Relying on expert opinion, the Panel found the EC' risk assessment and scientific research to have fallen short of the SPS requirements.[478]

On appeal, however, a major overturn of the Panel decision ensued. The EC charged the Panel with a violation of the duty to make an "objective assessment of facts" under Article 11 of the DSU.[479] According to the EC, the Panel disregarded the Members' entitlement to rely on opposing scientific views from credible sources by ascertaining the "correct scientific conclusions" based on the experts' views.[480] The Panel must respect the Member's preferred level of protection and its review power extends only to the determination of reasonable scientific backing for the measure.[481] The Panel is not authorized to substitute its scientific judgment for that of the Member involved.[482]

The Appellate Body finally made progressive pronouncements addressing the long overdue challenge on the adjudicating bodies' authority and standard of review. It clarified that it is the WTO Member's task to perform the risk assessment, whereas the panel only "reviews" the risk assessment, not whether it is correct, but only whether it is supported by coherent and respectable scientific evidence.[483] Thus, the Appellate Body highlighted that the Panel cannot evaluate the correctness of the risk assessment, otherwise it would be substituting its judgment for that of the Member. The Panel's extent of review is confined to a determination of whether or not the measure is backed up by sound scientific evidence. Consequently, the Appellate Body openly denounced the Panel's arrogant declaration that it has the freedom to select which evidence to consider. The Appellate Body rejected the Panel's finding that there was no "appreciable risk" of cancer resulting from meat administered with hormones.[484] Because the Panel seemed to have based its decision mainly on the experts' advice, it

477. *US-Continued Suspension Panel Report*, *supra* note 349, ¶ 7.375.

478. *Id.* ¶ 7.573.

479. *US-Continued Suspension AB Report*, *supra* note 365, ¶ 514.

480. *Id.*

481. *Id.*

482. *Id.*

483. *Id.* ¶ 590.

484. *Id.* ¶ 614.

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violated its mandate under DSU Article 11 to conduct an "objective assessment of facts."[485]

The Appellate Body went further in clarifying the parameters in the Panel's conduct of review. In determining whether an SPS measure is "based on risk assessment," the Appellate Body laid down a checklist for the Panel to consult in keeping with its limited scope of review. In summary:

(1) *First*, the Panel must "identify the scientific basis"[486] behind the SPS measure. The scientific basis may reflect divergent or minority views, and not necessarily the majority opinion.

(2) *Second*, the Panel must "verify that the scientific basis comes from a respected and qualified source."[487]

(3) *Third*, the Panel should "assess whether the reasoning on the basis of the scientific evidence is objective and coherent."[488]

(4) *Lastly*, the Panel should "determine whether the results of the risk assessment 'sufficiently warrant' the SPS measure."[489]

Despite the above-mentioned limitations, the Appellate Body made it clear that the Panel is not precluded from consulting scientific experts.[490] However, the assistance of the experts is also curbed by the same restrictions imposed upon the Panel.[491] Stated otherwise, the experts' opinions should only aid the Panel in carrying out the four tasks outlined above.

While the Appellate Body seemed to have rectified the Panel's habit of impinging on the Members' level of protection and their scientific basis, the Precautionary Principle, however, was set aside yet again by the Appellate Body.

Nevertheless, the Appellate Body's firm and compelling stand on the limited extent of the Panel's authority to review the challenged SPS measure is a major deviation from a long line of cases which perpetuated the Panel's

485. *US-Continued Suspension AB Report*, *supra* note 361, ¶¶ 598 & 616.

486. *Id.* ¶ 591.

487. *Id.*

488. *Id.*

489. *Id.*

490. *Id.* ¶ 592.

491. *US-Continued Suspension AB Report*, *supra* note 361, ¶ 592.

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inclination to encroach on the Member-States' scientific evaluation. The Appellate Body's ruling can be used as a robust foundation for the Precautionary Principle to genuinely function within the WTO framework.

*H. Summary of Relevant WTO Case Law*

To summarize the foregoing analyses, both the Panel and Appellate Body have consistently held that the Precautionary Principle lacks authoritative formulation outside of international environmental law and that its status remains the subject of debate. Although certain provisions of the SPS Agreement echo the Principle, it cannot be used a justification for a measure that is inconsistent with the Agreement.

As regards the requirement for scientific basis, in two notable cases, namely *Japan-Varietals* and *Japan-Apples*, the Panel and Appellate Body strictly adhered to the opinion of the experts and declared that the measure lacked scientific basis, thereby brushing aside the data and evidence presented by Japan.

On a lighter note, the cases of *EC-Hormones*, *Australia-Salmon* and *EC-Asbestos* supported the view that Members have the right to determine their own level of protection. And in *US-Continued Suspension*, the Appellate Body emphasized and outlined the limitations of the Panel's authority to "review" a trade measure.

*I. Apprehensive Attitude of the WTO Towards the Precautionary Principle*

The seven cases examined above demonstrated the obstinate refusal of the WTO to elucidate on the application of the Precautionary Principle in trade cases. Evidently, the WTO has a natural tendency to adhere to a strict construction of WTO law.[492] Despite the arguments invoking the Precautionary Principle, none of the foregoing rulings addressed the role which the Principle can assume in the resolution of trade conflict.[493]

While case law reveals that the Precautionary Principle is indeed part of the WTO regime, the critical questions as to how and to what extent it can be appreciated in favor of cautious and protective government decision-makers are left unanswered. If at all, the WTO discussed precaution in its rulings, it did not completely and directly confront the challenge posed by the Precautionary Principle. Rather, it strictly and consistently adhered to

492. Wagner, *supra* note 248, at 761.

493. Wirth, *supra* note 236, at 1182.

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the rudiments of the GATT and the SPS Agreement. As noted by a commentator, "[t]he WTO dispute settlement mechanism has declined to grapple with these weighty issues, instead eliminating precaution as a legitimate basis for governmental decision-making from consideration altogether."[494] As a result of this elusive attitude of the WTO, Member-States continue to struggle and remain clueless as to how far they can rely on the Precautionary Principle to defend their policy measures.[495]

The categorical declaration and the constant reaffirmation that the Precautionary Principle is embodied in Article 5 (7) of the SPS Agreement is both a sign of progress and a setback. While jurisprudence confirms that a State may use the Precautionary Principle as embodied in Article 5 (7), albeit with qualifications, no State has successfully relied on this provision due to the narrow and trade-focused interpretation of the SPS requirements. In other words, even within the confines of Article 5 (7), the Precautionary Principle has so far not been given effect by the WTO.

Additionally, it should not be overlooked that the WTO has also identified the preamble and Article 3 (3) of the SPS Agreement to be a reflection of the Precautionary Principle.[496] Hence, it may be inferred that the application of the Principle is not confined to the enactment of provisional SPS measures, but extends even to the imposition of regular SPS measures. But, in the same vein, the Precautionary Principle has not been put into action beyond the ambit of Article 5(7) that is consistent with the SPS Agreement.

It is understandable that no dispute has been decided on the basis of the Precautionary Principle. In most cases, there were lapses in the Member's compliance with the requirements of the SPS Agreement. But in any event, it is easy to list down reasons behind the WTO's strong resistance against the Precautionary Principle.

A common and top-of-mind rationale lies in the uncertainties surrounding the Precautionary Principle. The lack of a standardized definition of the Principle and the continuing debate as to its status and binding effect may be a major turnoff for adjudicators. This is evident from the rulings which pointed to the unclear status and the absence of a precise definition of the Principle.

494. *Id.* at 1186.

495. *Id.* at 1182.

496. *See EC-Hormones AB Report*, *supra* note 26, ¶ 124.

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The WTO's negative response may also be attributed to the nature of the WTO framework which has, as its foundation, the "security and predictability [of] the multilateral trading system."[497] Given the uncertainties concerning the basic aspects of the Precautionary Principle and its flexibility, applying the principle might pose a difficulty in achieving a steady and determinate set of standards in the settlement of trade disputes.

Also, reluctance may have emanated from the anxiety that precaution may be abused to veil protectionist measures.[498] The history of international trade, replete with trade barriers, helps explain the skeptical attitude of the WTO towards national policies regulating trade.[499]

All of the foregoing reasons substantiate the firm stand the WTO has consistently taken against precautionary decision-making for more than a decade. After all, fair and free trade is at the heart of the WTO regime.

*J. Strict Standard of Review by the Dispute Settlement Bodies*

Dispute settlement bodies frequently point out in their decisions that the proper standard of review according to Article 11 of the DSU is "neither *de novo review* as such nor total deference, but rather the objective assessment of the facts."[500] Total deference entails assent to the scientific findings of national authorities rather than reviewing them substantially, whereas *de novo review* permits the Panel to assess the scientific determinations made by the Member-States and substitute them with its own conclusions.[501] The Panel has often admitted that it is not composed of scientific experts.[502] Yet, ironically, the development of SPS case law seemed to have taken the path towards a *de novo review*.[503]

From the cases previously analyzed, it is unmistakable that the WTO has a propensity to employ a strict interpretation of the requirements of WTO law, particularly its scientific elements. Gradually, the panels "engaged in

497. Wagner, *supra* note 248, at 759 (citing WTO Agreement, *supra* note 173, art. 3, ¶ 2).

498. Wagner, *supra* note 248, at 715.

499. Shaw & Schwartz, *supra* note 4, at 11.

500. *EC-Hormones AB Report*, *supra* note 26, ¶ 117.

501. GRUSZCZYNSKI, *supra* note 104, at 50.

502. *US-Continued Suspension Panel Report*, *supra* note 349, ¶ 7.42.

503. GRUSZCZYNSKI, *supra* note 104, at 51 & 141.

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more and more intrusive assessment of scientific evidence, evaluating its quality, persuasive force, and accuracy of conclusions made on the basis of scientific data."[504] Regrettably, the Panel routinely inquired into the substance of the scientific basis behind a Member's SPS measure. This practice was obvious in the two cases involving Japan.

In *Japan-Varietals*, the Panel adopted the expert opinion in concluding that there was no reasonable connection between the differences in test results per variety and the differences in the variety of the agricultural products.[505] Consequently, the Panel ruled that Japan's SPS measure lacked sufficient scientific evidence notwithstanding Japan's risk assessment conducted in conformity with UN FAO guidelines and other supporting studies and data.[506]

In the same manner, but more blatantly, the Panel in *Japan-Apples* not only evaluated the correctness of Japan's scientific data but also went further and passed judgment on the identified risks as "negligible."[507] Japan alleged that abundant scientific literature culled from decades of fire blight history supported its uneasiness over the probable "entry, establishment[,] and spread" of fire blight bacteria in Japan through US imports of mature symptomless apples.[508] Yet, even in the face of Japan's compendium of scientific evidence including two pest risk analyses, the Panel still espoused the experts' views that the bacterial transmission is unlikely and that the risk is only "negligible."[509] In effect, the Panel substituted its own risk evaluation for that of Japan. The Panel, therefore, robbed Japan of its right to determine its own appropriate level of protection and the extent to which its community can tolerate the identified risk. No Panel, or any adjudicating body for that matter, should assume the role of characterizing risks, for that prerogative rightfully belongs to national authorities and no one else.

The invasiveness of the Panel has so far reached its pinnacle in the *US-Continued Suspension Case* wherein the Panel straightforwardly stated that it is "within its discretion to decide which evidence to utilize in making

504. *Id.* at 51.

505. *Japan-Varietals Panel Report*, *supra* note 411, ¶¶ 8.40-8.43.

506. *Id.* ¶ 8.42.

507. *Japan-Apples Panel Report*, *supra* note 351, ¶ 8.219.

508. *Id.* ¶ 4.50.

509. *Id.* ¶¶ 8.173-8.176.

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findings."[510] Consequently, the EC' scientific findings regarding the carcinogenic nature of certain hormones were effectively denied evidentiary weight by the Panel in light of the experts' opinion.[511]

This intrusive scheme of review by the WTO adjudicating bodies overlooks the fact that risk assessment and the determination of an appropriate level of protection are political exercises that are also dependent on social and cultural contexts apart from science.[512] The current interpretation of WTO agreements severely restricts the domestic policy choices of Member-States, even in areas where legitimate societal concerns demand prioritization over economic interrelations. To risk-averse nations, this may be a harrowing ordeal. The WTO's firm stance ignores the reality that "[r]isk regulation is a highly culture — and context — dependent choice."[513] Different communities across varying cultures will settle with different levels of precaution when confronted with health and environmental hazards.[514] Underlying a Member-State's trade directive are political and social judgments that take into account a multitude of factors, ranging from economic and administrative policies, to public perception and community preferences (including conservatism). As a result of the WTO's rigorous implementation of science-based requirements, the right of States to determine their own level of protection, a right reflective of the Precautionary Principle, is effectively rendered nugatory.

Because of its inclination to verify the scientific findings of Member-States, the WTO has earned itself the criticisms of commentators.[515] The WTO's interpretation of scientific requirements raised the standard of review to a level so demanding and stringent as to "infringe on the [M]embers' ability to effectively protect their citizens' health, safety[,] and welfare."[516] Effectively, the WTO has curtailed the regulatory capacity of the Members

510. *US-Continued Suspension Panel Report*, *supra* note 349, ¶ 7.416 (citing *EC-Hormones AB Report*, *supra* note 26 , ¶ 135).

511. *Id.* ¶¶ 7.391 & 7.572.

512. GRUSZCZYNKSI, *supra* note 104, at 142.

513. Jan Bohanes, *Risk Regulation in WTO Law: A Procedure-Based Approach to the Precautionary Principle*, 40 COLUM. J. TRANSNAT'L L. 323, 362 (2002).

514. *Id.*

515. John Bernetich, *Sovereignty and Regulation of Environmental Risk under the Precautionary Principle in WTO Law*, 35 VERMONT L. REV. 717, 718 (2011).

516. *Id.*

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in the institution of health — and environment — related safety measures.[517] At the extreme end, authors have even condemned this approach to be an intrusion into a Member-State's sovereignty.[518]

In any case, the Panel finally reached the turning point in its meddling and insensitive manner of review in the case of *US-Continued Suspension*.[519] In this case, it is notable that the standard of review proposed by the Appellate Body is "to a great extent a deferential one."[520] The Appellate Body enumerated four parameters by which the Panel's scope of review of scientific requirements can be guided and limited accordingly.[521] The Appellate Body essentially confined the Panel's review to a verification of the measure's soundness in terms of procedure and methodology. This divergent and exceptional ruling by the Appellate Body has opened a promising opportunity for the Precautionary Principle to figure substantially in a Member's national decision-making process

## VI. Reconciling The Precautionary Principle And The WTO Law

The previous chapter established the solid preference of WTO rulings for trade liberalization over environment and health-related measures.[522] The WTO's misgivings towards the application of the Precautionary Principle have led to a series of case law that recognizes the essence of the principle and its expression in the provisions of the SPS Agreement, but at the same time, desists from offering adequate guidance as to its proper operation.[523] Given the scarcity of guidance from the WTO, it would be difficult to predict how a measure anchored on a precautionary approach can be appreciated in the context of trade law.[524] Yet, in light of the evolution of potential risks to health and the environment as well as the increasing relevance of the Precautionary Principle, it has become crucial to reconcile

517. *Id.*

518. *Id.* at 725; GRUSZCZYNSKI, *supra* note 104, at 150; & Bohanes, *supra* note 513, at 327.

519. *See US-Continued Suspension AB Report*, *supra* note 361.

520. *Id.*

521. *Id.* ¶ 534.

522. Wagner, *supra* note 248, at 762-63.

523. *Id.* at 759.

524. *Id.*

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the Precautionary Principle and WTO law in order to give life and meaning to the Precautionary Principle within and beyond the confines of the SPS Agreement. A new approach in reviewing trade measures that are geared towards the protection of health and the environment is imperative.

*A. Operationalizing the Precautionary Principle in Risk Management*

The previous chapter demonstrated that the Panel has increasingly, and imprudently, assumed the role of risk assessor in reviewing the validity of a Member's measure. As a result, the Member's sovereign prerogative to effectively protect the health and environment of its population was rendered impracticable. Against this background, it is necessary to afford Member-States greater autonomy in terms of their preferred response against risks in accordance with their desired level of protection without precluding the adoption of a precautionary approach.

1. Risk Assessment v. Risk Management

Risk analysis is a process employed by decision-makers to cope with risks in different areas of concern including health and environment.[525] It involves risk assessment and risk management phases.[526] Risk assessment "denotes a precise probabilistic estimate of the potentially harmful effect of a substance or activity; it should be an objective, quantitative result derived exclusively by scientific methods and (laboratory) testing procedures."[527] At this phase, States identify, characterize, and evaluate the risk and the extent of its potential harm. The objective of risk assessment is to furnish the necessary information to enable risk managers to make a rational decision in responding to the identified risks.[528] For example, a risk assessment conducted on the potential harm brought about by a bioengineered vegetable yields the outcome that 1 in every 100,000 individuals are likely to be infected with a certain disease.

Risk management "is a policy determination based on a subjective value judgment; it describes the process of identifying, evaluating, selecting, and implementing actions to reduce risk and implicitly entails a judgment as to

525. GRUSZCZYNSKI, *supra* note 104, at 22-23.

526. *Id.*

527. Bohanes, *supra* note 513, at 335.

528. GRUSZCZYNSKI, *supra* note 104, at 219-20.

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what level of risk is acceptable in a particular society."[529] While risk assessment is essentially a neutral process, "risk management involves a political and value-based decision."[530] Based on the results of the risk assessment, authorities determine how much risk the community is willing to tolerate, and consequently, which measures to enact in order to regulate the risk.[531] In simple terms, risk management deals with the question whether a probability of risk is a risk worth taking.[532] For example, based on the results of the risk assessment of a bioengineered vegetable, a State aims to minimize the probability of harm by instituting a quarantine requirement as a precondition for the vegetable's market access. In this illustration, the State adopts a moderate-to-high level of protection.

These two phases are embodied in the SPS Agreement.[533] Article 5 requires that measures be based on risk assessment, whereas Article 3 (3) which affirms that Member States have the prerogative to set for themselves the level of protection they regard as appropriate, reflects the risk management phase.[534]

2. State Autonomy in the Determination of the Desired Level of Protection and Course of Action

After a comprehensive and scientific determination of the risks associated with a potentially harmful object, regardless of conclusiveness, a Member-State shall decide: (1) its level of protection against the risk, and (2) the corresponding course of action it will take. In *Australia-Salmon*, the Appellate Body emphasized that the "appropriate level of protection" and the "SPS measure" are not one and the same.[535] "The first is an objective [and] the second is an instrument chosen to attain or implement that objective."[536] The determination of one's level of protection is distinct from, and logically precedes, the institution of a trade measure.[537]

529. Bohanes, *supra* note 513, at 335.

530. *Id.* at 352.

531. *Id.*

532. *Id.*

533. GRUSZCZYNSKI, *supra* note 104, at 221-22.

534. Bohanes, *supra* note 513, at 352.

535. *Australia-Salmon AB Report*, *supra* note 369, ¶ 200.

536. *Id.*

537. *Id.* ¶ 201.

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At this juncture, government discretion should take exclusive control in setting its appropriate level of protection based on prior scientific data gathered. As the Appellate Body has emphasized, "the determination of the appropriate level of protection is a prerogative of the Member concerned and not of a panel or of the appellate body."[538] Consequently, Member-States have the freedom to opt for a zero-risk policy as explicitly affirmed by the Appellate Body in *Australia-Salmon*.[539] The State, then, can select the measure it believes to be suitable to its chosen level of protection.

At the phase of risk management, the Precautionary Principle can come in full force and play a pivotal role in domestic decision-making. If from the risk assessment it has been identified that there is a looming threat to health or environment, but full scientific certainty as to such threat is yet to be achieved, a State can rightfully set its desired level of protection and, on that basis, take a precautionary action. The substance of both the level of protection and the course of action is best left to the Member's judgment as no other person or entity is in a better position to assess the situation, not even international institutions such as the WTO. For while "[r]isk regulation needs to build on scientific analysis, it must reserve ultimate decision-making power to the political realm."[540]

*B. A New Approach in Reviewing Science-Based Requirements under the GATT and the SPS Agreement*

The WTO's natural inclination to strictly construe scientific requirements has effectively limited the Member-States' authority and ability to enact measures to prevent or mitigate risks to health and environment. Reasonably, the disposition of the WTO is designed to ensure that these measures are not a "façade" concealing the protectionist objectives.[541] However, behind these trade regulations are community priorities including health and environment protection that cannot be compromised. It is high time that the WTO heed to the legitimate domestic concerns of the Members and loosen its grip on science-based obligations. The *US-Continued Suspension Case* has already initiated steps towards this direction.[542] Taking it from there, the WTO should adopt the Appellate Body's approach in order

538. *Id.* ¶ 199.

539. *Id.* ¶ 125 & Bohanes, *supra* note 513, at 339.

540. Bohanes, *supra* note 513, at 339.

541. Bernetich, *supra* note 515, at 717-18.

542. *See US-Continued Suspension AB Report*, *supra* note 361.

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to fully accommodate the Member-States' precautionary approach but without constantly finding them to be in violation of their obligations.

1. Shift in Review

Inspired by the bold approach taken by the Appellate Body in *US-Continued Suspension*, a shift in the review mechanism of the adjudicating bodies, particularly the Panel, is hereby recommended. This proposition has two branches: (1) from substance to procedure, and (2) from science to trade aspect.

*a. From the Substantive to the Procedural Aspect*

Each Member-State should be allowed considerable freedom of choice in its intended level of protection and corollary course of action. It is not for the Panel or the Appellate Body to determine how and to what extent a Member should approach an identified risk, rather, such determination belongs entirely to the province of national decision-making.

The Panel should not appraise the risk and implicitly determine the Member's level of tolerance corresponding to such risk as what the Panel in *Japan-Apples* did when it adjudged the risk as "negligible."[543] Neither should the Panel evaluate the propriety of the challenged measure in light of the results of the risk assessment. The WTO settlement bodies must keep in mind that government decisions are highly subjective outcomes of political, economic, social, and cultural deliberations. For these reasons, it is submitted that the Panel should redirect its review to the procedural aspects of a trade restriction, such as the existence of a scientific basis and the conduct of risk assessment.

Reallocating WTO oversight from substance to procedure gives Member-States greater discretion and autonomy in decision-making. This approach permits them to rely upon the Precautionary Principle when designing their trade regulations.[544]

*b. From Science to Trade Aspect*

Under the same analogy, a parallel shift in the point of review should also be taken by the DSB from the scientific basis of the measure to its trade-related aspects. Admittedly, it is logical for WTO to scrutinize the scientific basis

543. *Japan-Apples Panel Report*, *supra* note 351, ¶¶ 6.2-6.194.

544. Bohanes, *supra* note 513, at 372.

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behind the adoption of the challenged measure in order to eliminate the possibility of protectionism as an agenda. The role of science in the context of trade is substantial as it could spell the difference between a protectionist measure and a legitimate health or environment-protective one.[545] But while it is true that science is an essential aid in segregating genuine regulations from disguised trade barriers, the Panel has gone too far as to substitute its own conclusions for that of the Member's scientific findings.

To prevent similar occurrences in future disputes and to fully realize the envisioned autonomy of Member-States in health and environment protection, it is recommended that the DSB should focus on the trade elements of a measure or those aspects that are directly related to WTO policies. These include the requirements that a measure must not be arbitrarily or unjustifiably discriminatory and that it must not be more trade restrictive than necessary to achieve the Member's intended level of protection.

As will be discussed in the succeeding sections, there are adequate safeguards in place in the WTO framework to carry out its anti-protectionism objectives without unreasonably probing the Member-States' policies and their scientific rationale.

2. Deference to the Scientific Findings of the Member-State

In the previous chapter, most of the Respondent-States were adjudged to be wanting in the scientific requirements for a valid SPS measure due to the Panel's strict and excessive scrutiny on the scientific evidence submitted. In fact, none have successfully surpassed the scientific investigation of the Panel.

Therefore, in order to fully operationalize the Precautionary Principle, and as a corollary to the proposed shift in the Panel's subject of review, it is likewise submitted that the Panel should defer to the Members' scientific findings which constitute the basis for their trade regulations.[546]

It should be noted that under both the GATT and SPS Agreement, a WTO Member has the obligation to use scientific principles prior to the enactment of a trade restriction. Under Articles 2 (2) and 5 (1) of the SPS Agreement, a State is required to scientifically justify its measure through the performance of a risk assessment.[547] Likewise, scientific requirements are

545. GRUSZCZYNSKI, *supra* note 104, at 147.

546. *See generally* Bernetich, *supra* note 515, at 733.

547. SPS Agreement, *supra* note 157, arts. 2 (2) & 5(1).

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implicit in the Article XX exceptions of the GATT.[548] In line with the previously recommended shift in review, it is submitted that the Panel be precluded from inquiring whether the Member's scientific conclusions are correct or whether they concur with the majority views. It should only determine whether or not the Member *has* scientific basis for its measure. Consequently, the Panel should adopt a deferential approach to the Member's scientific findings and reasoning.

The prescribed approach of the Appellate Body in its divergent, yet upright, ruling in the *US-Continued Suspension Case* best exemplifies this deferential approach.[549] To preserve the integrity of the Member's scientific assessment while, at the same time, verifying that the measure is not a masked protectionist policy, the same methodology should be employed by Panels in reviewing SPS measures. The questions which should be probed by the Panel in this approach are as follows:

(1) Whether or not there is scientific basis;

(2) Whether or not the source of the scientific basis is respected and qualified;

(3) Whether or not the scientific basis is coherent and sound; and

(4) Whether or not there is a rational relationship between the results of the risk assessment and the measure.

This concession to the Member's scientific research, however, must be limited so as to avoid potential abuse. To curb the possibility of exploitation, the findings of national authorities should be afforded deference only if the four queries outlined above are satisfied. Acquiescence to the scientific evidence of the State does not command the Panel to uphold a measure that is not adequately supported by the results of the risk assessment. The same approach could be employed by the Panel in the review of trade restrictions seeking justification under Article XX of the GATT.

### *C. Safeguards of the WTO*

To avid advocates of fair and free trade, the foregoing recommendations may seem objectionable. Critics of the Precautionary Principle may perceive the suggested adjustments to weaken the clutches of WTO law on trade regulations. But quite the opposite, the WTO need not worry that the

548. GATT, *supra* note 177, art. XX.

549. *See generally US-Continued Suspension AB Report*, *supra* note 361.

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dangers of protectionism will be left unchecked. The Member-States are not granted unbridled discretion by the increased deference and autonomy accorded to them. Ample and reliable safeguards contained in the very provisions of the GATT and the SPS Agreement remain in favor of WTO to protect the interests of international trade.

1. Under the SPS Agreement

As discussed in Chapter III, an SPS measure can only be valid if it satisfies four requirements, namely, that it is:

(1) "[N]ecessary to protect human, animal or plant life or health[;]"[550]

(2) "[B]ased on scientific principles and not maintained without sufficient scientific evidence[;]"[551]

(3) "[Does] not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail[;]"[552] and

(4) "[N]ot applied in a manner that would constitute a disguised restriction on international trade."[553]

A Member-State's national findings should be given precedence only insofar as the second requisite is concerned. In other words, as long as the measure is amply supported by sound scientific basis from credible sources, the Panel should concede to the scientific conclusions of the Member and consider the second requirement as satisfied.

The other three requirements constitute the safety net of international trade. These are the general restrictions on the imposition of trade measures. Hence, although a State may have tendered sufficient evidence of its risk assessment and demonstrated the rational relationship thereof with the trade measure, the challenged measure must still pass scrutiny under the three requirements in order to be legitimate under international law. These requirements should be the center of the Panel's analysis, consistent with the proposed shift from a scientific inquiry to a trade-focused mode of review.

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550. SPS Agreement, *supra* note 157, art. 2, ¶ 2.

551. *Id.*

552. *Id.* art. 2. ¶ 3.

553. *Id.*

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Hence, before even going into the scientific basis, it must *first* be inquired whether the aim of the measure falls within the scope of the objective sanctioned under the SPS Agreement; that is, that it is necessary to protect human, animal, or plant life or health. *Second*, the scientific backing of the measure as presented by the State should be examined only as regards the procedural aspects. *Third*, it must be determined whether the introduction of the measure amounts to a form of arbitrary or unjustifiable discrimination between Member-States under similar conditions. Lastly, the dispute settlement body must verify whether or not the questioned measure is only a veiled protectionist policy.

This four-step approach is already rigorous enough to serve the purposes of the WTO agreements. Notwithstanding the deference to the scientific research of the Member-State, hurdling the other three requirements is still comparable to passing through the eye of a needle. In this way, the policies of the WTO remain preserved.

2. Under the GATT

Whether the trade measure is adopted and maintained in the context of the SPS Agreement or the GATT, the same safeguards are available to the WTO. Under the GATT, a trade restriction can only be justified if it qualifies under one of the exceptions under Article XX.[554] In relation to health and environment risk management, the exceptions that are most appropriate are Article XX (b), "necessary to protect human, animal[,] or plant life or health,"[555] and Article XX (g) "relating to the conservation of exhaustible natural resources."[556] To successfully invoke either of these exceptions, the trade measure shall still be subjected to the following stringent tests:

(1) *First*, whether it falls within the range of measures designed to achieve the particular purpose contained in the exception invoked — "protection of human, animal[,] or plant life or health[,]"[557] or the "conservation of exhaustible natural resources[;]"[558]

554. GATT, *supra* note 177, art. XX.

555. *Id.* art XX (b).

556. *Id.* art. XX (g).

557. *Id.* art. XX (f).

558. *Id.* art. XX (g).

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(2) *Second*, whether it satisfies the "necessity test" for Article XX (b)[559] or the "relating to" test for Article XX (g);[560]

(3) *Thirdly*, exclusively for Article XX (g), whether the measure was imposed "in conjunction with restrictions on domestic production or consumption;"[561] and

(4) *Lastly*, whether or not the measure satisfies the chapeau of Article XX, that the measure must "not constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade[.]"[562]

Similar to the SPS Agreement, a measure covered by the GATT should be accorded the privilege of a deferential approach as regards its scientific basis, provided such science is sound and trustworthy. In the context of the GATT, deference to the Member's scientific studies is limited to the inquiry on the environmental objective of that Member. The Panel should not probe into the scientific rationale behind the policy of the Member to protect human life and health or conserve natural resources. At the other end, as a defense against protectionist designs, the WTO has in its arsenal the broad authority to ascertain the measure's consistency with the "necessity" or "relating to" test, even-handedness test, and the chapeau. Therefore, before a trade restriction can find legitimacy under the GATT exceptions, it has to pass a three-pronged examination.

This process of reviewing a measure that is within the coverage of the GATT should serve to dispel the apprehension of the WTO community over the implementation of precautionary action. It should be noted that the aspects related to the promotion of trade interests are already well taken care of by the WTO provisions. Accordingly, it will do little to no harm to international trade if the WTO relaxes its requirements of scientific principles and accord a more receptive appreciation of the right of Member-States to respond to threats of adversities to public health and environment.

559. *Id.* art XX (b).

560. GATT, *supra* note 177, art. XX (g).

561. *Id.*

562. *Id.* art. XX.

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## VII. CONCLUSION

Dealing with trade and the environment in completely distinct forums is a thing of the past. Today, it cannot be denied that these two basic and fundamental institutions converge whether in the domestic or international setting. The growing interdependence of trade, on one hand, and the environment and health, on the other, points to the need to address them together simultaneously as intertwined issues.

However, for more than a decade now, the WTO dispute settlement body has unwaveringly denied application of the Precautionary Principle in favor of health- and environment-induced restrictions to international trade. This is evidenced by the long series of disputes illustrating the (i) strict construction of WTO law, particularly the science-based requirements, as well as the (ii) consistent refusal of the Panel and the Appellate Body to make a stand as regards the precise role of the Precautionary Principle in trade regulation. The WTO remained steadfast in taking such a controversial stance despite its explicit and repeated recognition of the embodiment of Precautionary Principle in several provisions of the SPS Agreement. The demand from the international community for guidance on the application of the principle in the enactment of trade measures has time and again fallen on deaf ears. As a consequence, the WTO has effectively and unduly restricted the Member-States' ability to take precautionary measures in the face of uncertainty regarding threats of health and environmental damage.

This is not to say that the Panel and the Appellate Body have created an unscrupulous and impractical body of jurisprudence regarding the contentious issue. The existing case law, although inadequate, has established a promising starting point. The constant invocation of the Precautionary Principle in disputes shows not only the widespread and established usage of the principle in domestic decision-making, but also a compelling clamor for the long-unresolved question — how and to what extent the Precautionary Principle can be applied in trade regulation — to be finally answered.

An examination of the pertinent provisions of WTO law reveals that the WTO framework is not unfit to accommodate the application of the Precautionary Principle. On the contrary, as explained in Chapter IV, the WTO law has plenty of gaping entry points for the Precautionary Principle to make its way into the realm of international trade. On top of being a rule of customary international law that is binding on all States, including WTO Members, the Precautionary Principle is reflected in the preamble of the WTO Agreement and Articles 3 (3) and 5 (7) of the SPS Agreement. Surely, the WTO framework could not have intended to keep the Precautionary Principle away from international trade.

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The inquiry has, therefore, evolved from a mere determination of the applicability of the Precautionary Principle in trade to an ascertainment of its exact place and function in trade regulation. It has been demonstrated in Chapter VI that the Precautionary Principle rightfully belongs to the risk management phase of domestic decision-making. To strengthen the State's autonomous right to protect public health and the environment, it should be recognized that a Member can validly anchor its selected level of protection and trade measure on the Precautionary Principle. A complementary development must, however, take root on the part of the WTO dispute settlement system. Both the Panel and the Appellate Body must adopt a shift in the focus of review (i) from substantive to procedural aspects and (ii) from science to trade-related qualities of a trade measure. This approach will aid in preserving the integrity of the Member's chosen level of protection and corresponding trade measure.

Affording increased deference to State autonomy and curtailing the scope of the adjudicatory bodies' power of review do not unjustifiably tip the scales in favor of Member-States to the detriment of fair and free trade. Chapter VI enumerates ample safeguards for the WTO to ensure that no protectionist objective will materialize in the guise of health — and environment — related measures. There are numerous requirements in the WTO agreements which must be complied with in order to institute and maintain a valid trade restriction. These requirements adequately secure the preservation of the policy of the WTO to promote and uphold the interests of liberalized trade.

In light of the foregoing analyses, the Member-States' prerogative to determine their own level of protection and to enact related measures consistent with the Precautionary Principle must be given life. To this end, the application of the Precautionary Principle in the realm of trade needs to be lucidly ironed out in concrete parameters.

It must be borne in mind that the Precautionary Principle, when properly applied, can assist national authorities in countering threats to health and the environment in situations where science is lacking certainty. Admittedly, the principle carries costs, both actual and potential. But the considerable advantages which could be derived from the utility of the Precautionary Principle can hardly be overlooked. It is a powerful tool that can serve as a deterrent to actual and potential injury to health and environment.

Having said all of these, the challenge now is for the WTO to operationalize the Precautionary Principle in the realm of international trade.

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## VIII. RECOMMENDATION

The WTO dispute settlement system is designed to provide security and predictability to the multilateral trading system.[563] The Dispute Settlement Understanding, which contains the rules governing the resolution of trade conflicts, recognizes the need to clarify WTO law and places the mandate to carry out the clarification upon the DSB.[564] In the execution of its adjudicatory fiat, the decisions of the DSB create standards and legitimate expectations from the Members as regards the protection of their rights and performance of their obligations under the WTO law. For these reasons, there is no better avenue for the fulfillment of the objectives of this Note than the WTO's dispute settlement mechanism itself.

To realize the envisaged application of the Precautionary Principle, the necessary and authoritative guidance on the role of the Precautionary Principle in the context of international trade should emanate from the rulings of the DSB. There are two crucial steps in this undertaking: *first*, the proper guiding principles need to be clearly laid out by the Panel and the Appellate Body in their rulings; and *second*, the ruling itself should exemplify the proposed new approach in the review of trade measures.

The Appellate Body and the Panel should set forth in their pronouncements how, and to what extent, the Precautionary Principle can be validly relied upon by Members in enacting legitimate trade regulations. They should also make clear how reliance upon the Precautionary Principe can be appreciated by the adjudicatory body, whether in the Member's favor or otherwise, in the determination of a trade measure's consistency with science-based obligations. However, words without action are meaningless. The Panel and the Appellate Body should actually employ the proposed approach in the review of a Member's trade regulatory measure. In this process of formulation and application of improved standards of review, the WTO dispute resolution system serves its purpose of preserving the Members' rights, particularly the prerogative to protect public health and environment and, concomitantly, the obligations to uphold fair and free trade which they voluntarily assumed under the WTO law.

To achieve the foregoing recommendations, the Author devised a set of standards for the Panel and the Appellate Body to comply with in the review

563. DSU, *supra* note 260, art. 3, ¶ 2.

564. WORLD TRADE ORGANIZATION, A HANDBOOK ON THE WTO DISPUTE SETTLEMENT SYSTEM: A WTO SECRETARIAT PUBLICATION 3 (2004).

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of SPS measures and trade regulations seeking justification under Article XX (b) and (g) of the GATT in relation to the Precautionary Principle.

*A. Standards in Reviewing if an SPS Measure is "Based on Risk Assessment"*

(1) A Member has the autonomous right to determine its appropriate level of protection.

(2) A Member is not precluded from adopting a zero-risk policy.

(3) In enacting an SPS measure, a Member can choose to conform to the standards provided by international institutions.

(4) Otherwise, a Member can opt to choose a level of protection higher than that implied in the international standard, provided that the measure is "based on risk assessment."

(5) In determining its appropriate level of protection and the corresponding SPS measure, a Member may adopt a precautionary approach if there is lack of full scientific certainty as indicated in the risk assessment. There is a "lack of full scientific certainty" in the following situations:

  (a) There is an inadequacy in terms of scientific observations and measurements; or

  (b) Conflicting scientific evidence or opinions exist as regards the same subject matter.

(6) In reviewing whether an SPS measure is "based on risk assessment," the Panel should determine the following:

  (a) Whether or not there is a scientific basis for the SPS measure;

    (i) The Member need not rely on the majority view in the scientific community.

    (ii) The scientific basis may reflect the minority or divergent view.

  (b) Whether or not the source of the scientific basis is qualified and respectable;

  (c) Whether or not the scientific basis is coherent and reasonable; and

  (d) Whether or not there is a rational relationship between the results of the risk assessment and the SPS measure.

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(7) In reviewing whether an SPS measure is "based on risk assessment," the Panel should neither evaluate the correctness of the scientific basis nor substitute its conclusions for that of the Member. The Panel also should not conduct its own risk assessment.

(8) In reviewing whether an SPS measure is "based on risk assessment," the Panel may consult with scientific experts only to the extent necessary to determine compliance with the four requisites above.

(9) If all four of the above requisites in item (6) are positively determined to have been complied with, the SPS measure should be deemed consistent with the requirement of "based on risk assessment."

### *B. Standards in Reviewing a Measure Seeking Justification Under Article XX of the GATT*

(1) A Member has the autonomy to determine its own environmental objectives.

(2) A Member is not precluded from adopting a zero-risk policy.

(3) In determining its own environmental objectives and the corresponding trade measure, a Member may take a precautionary approach if there is lack of full scientific certainty. There is a "lack of full scientific certainty" in the following situations:

- (a) There is an inadequacy in terms of scientific observations and measurements; or
- (b) Conflicting scientific evidence or opinions exist as regards the same subject matter.

(4) In reviewing whether a measure is justified under Article XX (b) of the GATT, the Panel must determine:

- (a) Whether the measure falls within the range of measures necessary to protect human, animal, or plant life or health;
  - (i) There must be a "risk" concerning life or health.
  - (ii) The identified risk must have scientific basis.

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(b) Whether the measure is "necessary" to protect human, animal, or plant life or health; and

(i) To be "necessary," there must be no alternative measures that are less trade restrictive and, at the same time, can achieve the level of protection desired by the Member-State.

(ii) Depending on the chosen level of protection, a trade ban may be considered as a "necessary" measure.

(c) Whether the measure constitutes an arbitrary or unjustifiable discrimination against Members or a disguised restriction to international trade.

(5) In reviewing whether a measure is justified under Article XX (g) of the GATT, the Panel must determine:

(a) Whether the measure falls within the range of measures relating to the conservation of exhaustible natural resources;

(i) There must be an identified risk concerning exhaustible natural resources.

(ii) The identified risk must have scientific basis.

(b) Whether the measure is one "relating to" the conservation of exhaustible natural resources;

(i) The measure must be "primarily aimed at" the conservation of exhaustible natural resources.

(ii) Exhaustible natural resources include living and non-living natural resources.

(c) Whether the measure constitutes an arbitrary or unjustifiable discrimination against Members or a disguised restriction to international trade; and

(d) Whether the measure is made effective in conjunction with restrictions on domestic production or consumption.

(i) There must be a restriction on domestic production or consumption.

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(ii) Such domestic restriction complements the international trade restriction.

(6) In reviewing whether the measure is justified under Article XX (b) or (g), the Panel should neither evaluate the correctness of the scientific basis nor substitute its conclusions for that of the Member.

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