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International Regulation of the Environment: Conflicting Approaches of the World Trade Organization and Multilateral Environmental Agreements

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Abstract

Economists and environmentalists have called for multilateral agreements to deal with new international phenomena, which abrogate some national sovereignty and delegate certain foreign policy aspects to international authorities. Trade and environmental issues have become important issues of international relations, challenging traditional interactions between different sectors of foreign policy. The biosafety issue is a prime example with implications for many questions relating to customary international law, thus addressing one of the key problems between trade and environmental regimes. This is a case study of the relationship between the World Trade Organization (WTO) and the Cartagena Protocol on Biosafety. The purpose here is to evaluate a principal research question: what is the relationship between the different approaches towards the environment of the WTO, and of multilateral environmental agreements (MEAs)?

The objectives of these different agreements are contradictory: promoting the protection of biodiversity vs. promoting trade. The analysis of this relationship between international regimes, trade and environment negotiations needs to take into consideration the powerful pressures from many different communities. The aim of this thesis is to think about the question of the relationship between these international regimes constructively. This thesis develops theoretical and empirical arguments for the trade and environment discussion. In particular, the case of the relationship between agreements of the WTO and the Cartagena Protocol on Biosafety has provided an arena in which to consider the complex interaction of these multilateral agreements.

Firstly, this thesis conceptualizes why the WTO extended the reach of its relevant agreements to include environment-related measures by analyzing the organizational background of the General Agreement on Tariffs and Trade (GATT), and historical developments which led to the creation of the Committee on Trade and Environment (CTE) and the GATT/WTO's environment-related dispute cases. Secondly, the thesis explains how MEAs' trade measures are developed under

premises which differ from the WTO's environmental regulations. Then, the thesis discusses the allegation of judicial conflicts between the WTO and the Cartagena Protocol on Biosafety by focusing on the WTO's Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) toward domestic regulations of genetically modified organisms (GMOs). Lastly, the thesis makes some suggestions towards the research question including capacity building between trade and environmental regimes.

Declaration

I declare that this assignment is my own work and does not involve plagiarism or collusion. I have retained a copy of this assignment. The assignment and attachments are clearly named.

The thesis is less than 100,000 words in length, exclusive of tables, maps, bibliographies and appendices.

Acknowledgments

> [t]here are other people of his own flesh and blood who depend on that land for their daily bread, he is not the owner, but the partner, or at the most a trustee for the others. Since the land is held in trust for the unborn as well as for the living, and since it represents his partnership in the common life of generations, he (*the owner of the land*) will not lightly take it upon himself to dispose of it.[1]

To begin with, the author is deeply grateful to her two supervisors, Professor Michael Webber and Professor Donald MacLaren. The author would like to express her thanks to numerous resource persons interviewed in Geneva, Switzerland, in particular Dr. Urs P. Thomas and Professor Anne Petitpierre. The author is grateful to the following three institutions for their hospitality during research visits: the World Trade Organization, the United Nations Environment Programme and L'Université de Genève. Less direct but equally important contributors to this thesis were the author's family, in particular Mother, Father and Brother as well as friends.

[1] Kenyatta, Jomo, the former President of Kenya, *Facing Mount Kenya*: *The tribal life of the Gikuyu***,** Secker & Warburg, London, 1971, p.311. (*emphasis is added*)

Contents

List of Abbreviations

AIA	The Advance Informed Agreement Procedure
Basel Convention	Basel Convention on Transboundary Movement of Hazardous Waste
BSWG	The Open-ended Ad-Hoc Working Group on Biosafety
CBD	The Convention on Biodiversity
CFCs	Chlorofluorocarbons
CITES	The Convention on International Trade in Endangered Species of Wild Flora and Fauna
COP-MOP	The Conference of the Parties of the Convention serving as the Meeting of the Parties to the Protocol on Biosafety
EC	The European Commission
EU	The European Union
ExCOP	The Extraordinary Meeting of the Conference of the Parties
FAO	Food and Agriculture Organization of the United Nations
FFPs	Food or Feed, or for Processing
GATS	The General Agreement on Trade in Services
GATT	The General Agreement on Tariffs and Trade
GMOs	genetically modified organisms
ICBP	The International Committee for Bird Protection
ICCBD	The Intergovernmental Committee on the Convention on Biological Diversity
ICJ	The International Court of Justice
ICTSD	International Centre for Trade and Sustainable Development
IISD	International Institute for Sustainable Development
IMF	The International Monetary Fund
IOPN	The International Office for the Protection of Nature
ITLOS	The International Tribunal on the Law of the Sea
ITTO	The International Tropical Timber Organisation
IUCN	The World Conservation Union
IUPN	The International Union for Protection of Nature
LMOs	living modified organisms
MEAs	multilateral environmental agreements
Montreal Protocol	The Montreal Protocol on Ozone-depleting Substances
ODSs	ozone-depleting substances
OECD	Organisation for Economic Co-operation and Development
PIC	The Rotterdam Convention on the Prior Informed Consent
POPs	The Stockholm Convention on Chemicals Persistent Organic Pollutants

SPS Agreement	The Agreement on the Application of Sanitary and Phytosanitary Measures
STOs	specific trade obligations
TBT Agreement	The Agreement on Technical Barriers to Trade Agreement
TPRM	The Trade Policy Review Mechanism
ULABs	used lead-acid batteries
UNCED	The United Nations Conference in Environment and Development
UNCLOS	The United Nations Convention on the Law of the Sea
UNCTAD	The United Nations Conference on Trade and Development
UNEP	The United Nations Environment Programme
UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNFCCC	The United Nations Framework Convention on Climate Change
UNIDO	The United Nations Industrial Development Organization
US MMPA	The United States Marine Mammal Protection Act
WCED	The Word Commission of Environment and Development
WHO	The World Health Organization
WTO CTE	The World Trade Organization Committee on Trade and Environment
WWF	World-Wide Fund for Nature

Chapter 1

Introduction

1-1. Introduction

Since the increasing pressure on "fair trade" emphasized by massive street demonstrations at the 1999 Ministerial Conference in Seattle, the World Trade Organization (WTO) has had to face new objectives raised by political, religious and ideological interests, labour, animal and women's rights. The environmental issue has moved beyond local and even national boundaries into the foreign policy debate, since actions in one country have had adverse environmental effects on another. As a consequence, public interest has intensified, in the light of high-profile trade and environmental concerns that extend into some of these new sensitive areas such as the role of science in risk assessment, the conservation of endangered species, the cross-border movement of genetically modified organisms and measures to protect public health.

Economists and environmentalists have called for international agreements, which abrogate national sovereignty and delegate foreign policy to international agreements. Trade and environmental issues have come to the forefront of foreign policy, challenging and reshaping traditional interactions between trade and the environment. Varieties of demands on the growing list of trade and environmental issues have driven international treaties and agreements, which seem to have high costs with low benefits or a "chilling effect"[2].

Due to new problems and demands, the density of international institutions has risen in the new world order. With increasing numbers of international treaties and organizations, different international norms[3] have become more intrusive on each other. This thesis concentrates on trade and the environment to analyze the situation in which two institutions deal with the same issue differently. The thesis focuses on: **the relationship between the World Trade Organization and the Cartagena Protocol on Biosafety** as a case study to evaluate a principal research question: **what are the contradictions between the different approaches towards the environment of the WTO and multilateral environmental agreements (MEAs)?** The aim of the case study is to find general contradictions between the WTO and MEAs and to analyze the overlap issues between two different sets of multilateral agreements. The biosafety issue is not a unique phenomenon in international relations anymore; biotechnology has become a vast area of current and potential commercial application involving environmental protection and sustainable development. An interaction between the WTO and the Biosafety Protocol over the biosafety issue illustrates why the WTO has moved onto regulatory areas that would not normally be

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[2] Conca, Ken, "The WTO and the undermining of global environmental governance," *Review of International Political Economy*, Vol. 7 No.3, 2000, pp. 484 – 494.
Stilwell, Matthew & Tuerk, Elisabeth, "Trade measures and multilateral environmental agreements: Resolving uncertainty and removing the WTO chill factor," Discussion Paper, 1999, WWF/CIEL.

[3] In chapter 2, I discuss "norms" within studies of international relations and international law; then, I define what "norm" indicates in this thesis.

considered part of traditional trade policy. The biosafety issue also draws on several different sets of international standard treaties and international laws, becoming one of the contemporary jurisprudential problems between trade and environmental regimes.[4] Thus, the biosafety issue is a good example used to find some new trends about the trade and environmental regimes' "complex".[5]

Chapter 1 first describes the research question, focusing on three specific issues, which lie between the WTO and the Biosafety Protocol. In **1-2,** this chapter explains the background of the research question by using the literature on trade and the environment issues and the debates from a combination of economic, legal and political perspectives. This review demonstrates not only the recent divided arguments of trade and the environment but also widened differences between North and South perspectives of the world. Then, it also proposes what should/has been done on the study of developments in trade and the environment. In **1-3,** this chapter provides the structure of the thesis.

Defining the research question

Multilateral trade and environmental agreements each have a role to play in achieving a sustainable future. For example, the WTO supports environmental concerns through the imposition of technical barriers, whereas MEAs, which contain trade measures, protect the environment through trade restrictions. The former has the goal of gaining economic welfare by the use of the "non-discrimination" principle[6], whereas the latter protects the environment by the "global governance" principle[7], especially in developing countries. However, the WTO has greatly expanded its reach compared with the General Agreement on Tariffs and Trade (GATT). Many issues that used not to be considered as in the domain of trade policy are being dealt with by the WTO. There has been an increasing overlap between trade rules and rules relating to the environment and coherent processes between these two rules have been slow.

It is complicated and problematic to achieve both trade and environmental regimes' goals, because their successes have been sustained by the two different sets of principles, norms, rules

[4] In this chapter, I use "regime" as a general term (a particular system of government). However, in chapter 2, I discuss "regime" within studies of international relations and I define what "regime" indicates in this thesis.

[5] Raustiala, Kal & Victor, David G., "The regime complex for plant genetic resources," Working Paper # 14, Program on Energy and Sustainable Development, Stanford University, May 2003. They call a regime complex "an array of partially overlapping institutions governing a particular issue/area, among which there is no agreed upon hierarchy".

[6] "A country should not discriminate between its trading partners (giving them equally "most-favoured-nation" or MFN status); and it should not discriminate between its own and foreign products, services or nationals (giving them "national treatment")." The WTO, Understanding the WTO, Available online, [http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm] viewed 20 December 2005.

[7] "The concept of global governance is the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is continuing process through which conflicting or diverse interests may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest." The World Commission on Environment and Development, *Our Common Future*, Oxford University Press, Oxford, 1987, p. 2.

and policy-making procedures.[8] The empirical study of this thesis focuses on the relationship between the WTO and the Cartagena Protocol on Biosafety, which is characterized by three conjectures about the dynamics of the regime complex.

Firstly, since the post-war period, the overlapping problems between international agreements have risen because of the density of international institutions. Problems of the relationship between the WTO and MEAs have been discussed but causes of problems have not been investigated clearly because of regimes' complicated rules driven by their contradictory norms. Secondly, the slow progress in the coherence process between the WTO and MEAs has mostly resulted from the problems of negotiation within the WTO. There are two main strategies to clarify the relationship between trade and environmental regimes: the "top-down" and "bottom-up" approaches[9]. The strategies also reflect the dynamics of contemporary international relations, which seem to shift from the "top-down" to "bottom-up" system. Thirdly, WTO jurisprudence has influenced the negotiation of new environmental agreements. Reflecting the legalization of international organizations, the relationship between the WTO and MEAs is mainly driven by efforts to resolve legal inconsistency between overlapping rules developed in different norms. Thus, international relations cannot ignore the evolution of international law.

Moreover, there have been many trade or environment specialists in studies of international relations or international law. International law scholars concentrate on detailed jurisdictional matters; on the other hand, international relations scholars focus on policy-making procedures. However, it is important that the analyses of crossover issues take into account both sides of studies. Also, the implications of increasing international institutional problems need to be analyzed by detailed judicial perspectives and also by broad-spectrum studies of international relations.

The empirical study of this thesis focuses on three specific issues between the WTO and the Cartagena Protocol on Biosafety to support and answer the central question. Firstly, the empirical study looks at examples of the classic WTO-MEAs conflict. It analyzes how the WTO and the Cartagena on Biosafety Protocol Agreements recognize "like" products and require identification of products. Secondly, the empirical study compares risk assessment of the WTO and the Biosafety Protocol. It particularly focuses on the WTO's sanitary and phytosanitary provisions[10] to analyze how the WTO Agreement assesses the case of genetically modified organisms (GMOs). Thirdly, the study evaluates the relationship between the WTO's use of the precautionary principle and the Biosafety Protocol's precautionary approach. It scrutinizes WTO's sanitary and phytosanitary-related dispute cases to illustrate differences between the WTO and the Protocol's precautionary rules. The aim of these three studies is to discover general inconsistencies between Agreements of the WTO and MEAs.

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[8] Krasner, Steven D. "Structural Causes and Regime Consequences: Regimes as Intervening Variables," in Krasner, Steven D. (ed), *International Regimes*, Cornell University Press, Ithaca, 1983, p. 2.

[9] "The "top-down" approach formulates one-fit-all policies without going into individual details; in contrast, the "bottom-up" approach specifies each individual policy in detail by case-by-case bases." Wikipedia, Available online, [http://en.wikipedia.org/wiki/Top-down] viewed 20 December 2005.

[10] The provisions are mainly under the WTO Agreement on the Application of Sanitary and Phytosanitary Measures, which sets out the basic rules for food safety and animal and plant health standards.

New international environmental treaties have been founded to handle issues of scientific uncertainty concerning products that may possibly harm the environment. Genetic modification is one of them. Technological developments have allowed far-reaching techniques of genetic manipulation. As a result, genetically modified or related resources have been significantly rising in value, and in turn the international market has been induced to create new trade rules for these new products. On the other hand, how these new technologies will affect human, animal and plant life and health is still uncertain, and those international standards have not yet been created to protect human, animal and plant health. Moreover, even newer bio-products such as products made using nanotechnology[11] have already come onto the international market. Thus, this case study provides important examples to analyze the major problems that exist within the coherence process between trade and environmental regimes and to conceptualize how trade and environmental issues can be governed in a more sustainable way.

1-2. The background to the research topic

Multilateral Trading Agreements (MTAs) versus Multilateral Environmental Agreements (MEAs)

The traditional conception of an international regime has adapted to a new global order. The transboundary-character of environmental protection and the challenge of liberalization in trade oblige both trade and environmental regimes to become involved in multilateral structures, which are possibly designed to address trade and the environment together. However, multilateral trade and environmental agreements sometimes play inconsistent roles because trade and environmental regimes have established different sets of agreements in achieving their own goals. Also those agreements are developed by various levels of motivation and purpose; hence they facilitate different scopes and obligations.

Firstly, this section briefly introduces both sides: trade and environmental regimes' perspectives. Secondly, it shows classical discussions of problems between trade and environmental regimes, and the ideas of a sustainable relationship between them. Finally, the discussion explains the trend in the development of the WTO and MEAs relationship.

Trade liberalization

> [T]he 'constitution' of the WTO will clearly shape world economics for decades to come, and can also have important influences on many non-economic goals, including vital issues of maintaining peace in the world.[12]

[11] "No government has developed a regulatory regime that addresses nano-scale technology. A handful of food and nutrition products containing invisible and unregulated nano-scale additives are already commercially available. Likewise, a number of pesticides formulated at the nano-scale are on the market and have been released in the environment." The ETC Group, "Down on the Farm: The Impact of Nano-scale Technologies on Food and Agriculture," November 2004, Available online [http://www.etcgroup.org/ article.asp?newsid=485] viewed 20 December 2005.

[12] Jackson, J.H., The world trade organization: constitution and jurisprudence, Royal Institute of International Affairs, London, 1998, p.102.

The WTO has become one of the most influential trade organizations in the field of global governance, which has engaged the daily lives of almost 150 sovereign Member States' citizens.[13] The WTO has extended the reach of trade rules and has developed them into the regulatory structure. Thus, some government and public interest groups have sought non-trade related roles in WTO processes and others have demanded the WTO to undertake major reforms. The WTO has found itself at the centre of controversy in areas which are outside the domain of traditional trade policy.

The World Trade Organization came into force in January 1995. The completion of the Uruguay Round brought a new era of trade liberalization. The WTO is the successor to the General Agreement on Tariffs and Trade (GATT) which was established in the post-Second World War period. Economists, such as Sander specializing in globalization, believe the possibilities for creating a mutually beneficial world economic system.[14] Inotai and Sander think that "the WTO is a major achievement in institutionalized global economic cooperation" and that "the success of the WTO is to reduce barriers to trade and to conduct trade according to its agreed rules".[15] However, although the GATT was the forum for many features of the globalization process, the WTO currently faces an unprecedented set of challenges, such as the proliferation of unilateral and bilateral Free Trade Agreements and the escalation of non-tariff forms of protectionism. Thus, some economists have given assessments of both the short-term impact of the WTO and its ability to sustain the international trading system. For example, Hoekman and Kostecki focus on the WTO's role as the primary organization through which trading nations manage their commercial interactions and the focal point for policy responses to the rapidly changing global trading environment.[16] They show these new trends in WTO agreements with numerous examples used to illustrate the WTO perspective of managing broader issues. They also emphasize developing countries' demands for greater accountability, access and balance of trade because these countries are often critical of the operation of the WTO system.[17]

The successful implementation of the Uruguay Round agreements extended the GATT rules to regulate the new areas, such as trade in agriculture, dispute settlement, intellectual property and services. Economists specializing in trade, such as Sampson, support development of the WTO's agreements for handling these new issues.[18] On the other hand, he proposes that the WTO requires reforms for such problems as non-transparency and the lack of developing

[13] 148 members on 16 February 2005 with dates of membership, the WTO. Available online, [http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm] viewed 20 December 2005.

[14] Sander, Harald, "Multilateralism, Regionalism and Globalisation: The Challenges to the World Trading System," in Sander, Harald, & Inotai, András, (eds), *World Trade After the Uruguay Round: Prospects and Policy Options for the 21st Century*, Studies in the Modern World Economy, Vol. 2, Routledge, London and New York, 1996, pp.17-36.

[15] Sander, Harald, & Inotai, András, "Introduction," in Sander, Harald, & Inotai, András, (eds), Ibid, pp. 1-13.

[16] Hoekman, Bernard M. & Kostecki, Michel M., " Introduction," in Hoekman, Bernard M. & Kostecki, Michel M.(eds), *The Political Economy of the World Trading System: The WTO and Beyond*, Oxford University Press, Oxford, 2001, pp.1-5.

[17] Hoekman, Bernard M. & Kostecki, Michel M., "Whither the trading system?," Ibid, pp. 479-485.

[18] Interview with the WTO officer #1-1, October, 2003.

country participation. Sampson questions "how wise policy-makers can respond to the pressures falling on the WTO system and ensure the preservation of a trading system", which has brought non-trade-related issues into the international trading system.[19]

Furthermore, the WTO covers some topics, which go beyond what is generally thought to be under a trade policy, through its dispute settlement procedures. The current criticisms of free trade are likely to focus on trade and the environment aspects of the WTO because they concern the WTO's influence on the important implications for environmental protection. Shiva, the environmentalist, states that "trade liberalization under WTO auspices unnecessarily leads to an environmentally harmful exploitation of natural and other resources".[20] On the other had, Oxley, the trade specialist, argues that "the WTO hampers governments in pursuing environmentally friendly policies".[21]

There have been some criticisms about environmental harm coming from liberalization of trade. Environmentalists concern that the trade regime has encouraged over consumption to commodifying common pool resources. For example, eliminating tariffs in natural resources would dramatically increase their exploitation. It has been acknowledged that eliminating tariffs on wood products can dramatically increase logging, exacerbating deforestation in some of the world's most sensitive forests.[22] Trade liberalization has sometimes chilled MEAs to protect the environment. Environmentalists feel that rules of the trade regime are likely to be more influential than MEAs; hence exceptions to trade rules for environmental concerns have been minimal.[23] Moreover, liberalization of trade has increased undercutting sustainable livelihoods for the poor. A large proportion of poor people work in the agricultural sector, where trade distortions are particularly high, and their agricultural industries are often monopolized by big multinational companies.[24]

Number of scholars have proposed ideas for WTO reform; for example, Chambers and Sampson have recommended a variety of possible ideas to defend criticisms of the WTO's environment-related policy, such as improving environmental labeling schemes and sanitary and phytosanitary standards under the WTO Agreements.[25] In contrast, Rao contends that the WTO needs to be reconceptualized as part of a set of international organizations contrived to govern the planet and its environment, although he states that it is not always true that environmental

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[19] Sampson, Gary P., "Overview", in Sampson, Gary P. (ed), *The Role of the World Trade Organization in Global Governance*, United Nations University Press, Tokyo, 2001, pp. 1-17.

[20] Shiva,Vandana "Introduction: Ecology movements and conflicts over natural resources," *Ecology, and the politics of survival*, United Nations University Press, Tokyo, 1991, pp.13-60.

[21] Oxley, Alan, "Managing the relationship between MEA's and the WTO: Addressing the real problem," Australian APEC Study Centre, Melbourne, July 2001.

[22] Global Exchange, Free Trade and the Environment, September 16, 2005.

[23] Conca, Ken, "Environmental governance after Johannesburg: From stalled legalization to environmental human rights?," *Journal of International Law and International Relations* Vol. 1:2, 2005, pp.121-138.

[24] Bouët, Antoine, "How Much Will Trade Liberalization Help the Poor?," International Food Policy Research Institute, 2006.

[25] Bradnee, W. Chambers & Sampson, Gary P., "Introduction and overview," in Bradnee, W. Chambers & Sampson, Gary P. (eds), *Trade, Environment and the Millennium*, United Nations University Press, Tokyo, 2002, pp.1-34.

issues are better handled by the MEAs than under WTO trade regimes.[26] Moreover, some scholars try to find a middle way, such as Bhagwati and Hudec who discuss and analyze forms of trade and the environment policy harmonization. Bhagwati and Hudec have proposed that the trade regime coexists with social policies by analyzing domestic environmental regulations and their diversities.[27]

However, the trade and environment issue cannot be discussed only by focusing on the structure and politics surrounding the WTO, but also by the provisions of the various WTO Agreements and MEAs, and the WTO jurisprudence and its case law.

Some critics focus on the GATT's environmental related laws and its dispute settlement mechanism. Esty published his book in the same year as the Uruguay Round of GATT trade negotiations, and policy-makers were searching for ways to lessen the conflict between trade liberalization and environmental protection. He analyzes the policy failures that have contributed trade and environmental conflicts.[28] Esty concludes that "the building of environmental values into the international trade system has not been enough, and fundamental changes are required in environmental policy-making".[29] In addition, he has proposed the creation of a Global Environmental Organization to strength global environmental governance.[30] Annan, the UN Secretary-General, also has recommended establishing a World Environment Organization to be the legal counterpart to the trade regime.[31]

Some trade and environmental law specialists have given more severe views of the WTO environmental regulations. Charnovitz has analyzed the WTO and MEAs issues from an environmental perspective.[32] He claims that "the WTO reform does not discuss ways in which WTO disciplines may prevent the attainment of environmental treaties".[33] Thus, he concludes that "the WTO has given minimal attention to the problem of protectionism and how trade policy failures can worsen environmental quality".[34] On the other hand, some trade law specialists have suggested that it is a priority to enhance WTO's environmental protection roles as well as to

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[26] Rao, P. K., "New role for the WTO," *The World Trade Organization and the Environment*, Director Center for Development Research Princeton, New Jersey USA, 2000, pp. 165-176.

[27] Bhagwati, Jagdish N. & Srinivasan, T. N., "Trade and the environment: Does environmental diversity detract from the case for free trade?" and Hudec, Robert E., "GATT legal restraints on the use of trade and measures against foreign environmental practices," both in Bhagwati, Jagdish N. & Hudec, Robert E. (eds), *Fair Trade and Harmonization*, Vol. 2, Legal Analysis, The MIT Press, Cambridge, MA, 1996, pp. 95-158 and pp. 159-199.

[28] Esty, Daniel C., *Greening the GATT: Trade, Environment, and the Future*, Institute for International Economics, Washington D.C., 1994, pp 227-229.

[29] Ibid, pp.239-242.

[30] Esty, Daniel, "The World Trade Organization's Legitimacy Crisis," *World Trade Review,* Vol. 1:1, 2002, pp.7-22.

[31] Ruggiero, Renato, The high level symposium on trade and the environment, the WTO, 15 March 1999.

[32] Charnovitz, Steve, "World trade and the environment: A review of the new WTO report," *Georgetown International Environmental Law Review*, Vol.12:2, 2000, pp.523-541.

[33] Charnovitz, Steve, "The Legal Status of the Doha Declaration," *Journal of International Economic Law*, March 2002, pp 207-211.

[34] Charnovitz, Steve, "A Critical Guide to the WTO's Report on Trade and Environment," *Arizona Journal of International and Comparative Law*, 1997, pp. 341-379.

strengthen the international trading system.[35] Due to pressure from environmental proponents, trade rules and procedures have been forced to be environmentally friendly; hence trade specialists' concern that the international trading system will be undermined by the extreme demands of environmentalists.[36]

Environmental economists have proposed many approaches, such as linking trade and environmental issues to international investment and proposing how international trade and investment should be increased without damage (or threats) to the environment, especially in resource rich developing countries.[37] Neumayer thinks that the WTO and the multilateral agreements on investment should be reformed more effectively to achieve their aims, although he also thinks that attaining a constructive solution is one of the most difficult issues in international trade agreements.[38] He believes that "the trade regime can be greened without erecting protectionist barriers to trade".[39]

Other economists try to link a new environmental issue such as biotechnology into trade measures. Robertson focuses on the relationship between environmental risk management and the WTO: managing risk in policy-making, negotiating experience with risk, national risks and quarantine standards, and managing biotechnology by sampling varieties of new topics, such as the WTO Agreement on the Application of Sanitary and Phytosanitary Measures related disputes, government regulations, and genetically-modified organisms.[40] He states that to avoid environmental risks, it is necessary to change national regulations to meet international standards through the WTO and to introduce non-economic issues such as environmental damage.[41] However, due to insufficient evidence of environmental problems, it is still too early to draw a conclusion. The research needs to be developed further and the various areas of study discussed: for example, how the scientific-related issues should be interpreted into trade and environmental measures.

Finally, after decades of discussions, scholars still question how much the WTO can contribute to the sustainable coexistence of nations, and what role international trade and environment agreements should play in the protection of the environment, as well as in the achievement of social welfare.[42] The question points to one of the most difficult tasks in the

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[35] Thomas, Urs P., "Trade and the Environment: Stuck in a Political Impasse at the WTO after the Doha and Cancun Ministerial Conferences," *Global Environmental Politics*, Vol. 4: 3, August 2004, pp. 9-21.

[36] Schultz, Jenny, "Balancing the Relationship between trade and the environment within the World Trade Organization: Is this the end of the sea turtle?" *Asia Pacific Journal of Environmental law*, Vol.4, 1999, pp.37-60.

[37] Neumayer, Eric, *Greening Trade and Investment Environmental Protection without Protectionism*, Earthcan, London, 2001, pp. 103-117.

[38] Neumayer, Eric, "Trade and the environment: A critical assessment and some suggestions for reconciliation," *Journal of Environment and Development*, Vol.9: 2, 2000, pp.138-159.

[39] Neumayer, op. cit., pp. 158-184.

[40] Robertson, David, "Genetically modified foods and global trade," in Kellow, Aynsley J. & Robertson, David (eds), *Globalization and the Environment: Risk Assessment and the WTO*, Edward Elgar, Chelthenham, UK, 2001.

[41] Ibid.

[42] Sampson, G. P., "Trade and the environment," *Trade Rules in the Making: Challenges in Regional and Multilateral Negotiations*, in Rodríguez, M., et al. (eds), Brookings Institution Press, Washington, D.C., 1999, pp. 511-524.

global governance: how "free trade"[43] can protect the environment without harming economic development.

With respect to the GATT tradition of comparative advantage, the GATT report stipulates that "differences in environmental policies are properly regarded as domestic choices reflecting among other factors the domestic trade-offs between income and environment and that such differences can well be an additional source of gainful trade among nations".[44] However, trade liberalization of the GATT did not seem to bring enough flexibility to accommodate different policy choices among Member States. Thus, WTO roles are still to fulfil as a trade organization by policing measures that constitute unnecessary obstacles to trade.

Environmental protection

> [L]beralization of sectors of the economy such as agriculture and health would make many goods and services unavailable to the majority of people,….Trade liberalization erodes indigenous and diverse systems of agriculture, promoting environmental degradation and reducing nutritive standards.[45]

Since the environmental issue is no longer entirely new in the economic debate, environmental regimes have started enforcing trade restrictions for the acceptance of various environmental and social standards. As a result, some MEAs have been effective in preventing environmental degradation and efficient in saving biodiversity throughout the world.[46] On the other hand, such actions have ironically resulted in raising the eco-protectionism of some countries, where relatively higher environmental standards implicitly favor domestic firms, or eco-dumping in which some domestic producers are allegedly injured by low environmental standard imports from unregulated foreign suppliers. There has been heightened concern that countries can gain unfair trade advantages through sacrificing the environment, hence trade measures have been influenced by protectionist motives. Trade and environmental law specialists, such as Stillwell and Tarasofsky, propose "reforms of the global framework of economic law, policy and institutions in order to create a more balanced global economy, which is environmentally sustainable and beneficial to all people in a more equitable way". [47]

According to UNEP and the WTO surveys conducted in 2001, there have been 238 international agreements dealing with various environmental issues, which are categorized as MEAs.[48] Thirty-eight of MEAs contain trade measures which restrict trade in specific products, or allow importing countries to ban trade in particular circumstances.[49] The WTO Members

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[43] In this thesis, "free trade" means generally to promote to reduce trade barriers and to restrict protectionism.
[44] GATT Secretariat, *International trade 1990-1991*, Vol. 1, General Agreement on Tariffs and Trade, Geneva, 1992.
[45] Tolba, Mostafa K. with Rummel-Bulska, Iwona, *Global Environmental Diplomacy Negotiating Environmental Agreements for the World, 1973-1992*, The MIT Press, Cambridge, MA, 1998, pp. 169-170.
[46] Interview with the UNEP officer #1-1, October, 2003.
[47] Stillwell, Matthew & Tarasofsky, Richard, *Towards Coherent Environmental and Economic Governance: Legal and Practical Approaches to MEA-WTO Linkages*, A WWF-CIEL, Discussion Paper, October, 2001.
[48] The WTO, Matrix on Trade Measures Pursuant to Selected MEAs, WT/CTE/W/160/Rev.1, 14 June, 2001, p.55.
[49] Ibid.

agreed that the UN Environment Programme (UNEP) and six MEAs are qualified to attend existing WTO Committee on Trade and Environment (CTE) regular sessions as an observer:

(i) the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal,
(ii) the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES),
(iii) the Convention on Biodiversity (CBD),
(iv) the Montreal Protocol on Substances that Deplete the Ozone Layer,
(v) the International Tropical Timber Organisation (ITTO), and
(vi) the UN Framework Convention on Climate Change (UNFCCC).[50]

However, MEAs have requested an observership for the special sessions.

The WTO Members have also been discussing whether to identify six MEAs that have wide economic implications:

(i) the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal,
(ii) the Convention on International Trade in Endangered Species (CITES),
(iii) the Montreal Protocol on Substances that Deplete the Ozone Layer,
(iv) the Cartagena Protocol on Biosafety,
(v) the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, and
(vi) the Stockholm Convention on Chemicals Persistent Organic Pollutants (POPs).[51]

These second six MEAs have been seen as a global economic indication; although the latter three MEAs have entered into force recently. This section focuses on the first three of these six MEAs (the Basel Convention, CITES and the Montreal Protocol). There is a reasonable amount of literature written about these three MEAs to identify how these MEAs have protected the environment by restricting trade as well as problems of their trade policies.

The Basel Convention aims to restrict transboundary movements of the dumping of hazardous wastes, particularly into developing countries. The most significant development was the decision at the 1994 Second Conference of the Parties to the Basel Convention (COP-2) to ban the export of hazardous wastes destined for final disposal from Organisation for Economic Co-operation and Development (OECD) to non-OECD countries, and also to ban the export of wastes intended for recovery and recycling by 31 December 1997.[52] This decision particularly focuses on stopping transboundary movements of hazardous wastes to developing countries,

[50] The WTO CTE, MEA Database: Matrix on Trade Measures Pursuant to Selected Multilateral Environmental Agreements (MEAs), WT/CTE/W/160/Rev.2, 25 April 2003.
[51] The WTO CTE Report, TN/TE/7 and Suppl.1, 15 July, 2003.
[52] OECD Working Papers, "Trade measures in the Basel Convention on the control of transboundary movements of hazardous wastes and their disposal," Vol. 6, No.31, OECD, Paris, 1998. The Basel Convention, The COP-2, Decision II/12.

which are mostly non-OECD. The decision has been useful in regulating complicated cases, such as the recycling of lead-acid batteries. Some developing countries source a significant proportion of their lead requirements from imported used lead-acid batteries (ULABs), such as India and the Philippines. Due to the need for batteries in cars and motorcycles, telecommunications and computer equipment, the demand for lead in developing countries in South-East Asia has significantly increased.[53]

However, this decision was not incorporated in the text of the Basel Convention itself; hence the question remained whether it was legally binding or not. At the 1995 Third Conference of the Parties to the Basel Convention (COP-3), Decision III/1 was proposed that the ban be formally incorporated in the Basel Convention as an amendment.[54] This amendment includes scope, which does not use the distinction between OECD and non-OECD countries. Decision III/1 bans hazardous wastes exports for final disposal and recycling from Annex VII countries (Parties to the Convention that are Members of the EU, OECD and Liechtenstein) to non-Annex VII countries (all other Parties to the Convention).[55]

There have been arguments that the ban can efficiently regulate transboundary movements of hazardous wastes to non-Annex VII countries, especially those that are quickly developing advanced industrial capacities. Developing countries often do not have the power to enforce an import and export ban, because enforcement of the ban seems to depend on the responsibility of exporting industrialized countries.[56] For example, illustrating the economic impacts, the inability of those developing countries' industries to source ULABs from Annex VII countries suggests that either those demands need to be met by domestic supplies, which causes some plants using secondary zinc imports to be closed, or by illegal imports, which leads to an increase in the informal recycling sector, such as backyard recyclers who operate with few health and environmental controls.[57] Kummer points out that non-Annex VII countries' environmentally friendly and economically viable recycling may be imposed under this decision because some industrialized countries can object to the export ban as it is environmentally unfriendly.[58] Thus, some scholars, such as Guevara and Hart, question the Basel Convention's ban amendment for the export of hazardous recyclables.[59] Krueger also points to the decision that "MEAs' trade

[53]Bureau of International Recycling, "Impact of the Basel Convention and Trade Ban on the Supply of Secondary Raw Materials," 1997.
[54] The Basel Convention, The COP-3, Decision III/1.
[55] Ibid.
[56] International Centre for Trade and Sustainable Development, *BRIDGES*, Special Doha Ministerial Issue, October 2001.
[57] Dua, Andre, & Esty, Daniel C., *Sustaining the Asia-Pacific Miracle: Environmental Protection and Economic Integration*, Institute for International Economics, Washington, 1997, pp.41-42.
[58] Kummer, Katharina, "Transdoundary movements of hazardous wastes at the interface of environment and trade," *Environment and Tare Series*, No.7, UNEP, Geneva, 1994.
[59] Guevara, Maria Isolda P. & Hart, Michael, "Trade policy implications of the Basel Convention Export ban on recyclables from developed to developing countries," The International Council on Metals and the Environment, Ottawa, 1996.

measures should be examined as instruments of last resort after all other options have been considered".[60]

The aim of CITES is to protect specimens of wild animals and plants by regulating international trade. CITES Agreements require that "all import, export, re-export and introduction from the sea of species covered by the Convention have to be authorized through a licensing system".[61] In its famous ivory case, CITES not only regulates international trade in threatened wildlife species, but also deals with the issue of habitat conservation and wildlife management. The Convention has increased scientific knowledge to encourage local species protection efforts.

However, the CITES ivory-quota system lowered the value of ivory on the world market. Many Africans, particularly Zimbabwean, who rely on the income suffered: as a result, they had to kill more elephants.[62] The CITES ban initially seemed to effectively reduce the trade in ivory, but it led to the illegal killing of more elephants. CITES admitted that its trade ban did not achieve its primary purpose of saving endangered species and it had to change to the sustainable-use approach on a case-by-case basis.[63] Some environmental specialists worry that CITES is fundamentally misconceived because its policies on restricting trade can be a threat to wildlife by reducing human incentives to conserve species or their habitat.[64] Hutton and Dickson have examined the effect of CITES through the North-South conflict arising from the differing perceptions of the relationship between conservation and economic development in these regions. They concern that CITES may not work to halt the decline of wild species, because CITES does not take account of the actual causes of extinction in some cases.[65]

Under the auspices of UNEP, the Montreal Protocol was funded to enforce a mix of product and process-related regulations: a ban on ozone-depleting substances (ODSs), a ban on trade in products containing ODSs within non-Parties and a ban on imports produced with controlled substances. Most industrialized countries are classified as *Article 2* countries under the Protocol, and have banned the production of Chlorofluorocarbons (CFCs) under the Montreal Protocol since 1996. Developing countries have agreed to reduce CFC consumption by 50% by 1 January 2005.[66] For methyl bromide,[67] developed countries agreed to freeze their consumption at 1995 levels and to eliminate all use by 2010.[68]

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[60] Krueger, Jonathan, *International Trade and the Basel Convention*, The Royal Institute of International Affairs, London, 1999, pp. 82-98.

[61] Convention on International Trade in Endangered Species of Wild Flora and Fauna, Available online, [www.cites.org/]

[62] Mofson, Phyllis, "Zimbabwe and CITES: Influencing the international regime," in Dickson, Barnabas & Hutton, Jon (eds.), *Endangered Species Threatened Convention*, Earthcan, London, 2000, pp. 107-121.

[63] Swanson, Timothy, "Developing CITES: Making the Convention work for all the Parties," Ibid, pp. 134-152.

[64] Favre, D., "Debate within the CITES Community: What direction for the future?" *Natural Resources Journal*, Vol. 33, 1993, pp.875-918.

[65] Dickson, Barnabas, "Global regulation and communal management," in Dickson & Hutton (eds.), op. cit., pp. 161-177.

[66] UNDP, The Vienna Convention and the Montreal Protocol, Available online, [http://www.undp.org/seed/eap/montreal/montreal.htm] viewed 20 December 2005.

However, loopholes in the Montreal Protocol have led to the creation of an international black market trade in the banned substances. Developing countries continue to produce increasing amounts of CFCs at relatively low prices, which is completely lawful under the Protocol because a developing country classified as an *Article 5* country can legally produce CFCs until 2010. On the other hand, declining stockpiles of legally produced CFCs in *Article 2* countries have caused the market prices of these refrigerants to rise, resulting in an increase of illegal imports from developing countries.[69] Like other MEAs, the origins of trade restrictions in the Montreal Protocol were dominated by the economic concerns of industrialized countries and their industries. This problem was also caused by the increasing use of these profitable chemicals. Richard Benedick, the chief US negotiator of the 1987 Montreal Protocol, has complained that "the purpose of the Protocol should be simply to introduce environmental protection for one of the earth's damaged resources, but the primary motivation has been more economically defined".[70] On the other hand, some environmentalists have proposed that the Protocol needs to be flexible and to recognize economic and socio-economic considerations; hence its mandated periodic assessments should assure its relevance and usefulness into the future.[71]

Some MEAs have succeeded while others have failed. Economists, such as Oxley, think that the potential problem of MEAs' trade restrictions arises from poor environmental policy in international agreements rather than the terms of the trade regime's agreements.[72] International treaties requiring common conservation policies, not trade sanctions, could be the more effective way to protect natural resources. On the other hand, environmental researchers, such as Miles and Underdal, emphasize effectiveness in an environmental regime, and factors contributing to their effectiveness.[73]

These are the kinds of arguments about sustainability of some MEAs' trade restrictions. According to the three cases, there are real problems of environmental degradation and implementation of environmental protection. Some environmentalists question whether MEAs actually can do better than the collective model.[74] And others are concerned that the rules of

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[67] Other control measures apply to ODS such as halons, carbon tetrachloride and methyl chloroform. Methyl bromide is to be used primarily as a fumigant.

[68] UNDP, op.cit.

[69] For example, one source said that developing country production has exploded, rising 87 percent between 1986 and 1993. A black market has arisen, with estimates that 20 percent of sales were illegal and originated in developing countries. Part of the reason can be that funding to developing countries was less than promised. Stuart, Nathan, "Wanna buy any hot CFC? Smuggling of Chlorofluorocarbons," *Process Engineering*, Vol.77, No.6, June 1996; and TED Case Studies: Montreal Protocol, Available online [http://www.american.edu/projects/mandala/TED/montreal.HTM] viewed 20 December 2005.

[70] Benedick, Richard Elliot, *Ozone Diplomacy: New Directions in Safeguarding the Planet*, Harvard University Press, Massachusetts, 1991, pp. 306- 333.

[71] Tolba, Mostafa K. with Rummel-Bulska, Iwona, op.cit. 1998, pp. 55-87.

[72] Oxley, Alan, *The Impact of Environmental Issues on International Trade*, Australian APEC Study Centre, Melbourne, 1996.

[73] Underdal, Arild, "Conclusions: Patterns of regime effectiveness," in Miles, Edward L., et al. (eds), *Environmental Regime Effectiveness: Confronting Theory with Evidence*, The MIT Press, Cambridge Massachusetts, 2002, pp. 433-466.

[74] Krueger, Jonathan, op.cit., 1999, pp. 82-98.

global environmental protection are often one size fits all; hence MEAs may need to be open for alternative technologies for countries in the different stages of economic developments.[75] Thus, the three examples of MEAs may not generalize the relationship between trade liberalization and environmental protection. However, these different cases do illustrate a common contradiction between trade and the environment issues.

Jurisdictional arguments of the relationship between the WTO and some MEAs

The dynamics of the use of natural resources and trade liberalization have changed environment-related trade issues with the entry into force of the GATT Uruguay Round Agreement. The relationship between international trade law and environmental law ought to be synergistic and mutually supportive. However, in practice, the two jurisdictions often contain incompatible provisions and avoiding clashes remains a controversial *ad hoc* task. A WTO panel has been seen to be too trade-centric because it applies high hurdles of proof that must be overcome for the environmental side to prevail. On the other hand, MEAs may not be the best environmental policy because some MEAs' trade restrictions do not always protect the environment.

The WTO perceives trade restrictions in one of three ways: an import restriction, an export restriction, or a means of economic discrimination. The trade regime maintains three core principles (*Article I*: *The Most-Favoured-Nation principle, Article III*: *The National Treatment principle*, and *Article XI*: *Prohibition on Quantitative Restrictions on Imports and Exports*, which have been considered to be inconsistent with MEAs' trade measures) to control trade which itself causes environmental harm; to protect states from substances harmful to the domestic environment; or to support agreements to protect the global commons. International trade and environmental law specialists have reviewed classical cases and examined potential conflicts using cases between the WTO and the Montreal Protocol, the Basel Convention and CITES.[76] The definition of environmental products under the GATT; the relationship between a Party and a non-Party of MEAs; the relationship between the GATT *Article XX*: *General exceptions* and environmental protection; and consistency between the three GATT principles and MEAs' trade measures have occupied the centre of juridical discussions.

Firstly, some trade and the environment specialists, such as Krueger, have examined the developments of the trade-restrictive provisions of environmental regimes to recommend the future clarification of the relationship between them. Krueger has examined the compatibility between the Basel Convention's trade restrictions and the WTO to analyze the potential impact of the Basel Convention's trade measures on non-recyclable hazardous wastes.[77] The most problematic question is whether recyclable hazardous wastes should be considered "a product" for the purpose of the WTO rules. The Convention defines hazardous materials that are intended

[75] Moor, Patrick, a co-founder of Greenpeace, Yomiuri news paper, December 30, 2005.
[76] Jha, Veena & Hoffmann, Ulrich, "Achieving Objectives of Multilateral Environmental Agreements: A package of trade measures and positive measures Elucidated by results of developing country case studies," UNCTAD/ITCD/TED/6, UNCTAD, 2001.
[77] Krueger, 2000, op.cit., pp. 43-63.

for disposal and recycling as wastes; hence they are subject to the regulations of the Convention,[78] whereas the WTO Agreement does not contain an agreed definition of products. The Basel Convention has not sought advice from the WTO secretariat regarding its opinion about the trade restrictive measures; hence this issue has been left uncertain.[79]

Secondly, another major WTO-MEAs issue is the relationship between the dispute settlement procedures of the WTO and those of MEAs. Some MEAs, such as the Montreal Protocol, include a clause that suspends the Protocol's trade restrictions for non-Parties of the Protocol deemed to be incompliant with its provisions, partly in order to help ensure conformity with the GATT. However, if a dispute arises between Parties of MEAs, which are also Members of the WTO, these countries can apply between themselves pursuant to the dispute settlement procedures available under MEAs.[80] However, according to the WTO CTE, since the establishment of the dispute settlement body, Member States which are also Parties of MEAs have brought more environment-related dispute cases to the WTO.[81] The development of the WTO's jurisdiction has increased unevenness between the WTO and MEAs' rules on trade and environmental issues.

Moreover, a situation of ambiguity in a WTO provision for other international environmental agreements may potentially increase conflicts between trade and environmental regimes.[82] The compatibility of the WTO jurisdiction with MEAs depends on how far WTO case law would apply its rules into the specific case of trade measures taken under MEAs. Environmental lawyers generally support greater strength of MEAs and their trade measures. For example, Granadillo has provided an overview of the regulation of the international trade of endangered species by the WTO and under CITES. However, Granadillo has also identified weaknesses and draws on experience from other international compliance systems to suggest improvements in the effectiveness of the CITES compliance system.[83] Likewise, Reeve has offered case studies of non-compliant Parties subject to bans on trade in CITES species. Despite increasing use of trade sanctions against non-compliant Parties, the wildlife has not been protected effectively. Reeve points out that this may be because of one the CITES' weaknesses - the lack of transparency and of systematic registration - hence it is not because of the incompatibility of the Convention's trade provisions with those of the WTO.[84]

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[78] The Basel Convention on the trade or transportation of hazardous waste across international borders, The Basel Convention *Article 2.1*.

[79] The WTO, Trade and Environment at the WTO: Background document, April 2004, Available online, [http://www.wto.org/english/tratop_e/envir_e/envir_backgrnd_e/contents_e.htm] viewed 20 December 2005.

[80] Kummer, Katharina, *International Management of Hazardous Wastes: The Basel Convention and Related Legal Rules*, New York, Oxford University Press, 1999, pp. 243-250.

[81] Report of the Committee on Trade and Environment, WTO, WT/CTE/W/1, 12 November 1996.

[82] Brack, Duncan, "Reconciling the GATT and multilateral environmental agreements with trade provisions: the latest debate," *Review of European Community and International Environmental Law*, Vol.6:2, 1997, pp. 112-120.

[83] Granadillo, Elizabeth, "Regulation of the international trade of endangered species by the World Trade Organization," *George Washington Journal of International Law and Economics*, Vol.32, Winter 2000, pp.437-464.

[84] Reeve, Rosalind, *Policing International Trade in Endangered Species The CITES Treaty and Compliance*, The Royal Institute of International Affairs, London, 2002, pp. 298-319.

Thirdly, the WTO takes the case law approach to enforce trade rules, whereas some MEAs apply trade measures to protect the environment pursuant to a multilateral international agreement. The GATT *Article XX* sometimes permits WTO Members to take unilateral action in pursuit of environmentally unfriendly products and processes. This WTO approach also focuses on only the economic–related environmental issue of the impact on trade; hence it is unlikely to concern administration, political feasibility and environmental effectiveness.[85] In contrast, the Montreal Protocol has been revised with constant reference to scientific assessments of the extent and costs of environmental degradation, which allows trade restrictions between Parties and non-Parties.[86] In practice, international trade regimes have been largely hierarchical and driven by a common set of rules; whereas environmental regimes have been designed to respond to the complexity of specific ecosystems.

Lastly, a jurisdictional threshold question has arisen between the WTO and MEAs, which contain trade measures. However, incompatibility between the GATT and the Montreal Protocol may contribute further discussions for a future relationship between the WTO and MEAs. The GATT's first report on trade and environment in 1971 was that "shared resources, such as a lake or the atmosphere that are being polluted by foreign producers, may give rise to restrictions on trade in the products of that resource, justifiable on grounds of the public interest in the importing country of control over a process, carried out in an adjacent or nearby country".[87] On the other hand, the Montreal Protocol *Article 2* (restrictions on imports of ODSs and products containing ODSs from other Parties to the Protocol) is seen as potentially conflicting with the WTO's non-discriminatory principle. However, the GATT-MEAs' debates have been extended to the WTO as to the compatibility of such measures with the wider global trade rules.

The detailed jurisprudential aspect addresses the need to safeguard the effectiveness of current and future trade and environmental arguments and to ensure that both regimes alone cannot prescribe solutions to environmental problems.[88] The WTO approach is that all Members should be treated equally, which is highlighted by its non-discrimination principle; whereas the MEAs' approach is that less developed countries should be given handicaps in order to have opportunities akin to those of developed countries. However, general discussion of international law that deals with the relationship between different sets of international agreements needs to be developed. The differing definitions between the WTO and MEAs' jurisdictions are the key to the intrinsic contradictions between them.

The discussions of the relationship between trade and environment regimes have illustrated that international environmental agreements cannot be effective without coordinating with trade

[85] von Moltke, Konrad, "International Environmental Management," *Trade Regimes and Sustainability*, International Institute for Sustainable Development, Winnipeg, 1996, p.60.
[86] Rutgeerts, Ann, "Trade and environment: Reconciling the Montreal Protocol and the GATT," *Journal of World Trade*, Vol.33:4, 1999, pp.61-86.
[87] Charnovitz, Steve, "GATT and the environment: examining the issues," *International Environmental Affairs*, Summer, 1994, p.204.
[88] Arden-Clarke, Charles & Cameron, James, "The Relationship between the Provisions of the Multilateral Trading System and Trade Measures for Environmental Purposes," WWF Discussion Paper, WWF International, Switzerland, March 1996.

regimes; equally multilateral trade agreements cannot ignore environmental impacts of sustaining free trade. This suggests that trade and environmental regimes need to respect each others rules - MEAs on the one hand to select the appropriate means for environmental protection, and the WTO on the other to counter protectionist abuse of trade measures. This division of rules shows what attempts have been made to accommodate both the WTO and MEAs in their overlapping area, and proposes how future trade and environmental regimes' different norms should reshape trade and environmental agreements. However, jurisdictional questions still remain on whether trade liberalization and environmental protection can be pursued together, and whether these two objectives can avoid being contradicted.

Searching for a sustainable relationship between the WTO and MEAs

Balancing the policies of liberalizing international trade and the policies of protecting the environment has been a centre of debates in international relations. The debate in this area is often contentious because most resource-rich developing countries claim that trade liberalization has caused the environmental degradation.[89] Environmentalists also argue that liberalized imports and exports make developing countries export their best natural wealth and import waste of international production.[90] On the other hand, some industrialized countries defend that trade institutions have worked on the principles of consensus and cooperation; incorporate scientific findings and respect the precautionary principle; and meet related criteria of efficiency and equity.[91] Some scholars have emphasized that trade would worsen the environment only when government environmental policies are inadequate; hence the optimal way to address any negative environmental effects of trade would be to improve environmental policies at the national level.[92]

Some public international law specialists have also argued about the relationship between the WTO and MEAs. Their positive perspectives on the interrelationship between economic development and environmental protection may offer practical suggestions for reconciling trade and the environment. Pauwelyn states that rules of customary international law, such as environmental and human rights conventions or bilateral agreements to which dispute parties are bound, could be invoked in defence against WTO claims and would be part of the applicable law before a panel and the Appellate Body.[93] On the other hand, Marceau argues that the WTO-covered Agreements are the only law applicable in WTO dispute resolution. If a panel or the Appellate Body concludes that the WTO provision has been violated and superseded by another

[89] Kreinin, Mordechai E. & Schmidt-Levine, Marcella, "The WTO and the international trading environment," in Fatemi, Khosrow (ed), *International Trade in the 21 st Century*, Elsevier Science, New York, 1997,pp.29-46.

[90] Shiva, Vandana, "Globalization Killing Environment," June, 1997, Available online, [http://www.erzwiss.uni-hamburg.de/Personal/Lohmann/Materialien/IntPropRights/shiva1997.html] viewed 20 December 2005.

[91] International Institute for Sustainable Development, "The World Trade Organization and Sustainable Development: An Independent Assessment," WTO Report, Available online, [www.iisd.org/pdf/wto_ assess_summ.pdf] viewed 20 December 2005.

[92] Vaughan, Scott, "Reforming environmental policy: Harmonization and the limitations of diverging environmental policies: The role of trade policy," in Drabek, Zdenek (ed), *Globalization under Threat: The Stability of Trade Policy and Multilateral Agreements*, Edward Elgar, Cheltenham UK, 2001, pp. 147-169.

[93] Pauwelyn, Joost, "The puzzle of WTO safeguards and regional trade agreements," *Journal of International Economic Law*, Vol. 7:1, 2004, pp. 109-142.

non-WTO provision, the Appellate Body may decline jurisdiction since the non-WTO provision is applicable to the relations between parties.[94] According to this view, any other solution could go against a panel and the Appellate Body, which are prohibited from reaching any conclusion with respect to the WTO's legal norms.

Other international law specialists, such as Petersmann, conclude that "international trade and environmental protection policies face similar problems of a political economy nature"; and "both regimes lend themselves to protectionist abuses because they involve powers to tax and restrict domestic policies and to redistribute income among locals".[95] However, problems of trade and environmental regimes and their legal instruments, such as trade restrictions and sanctions may be similar. Nevertheless, the solutions may not be comparable between the two regimes because of their different legal norms.

Conclusion

The studies of the relationship between trade liberalization and environmental protection are still relatively new within international relations studies. Trade and environmental regimes currently in practice have been struggling with the uncertainties of the relationship between different sets of agreements. On the other hand, a regime complex has become much more common in the last decades with the proliferation of international agreements, which has created unavoidable conflicts between them. The similar structure and phenomenon of trade and the environment conflicts can be seen in the case study of this thesis. However, multilateral discussions on the trade and environment link are further on than are discussions on trade and other issues such as labour and human rights.[96] Moreover, several WTO Agreements directly or indirectly address non-economic issues. Thus, although criticized by some for failing to find solutions to key outstanding issues, trade and environment issues may serve as a useful focal point for discussions and analyses of the density of international agreements, which has not been fully developed under international law.

Many scholars seem to focus on a single regime and to stay in a single study area; hence crossover regime analyses have been still largely immaterial for theories of international regimes. There have been some concerns among international law scholars with the growing international treaty complex. However, the implications of increasing institutional density have not received enough interest from international relations scholars. The contradictions between the WTO and MEAs need to be analyzed not only by judicial perspectives but also by intrinsic studies as well as by both trade specialists and environmental specialists.

It could be argued that no real problem exists between the WTO and MEAs. Only a small proportion of MEAs contain trade measures, and there has been no trade dispute in the WTO

[94] Marceau, G., "Conflicts of Norms and Conflicts of Jurisdictions: The Relationship between the WTO Agreement and MEAs and other Treaties," *Journal of World Trade,* Vol. 35-36, 2001, pp. 1081-1131.
[95] Petersmann, Ernst-Ulrich, *International and European Trade and Environmental Law after the Uruguay Round,* Kluwer Law International, London, 1995, p.8.
[96] Especially within the WTO negotiations of trade and non-trade issues. Interview with the WTO officer #1-2, October, 2003.

over their use. However, uncertainty over the relationship between the two sets of agreements is increasingly affecting MEA negotiations, and this uncertainty has exacerbated tensions between some MEAs and the WTO. The difficult negotiations of the Cartagena Protocol on Biosafety are a good example to show the lack of clarity with regard to the relationship of the Protocol and the WTO.

The detailed case study of the relationship between the WTO and a MEA aims to search for common contradictions between the WTO and MEAs. This thesis seeks to understand the relationship between the WTO and the Cartagena Protocol on Biosafety to investigate this research question. Although the relationship between the WTO and each MEA has different quality of issues, this case study explores some new trend of potential contradictions between the trade and environmental regimes. Moreover, the thesis aims to draw some theoretical implications of the relationship between trade and non-trade issues. The existing literature is not sometimes consistent with real problems of trade and the environment issues. Thus, the empirical study examines the relationship between the WTO and a new MEA. The Cartagena Protocol is one of the new and powerful MEAs in terms of trade implication. This empirical study proposes different perspectives from the existing literature.

1-3. Structure of the thesis

The main purpose of this thesis is to portray and conceptualize the current situation of trade and environmental regimes' coordination process and problems by looking at one of the most problematic trade and environment issues – between the WTO and an MEA (the Cartagena Protocol on Biosafety). This thesis consists of two main parts: the first section evaluates the big picture of the WTO's and MEAs' problematic relationship including the conceptual and methodological frameworks (chapters 2 and 3); the second section employs specific empirical study to conceptualize unresolved differences between the WTO and MEAs. The former explains how trade and environmental regimes' different sets of norms, principles, rules and policy-making procedures have slowed cooperation between them. The latter argues that the effects of trade liberalization on the environment as well as the impacts of environmental regulations on trade have deepened inconsistencies between the WTO and MEAs.

The contradictions between trade and environmental regimes reside in several places. Both regimes' vagueness of their core concepts and their non-overlapping memberships are often considered to be part of the cause of the contradictions between them. Thus, chapters 4, 5 and 6 address these contradictions by explaining the two regimes' conflicting general rules referred to in this thesis as norms and principals. Chapters 7 and 8 focus their more specific provisions and procedures referred to in this thesis as rules to highlight jurisdictional gaps, overlaps and relationships between them.

Chapter 2: The conceptual framework clarifies the conceptual and analytical framework of the study, which defines precisely the central question. This chapter introduces the recent literature on international regimes and governance systems within the broader dialogue initiated by those who had been developing the new institutionalism in international relations as well as public international law. This conceptual study examines the discussions on the notions of the

core and subsidiary terminology in the research questions, and addresses four specific research questions in each section of the thesis. The study also provides theoretical tools to appraise conflicts between trade and environmental regimes, which contributes knowledge of these backgrounds, particularly both regimes' different normative structures and developments as well as driving forces of international regimes.

Chapter 3: Methodological implication demonstrates the methods which were used to formulate research topics and approaches, to collect information and to interpret the information in order to appraise conflicts between the targeted international regimes. Chapter 3 also explains why the method, the issues of case selection and theoretical applications were adapted for this research, and most importantly to bridge theories and methodology. Finally, the chapter briefly discusses caveats in information collection and interpretation.

Chapter 4: WTO's environmental rules conceptualize why the WTO extended its agreements to environment-related measures by analyzing the organizational background of the GATT/WTO. Chapter 4 explains historical developments of the WTO's institutional structure and functions based on its norms; particularly it focuses on the foundation of environment-related trade scope within the WTO: the creation of the Committee on Trade and Environment. Then, chapter 4 employs the GATT/WTO's environment-related dispute cases to analyze the GATT 1994 *Article XX* on general exceptions.

Chapter 5: The history of the relationship between the WTO and MEAs analyzes how the WTO's environment-related agreements attempt to address MEAs. Firstly, chapter 5 explains how environmental regimes and their key concept of sustainable development were developed. Secondly, this chapter concentrates on the negotiations of the WTO Doha Ministerial Declaration *paragraph 31 (i)* and *(ii)* to analyze the relationship between the dispute settlement mechanisms of MEAs and those of the WTO Agreements within the WTO Agreements. Finally, the chapter discusses the relationship between trade and environmental regimes from the public international law perspectives.

Chapter 6: The Cartagena Protocol on Biosafety explains that MEAs' trade measures are developed by various motivations and purposes; also, they facilitate different scopes and obligations from the WTO's environmental regulations. Firstly, chapter 6 gives details of the background of the Cartagena Protocol on Biosafety negotiation processes. Secondly, this chapter illustrates the key scopes and points of the Protocol, which potentially interact with the WTO agreements. Lastly, the chapter evaluates the direct relationships between the Biosafety Protocol and other international agreements.

Chapter 7: WTO Agreements and sanitary and phytosanitary issues conceptualizes the trade regime's judicial norm toward sanitary and phytosanitary issues. Firstly, chapter 7 focuses on WTO Agreements, which relate to biosafety issues: the Agreement on Technical Barriers to Trade (TBT), the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) and the GATT 1994. Secondly, this chapter explains how the WTO legal system works by analyzing relationships between the TBT Agreement, the SPS Agreement and the GATT 1994.

Finally, the chapter analyzes how these Agreements will deal with imports of domestic genetically modified organisms (GMOs).

Chapter 8: The legal framework of the WTO and the Cartagena Protocol on Biosafety evaluates the WTO and the Cartagena Protocol on Biosafety's legal norms by focusing on three major aspects: labeling and documentation requirements; scientific evidence and socio-economic consideration; and the "precautionary principle" and the "precautionary approach". The chapter also conceptualizes the allegations of judicial conflicts between the WTO and the Biosafety Protocol by analyzing the WTO's sanitary and phytosanitary cases towards GMOs. Lastly, chapter 8 analyzes direct interact clarification of the WTO's and MEAs' relationship.

Chapter 9: Conclusion draws specific theoretical and empirical lessons for trade and environment issues in the context of the research question. The last chapter summarizes the main findings in order to create an integrated view of this thesis. Then, chapter 9 recommends some ideas towards the research question including capacity building between trade and environmental regimes.

Chapter 2

The conceptual framework

2-1. Introduction

Chapter 2 illustrates the central framework of this thesis that brings together the theoretical framework and the research question. This chapter seeks to direct the thesis to an investigation of links between theories and the research question of trade and environmental issues. Explanations are particularly given to the issues of case selection and theoretical applications. As briefly indicated in chapter 1, the conflicts between multilateral trade agreements and multilateral environmental agreements have become the main topic of multilateral cooperation in the last decades. Theoretical tools aim to understand a complex issue of the problematic relationship between the trade regime (the World Trade Organization (WTO)) and environmental regimes (multilateral environmental agreements (MEAs)), and suggest a further conceptual framework of trade and environment studies.

Chapter 2 relates theories of international relations to broader dialogue initiated by those who have been developing international relations and international law studies. This conceptual framework standardizes the usage of key concepts employed in this thesis and provides an analytic vantage point from which to track and assess the rapid growth of interest in the concept of international trade and environment governance. Most importantly, this chapter defines precisely the concept of the central question. The theoretical framework also examines the core terminology and the specific research question.

However, chapter 2 does not attempt a full derivation of the dynamics of the relationship between trade and environmental regimes. There is utility in focusing on the concept of international regimes. Firstly, **2.2** demonstrates why those theories should be used to examine the research question. The framework briefly introduces the other ideas of theories of international relations to support the broader dialogue initiated by those who have been developing the new theories of international regimes. Then, this section defines the word "norms", which provides some meaningful explanations to theoretical demands; also it classifies the definition of international "institutions", "regimes" and "organizations". Secondly, **2.3** conceptualizes three significant subsidiary questions so as to examine specific aspects of trade and environmental issues to address the central question.

2-2. The theoretical approach of the thesis

The theoretical framework in this thesis is structured mainly by international relations and international law studies because the research question depends mainly on analyses of the problems of two different sets of multilateral agreements in the judicial and political dynamics of international relations. There are various groups of international relations theorists as well as

studies of international institutions, regimes and organizations' theories. However, this section only shows selected theories in accordance with the research question.

Primarily, this thesis employs regime theory, which is used to conceptualize how trade and environmental regimes' different norms affect coherence between each other. Regime theorists aim to search for a degree of stability in the international system.[97] Thus, they are concerned with interactions in diverse areas, such as environmental protection, human rights and new technologies. Regime theory focuses on cooperation among different actors in specified areas of international relations. International regimes are generally viewed as a set of "norms," "principles," "rules," and "policy-making procedures" that affect states' behaviour in certain issue-areas.[98] Regime theory analyzes how these four elements interrelate with each other during the regime's development process.

In addition, economic and sustainable development theories are important dimensions of this research, particularly to analyze the early stage of trade and environmental regimes' developments: how were trade and environment regimes established? Although shifting from the dominant neoclassical idea made linkages between economic growth and the environment, the scope for integrating environmental considerations into economic development has been slow. On the other hand, environmental regimes have struggled to achieve sustainable development theories to promote environmentally friendly economic development. Thus, both concepts of neoclassical theory and sustainable development contribute to conceptualise two regimes' differences from their origins.

Secondly, the thesis uses neoliberal and rational approaches to emphasize differences between trade and environmental regimes. Neoliberalists argue that hegemonic power is not always an important factor in international relations anymore, and emphasize that national governments are not the only sources and actors of driving forces of international cooperation.[99] This phenomenon has become obvious in the negotiation of the MEAs in which non-state actors have also played an important art. On the other hand, rationalist explanations of international regimes focus on the distribution of knowledge, which constitutes the identities, and shapes the preference as well as the perceived options of state actors.[100] Rationality means that states calculate the costs and benefits of alternative courses of action in order to maximize their interests, which can be seen often in the WTO dispute cases. Thus, these two approaches are useful to analyze trade and environmental regimes' different norms.

Moreover, cognitivists' theoretical view supports neoliberalists to explain environmental regimes because their concept shows how a new science should be interpreted into international

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[97] Krasner, Stephen D., "Structural Causes and Regime Consequences: Regimes as Intervening Variables," *International Organization*, Vol. 36: 2, 1982, pp. 185-205.
[98] Ibid.
[99] Keohane, Robert O., "Neoliberal institutionalism: A perspective on world politics," in Keohane, Robert O. (ed.), *International Institutions and State Power: Essays in International Relations Theory*, Westview Press, Boulder, 1986, pp.1-20
[100] Checkel, Jeffrey T., "The Constructivist Turn in International Relations Theory," *World Politics*, Vol.50, 1998, pp. 324–348.

rules. Cognitivists approach changes in regimes as part of a learning process in a world where international relations are increasingly defined by technological and scientific challenges.[101] Cognitive factors are one of the keys to understanding dynamics of the new trade and environment relationship. Thus, to explain international cooperation on challenges involving complexities and uncertainties of new environment issues, it needs to consider how two regimes have interpreted as well as would translate new phenomenon into their norms.[102]

In addition, constructivists contend that not only are identities and interests of actors socially constructed, but also that they share the stage with a whole host of other factors emanating from people as "cultural beings".[103] However, constructivists do not seem to develop a general theory of the social construction of reality. Nevertheless, constructivists' thought may be useful to clarify the language of "norms" in this thesis.

Thirdly, interdisciplinary use of international relations and international law is essential to conceptualize the research project. To clarify the relationship between the WTO and MEAs is highly judicial. Jurisprudence also illustrates how the WTO and MEAs interpret the same object in their agreements differently, and their case laws emphasize their different norms.

International relations and international law scholars have recognized the importance of interfacing two studies to approach crossover issues. Some international law scholars seek to use international relations theory to reconceptualize the basic definition of international law by using realism, institutionalism and neoliberalism concepts.[104] On the other hand, international relations scholars like to use international laws to analyze increasingly legalised international regimes. Interdisciplinary work has been canvassed, which examines international law and institutions through international relations theory. Some international relations and international law scholars tend to evaluate interdisciplinary studies by applying them to crossover issues. For example, Kennedy and Tennant aim to reconceptualize the foundations of international law to analyze recent trends of political and legal theories, which do not constitute a single, cohesive argument.[105] Thus, to use these studies is a good opportunity to conceptualize trade and environment issues.

In conclusion, the aim of the conceptual framework is to examine different patterns of regimes' developments and norms. To answer the research question, it is essential to analyze how regimes evolve once they are created. Breaking down regimes into different types (regulatory, procedural, programmatic, or generative) may help to understand different

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[101] Hass, Ernst B., *When Knowledge is Power: Three Models of Change in International Organizations*, University of California Press, Berkeley, 1990, pp. 53-55.

[102] Rosati, Jerel A., "A Cognitive Approach to the Study of Foreign Policy," in Neack Laura, et al. (eds.), *Foreign Policy Analysis*, Prentice Hall, Englewood Cliffs, 1995, pp. 49–70.

[103] Ruggie, J., "What Makes the World Hang Together? Neo-utilitarianism and the Social Constructivist Challenge," *International Organization*, Vol.52: 4, 1998, pp.855-885

[104] Abbott, Kenneth W., "International law and international relations theory: building bridges - elements of a joint discipline," *Proceedings of the American Society of International Law*, Vol.86, 1992, pp.167-172.

[105] Kennedy David & Tennant, Chris, "New Approaches to International Law: A Bibliography," *Harvard Intentional Law Journal*, Vol.35, 1994, pp.417- 418.

developments of regimes.[106] Thus, regime theory is one of the best options used to analyze contradictions between trade and environmental regimes. Cognitive understanding is also important to analyze trade and environmental regimes; however, cognitivists may be needed to explore how cognitive factors affect regimes' rules. Lastly, with the prevalence of regimes, it is important to explore how regimes interact with one another, particularly if they have overlapping jurisdictions. Thus, international law theory supports jurisdictional perspectives of international regimes.

2-2-1. Clarifying "regimes" and "norms"

The research generalizes some ideas towards the use of key concepts employed in this thesis. Before conceptualizing the research questions, it is essential to clarify the definition of international "institutions", "regimes" and "organizations" in international relations studies and also in this thesis. It is also important to generalize the concept of "norms" in international relations studies, which also explains the definition of international regimes' norms.

The definition of international "institutions", "regimes" and "organizations"

The definition of international "institutions", "regimes" and "organizations" logically involves differentiating them from all the other layers of iterated social facts.

There is a synonymous terminology of "institutions" and "regimes" and nebulous overlap with organizations. Rosenau posits institutions as the presence of authoritative principles, norms, rules and procedures and posits governance and regimes as deferent subcategories of international institutions.[107](see Table 1) Puchala and Hopkins offer a minimalist definition, speaking of regimes as patterned behaviour.[108] The other scholars state that regimes are different from institutions, which are a legal instrument stipulating rights and obligations. Regimes are not limited to governing only legally binding conventions; they can be the organizing concepts for softer, non-binding agreements that embody cross-national intentions on particular issues.[109] Moreover, political scientists such as Haas and Keohane, define international institutions as "persistent and connected sets of rules and practices that prescribe behavior roles, constrain activity and shape expectations".[110] In contrast, regimes are generally a social institution wherein

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[106] Brahm, Eric, "International Regimes," September 2005, Available online, [http://www.beyondintractability.org] viewed 20 December 2005.

[107] Rosenau, James N, "Governance, order, and change in world politics," in Rosenau, James N., et al. (eds), *Governance without Government: Order & Change in World Politic*, Cambridge University Press, Cambridge, 1992, pp.1-29.

[108] Puchala, Donald J. & Raymond F. Hopkins. "International Regimes: Lessons from Inductive Analysis," in Krasner, Stephen D. (ed.), *International Regimes*, Cornell University Press, New York, 1983, pp.64-65.

[109] Young, Tomme Rosanne, "The International Regime from an Implementation Perspective: What Legislation Can (and Cannot) Do.….and How this Affects the Vision and Nature of the Regime," International Expert Workshop on Access to Genetic Resources and Benefit Sharing, Cape town, South Africa, 20-23 September 2005.

[110] Haas, Peter M., Keohane, Robert O. & Levy, Marc A., "The Effectiveness of International Environmental Institutions," in Haas, Peter M., Keohane, Robert O. & Levy, Marc A.(eds), *Institutions for the Earth: Sources of Effective International Environmental Protection*, MIT Press, Cambridge, 1993, pp. 4-5.

stable patterns of behaviour result from compliance with certain norms and rules.[111] Regimes usually facilitate principles and roles, and specialize the particular range and scope of their activities, which differ among them. These variables are considered in determining regimes' broader accountabilities.[112]

The distinction between "institutions" and "organizations" contains fuzzier questions. Some literature on international relations does not distinguish one from the other, but use the term institutions to be the same as organizations. However, Keohane concludes that "institutions are not organizations, but encompass organizations as a factor".[113] Young also specifies institutions as a set of rules or conventions that define a social practice, assign role to individual participants in the practice and guide interactions among occupants of these rules, whereas organizations are material entities and actors in social practices.[114] Many empirical and theoretical studies presuppose institutions as sets of rules that may not involve organizations, so there are differences between institutions and organizations.

On the other hand, both international "organizations" and "regimes" are designed to pursue goals in the international arena and both may be based on international accords that set up institutions, assign rights and obligations, and provide for particular procedures. However, the issues and issue areas addressed by regimes appear to be narrower and to lack the comprehensive nature of most international organizations' concerns.[115] Thus, regime structures are more fluid and more subject to evolutionary developments than those of international organizations.[116] Moreover, Keohane and Nye point out that in the broad sense of networks, international organizations may include norms associated with specific international regimes.[117] Thus, international organizations and regimes intersect where the former provide for the procedures of the latter.[118]

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[111] Hurrell, Andrew & Kingsbury, Benedict, *The international; Politics of the Environment: Actors, Interests, and Institutions*, Clarendon Press, Oxford, 1992, pp.89-90.

[112] Nanda, Ved P., "Accountability of international organizations: some observations," *Denver Journal of International Law and Policy*, Vol.33:3, 2005, pp.379-391.

[113] Keohane, Robert O., 1989, op.cit., p.4.

[114] Young, Oran R., *International Governance: Protecting the Environment in a Stateless Society*, Cornell University Press, Ithaca, 1994, pp.163-164.

[115] Hansclever, Andreas, et al. "Integrating Theories of International Regimes," *Review of International Studies*, Vol.26:1, 2000, pp. 3-33.

[116] Feld, Werner J. & Jordan, Robert S., *International Organizations: A Comparative Approach*, Praeger, London, 1994, pp.33-35.

[117] Keohane, Robert O. & Nye, Joseph S., *Power and Interdependence: World Politics in Transition*, Little Brown, Boston, 1977, p.55.

[118] Martin, Lisa & Rittberger, Volker, "The role of intergovernmental organizations in the process of initiation, implementation, and evolution of international environmental regimes," The ESF Programme on Environment, Science and Society, Tubingen, 1991.

Table 1. Structural causes of regimes

Concept	*Definition*
Principles	*Beliefs of fact, causation and rectitude*
Norms	*Standards of behaviour defined in terms of general rights and obligations*
Rules	*Specific prescriptions and proscriptions regarding action*
Decision-making procedures	*The prevailing practices for making and implementing collective choice*

Source: Krasner, Stephen D., "Structural Causes and Regime Consequences: Regimes as Intervening Variables," *International Organization*, Vol. 36, 1982, pp. 185-205.

In international relations theory, regimes are often differentiated from institutions and organizations as an informational character by principles, rules, norms and decision-making procedures conceptualised by Krasner.[119] He emphasizes the potential impact of the resulting convergent expectations on state behavioural incentives. On the other hand, there is a more recent trend of regime theory in international relations studies. Some scholars think that regimes should not be characterized by the standard definition because they believe that regimes should be based on explicit rules, which are relevant to each particular issue.[120] In particular, Rittberger stresses the perspective character of international regimes to a greater extent than Krasner's definition of regimes.[121] Thus, as international regimes differ from a domestic regulatory body, regimes may be considered as a norm-based body in international relations.

What are "norms"?

It is important to define how "norms" are used in this thesis. Following Finnemore, Sikkink and Klotz, the definition of "norms" is generally identified as "a standard of appropriate behaviour for actors with a given identity".[122] In international relations studies, the most common distinction is between regulative norms, which order and constrain behaviour; and constitutive norms, which in turn create new actors, interests or categories of action.[123] However, a number of related conceptual issues still cause confusion and debate. This section introduces briefly the general ideas of norms, and then explains norms in international relation studies.

[119] Krasner, Stephen D., op.cit., 1982, pp. 185-205.
[120] Rittberger, Volker, "Research on international regimes in Germany: The adaptive internalization of an American social science concept," in Rittberger, Volker (ed), *Regime Theory and International Relations*, Clarendon Press, Oxford, 1993, pp. 18-21.
[121] Ibid.
[122] Finnemore, Martha & Sikkink, Kathryn, "International Norms and Political Change," *International Organizations*, 1998, p.887.
Gelpi, Christopher, "Crime and Punishment: The Role of Norms in Crisis Bargaining," *American Political Science Review*, Vol.91: 1, 1997, pp.15-27.
[123] Thomson, Janice E., "Norms in International Relations: A Conceptual Analysis," *International Journal of Group Tensions*, Vol.23, 1993, pp. 67–83. Axelrod, Robert, "An Evolutionary Approach to Norms," *American Political Science Review*, Vol.80: 4, 1986, pp. 1095–1111.

These theoretical arguments help to define the research objects' norms (trade and environmental regimes) as well as their Member States' norms in international relations studies.

To explain variation in the enactment of norms, some scholars propose three key concepts: material interests, normative obligation, and perception of the situation.[124] They recognize that the logic of material consequence and normative appropriateness are not mutually exclusive and can be interconnected in several ways.[125] At the same time, scholars also acknowledge that there is substantial analytical and interpretative value in identifying the different effects of these casual systems. They contend that it is important to identify the effect that perception of the situation has on the generation of felt normative obligation and on the construction of material interest; and to recognize that these motivational factors can influence cognitive beliefs about the situation.[126]

The danger in using "norms" may be that it obscures distinct and interrelated elements of social institutions if it is not used carefully. There can be two subjects of norms developed in international relations studies. One is norms of the sovereignty states and the other is the concept of human rights.[127] Although individuals and interest groups have been increasingly involved in the international norm creation, regime analyses in this thesis focus only on the former.

Each institution in international relations deals with norms in a different way. For example, constructivists clarify the concept of norms because they recognize the dynamics of international cooperation and institutional changes in response to new environment demands.[128] In contrast, there is unlikely to be seen a neorealism or neoliberalism theory of norms. Realists are preoccupied with the distribution of power; hence they do not pay attention to cultural and institutional elements.[129] Neoliberals are unlikely to develop the shaping of common interests in international relations, because they only focus on consequences.[130]

Firstly, constructivists think that norms are common beliefs. They state that norms do not only influence states' behaviour but also their identities. Ruggie believes that "cultural and institutional elements, mostly norms, are the stuff that makes the world hang together".[131] In this respect, Jepperson, Wendt, and Katzenstein categorize norms into two categories: one is constitutive norms that "specify actions that cause relevant others to recognize and validate a particular identity and respond to it appropriately"; and the other is regulative norms that

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[124] Herrmann, Richard K. & Shannon, Vaughn P., "Defending international norms: The role of obligation, material interest, and perception in decision making," *International Organization*, Vol.55: 3, 2001, pp. 621-654.

[125] March, Like James & Olsen, Johan P., "The institutional dynamics of international political orders," *International Organization*, Vol.52: 4, 1998, pp.943-945.

[126] Finnemore, Martha, "Constructing Norms of Humanitarian Intervention," in Katzenstein, Peter J. (ed.), *The Culture of National Security: Norms and Identity in World Politics*, Columbia University Press, New York, 1996.

[127] Gurtov, Mel, "Global Politics in the Human Interest," *International Studies Notes*, Vol. 24: 2, 1999.

[128] Finnemore, Martha, *National Interests in International Society*, Cornell University Press, Ithaca, 1996, pp.2–6.

[129] Ruggie, John Gerard, "What Makes the World Hang Together? Neo-Utilitarianism and the Social Constructivist Challenge," *International Organization*, Vol.52: 4, 1998, pp. 855-885.

[130] Jervis Robert, "Realism, Neoliberalism, and Cooperation: Understanding the Debate," *International Security*, Vol.24:1, 1999, pp. 42-63.

[131] Ruggie, John Gerard, 1998, op.cit.

"operate as standard for the proper enactment of deployment of a defined identity".[132] Thus, Kratochwil and Ruggie have proposed that international regimes are not only "utility calculations" addressed by states' rationalities, but also regimes are a "consensus builder" among states, which create universal standards of the rights.[133]

Secondly, neorealism and neoliberalism schools do not seem to be interested in developing the concept of norms. They believe that the international community is not driven by the central authority that builds international consensus to enforce common rules among individual states. Thus, they focus on the "logic of anarchy"; and they think that norms do not play an important role in the hierarchical system.[134]

Thirdly, realists are also unlikely to think that norms are one of the important factors in the international system. They consider that norms often create rules without the state's authority.[135] Thus, realists believe that it is important for international regimes to prevent states from adopting states' normative structure, because norms may influence each state's strategic choice.[136]

Lastly, neoliberalists have extended the realists' study of norms. Neoliberalists believe that the nature of states is the "egoist" rather than "selfish", because states aim to maximize their benefit in the anarchic world.[137] Thus, the intrinsic nature of states discourages each state to cooperate for international institution building. [138] However, neoliberalists think that norms may overcome problems of states' collective action.[139] Nevertheless, their study of norms has not developed norms relating to the international system.

Conclusion

This thesis uses "regimes" to identify the objectives of international trade and environmental institutions/organizations including international conventions and protocols. This thesis also emphasizes constructivists' studies of "norms", because other schools seem to fail to develop a theory of norms. However, Krasner argues that the constructivists' conception of norms is not elaborated to link the identity of actors in international relations.[140] Moreover, since the

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[132] Jepperson, Ronald L., et al., "Norms, Identity, and Culture in National Security," in Katzenstein, Peter J. (ed.), op.cit., 1996, pp. 33-75.
[133] Kratochwil, F. V. & Ruggie, J.G., "A State of the Art on Art of the State," *International Organization* , Vol.40, 1986, pp. 753-775.
[134] Starr, Harvey, "International law and international order," in Kegley, Charles W. Jr.(ed.), *Controversies in International Relations: Realism and the Neoliberal Challenge,* St. Martinís, New York 1995, pp.299-315.
[135] Baldwin, David A., "Introduction," in Baldwin, David A. (ed.), *Neorealism and Neoliberalism: The Contemporary Debate,* Columbia University Press, New York 1993, pp. 3-59.
[136] Gowa, J., "Bipolarity, multipolarity, and free trade," *American Political Science Review,* Vol.83, 1989, pp.1245-1259.
[137] Powell, Robert, "Anarchy in International Relations Theory: The Neo-Realist-Neo-Liberal Debate," *International Organization,* Vol.48:2, 1994, pp. 313-344.
[138] Keohane, Robert O., 1984, op cit., p. 27.
[139] Keohane, Robert O., *After Hegemony: Cooperation and Discord in the World Political Economy,* Princeton University Press, Princeton, New Jersey, 1984, p.25.
[140] Krasner, Stephen D., 1983, op.cit., p.2.

nineteenth century, international regimes have made a considerable contribution as instruments, forums and actors to the norm-making activities of the international political system. A wide range of international regimes has contributed to the establishment of common norms in international relations.

However, constructivists have developed a conception of "norms" broader than the traditional term used in international relation studies, especially they have extended the concept into social dimensions. The research of this thesis focuses on multilateral regulatory agencies, which involves constitutive as well as normative structures of regimes in international relations. Thus, this thesis uses "norms" particularly to point out objectives of international regimes as well as organizations/institutions' standards of behaviour.

2-2-2. The limits of international relations theories

This section introduces international relations theory, which is related to several broader dialogues. These are initiated by those who have been developing the new institutionalism/regime theories in international relations studies. The contemporary study of international regimes supersedes an earlier tradition, which attempted to attribute lofty and idealistic goals to states in the creation of institutions such as the League of Nations. That was emphasizing concepts such as conscience, good will, dedication to the common goods and even altruism as the motivation of states in creating international regimes - and was widely discredited by the onslaught of World War II.[141] However, the post-war international environment brought the idea that existing approaches to international institutions may no longer adequately account for important elements of international institution building. In particular, these post-war consequences explain how the functions for domestic politics reflect the incentives of national governments, to create and maintain international institutions; and how the scope and functions of international institutions impact on domestic politics.

During the first quarter century after World War II, one of the most influential international institutionalist approaches was realism. Realist theories of regimes contribute to the debate about power-based theories, which posit relative power capabilities as a central explanatory variable and stress states' sensibility to distributional aspects of cooperation. A classical example of this power-based theory of international regimes is the theory of hegemonic stability, which links the existence of effective international institutions to a unipolar configuration of power.[142] Realism provides central assumptions, which has developed interest-based theories of regimes.

The other powerful international institutionalist approaches is neoliberalism. Realists treat states as the primary actors in the international system, while neoliberal institutionalists acknowledge that internal economic, social and political pressures buffet governments before they reach a unified national position. Neoliberalism stresses the role of human created institutions in affecting how aggregations of individuals make collective decisions. It

[141] Bull, Hedley, *The Anarchical Society*, Columbia University Press, New York, 1977, pp.38-40.
[142] Waltz, Kenneth N., *Theory of International Politics*, McGraw-Hill, New York, 1979, pp.117-123.

emphasizes the importance of changeable political processes rather than simple immutable structures and it rests on a belief in at least the possibility of cumulative progress in human affairs. Thus, institutions change as a result of profound effects exerted on state behaviours.[143] Thus, neoliberal institutionalists hold that states strive not only for power, but also for a variety of other goals such as political stability, wealth, cultural independence and distributive justice.[144]

Moreover, neoliberal institutionalists' positions may emphasize two different approaches towards trade and environmental regimes in the international level as well as at the national level. The first highlights the divergent interests of states in the light of international agendas; it also conceptualizes international cooperation and multilateral agreements that should recognize the material and ideological preferences of states and individuals.[145] The second focuses on states, which tend to act is how to maximize national self-interests without discrimination.[146] States seem to be still a main actor in decision-making procedures in the targeted regimes and international relations studies. However, in the analyses of trade and environmental regimes, states are not clear single-minded actors; hence those complex behaviours tend to do forum shopping between regimes rather than influence or change regimes' norms.[147] Thus, although states play a part of the important role in international relations, the theoretical framework of this thesis is limited to research at the level of sovereign states and the research mainly focuses on the international level in international relations.

In fact, widespread dissatisfaction with the performance of trade and environmental regimes can be in many ways not only the consequence of weaknesses in the international institution, but also in the incapacity of capacity building between them. Public choice theory should be taken into account when the importance of the capacity building is discussed in international relations. Macey and Colombatto compare public choice theory with regime theories. They argue the critical difference between regime and public choice theories in regimes' analyses is that regime theory posits that interdependence generates conflict, while public choice theory hypothesizes that interest groups contribute conflict, which holds independence as likely to guarantee cooperation as well as conflict.[148] Studies of public choice theory have also developed into an important research on relationships between international relations and international law. Keohane, Moravcsik and Slaughter explain the difference between transnational and interstate legal systems and describe the characteristics of the international system and the obvious rational self-interest of international courts and national

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[143] Keohane, Robert O., *International Institutions and State Power*, Westview Press, Boulder, 1989, pp.10-11.

[144] Osherenko, Gali & Young, Oran R., "The formation of international regimes: Hypotheses and cases," in Osherenko, Gali & Young, Oran R. (eds.), *Polar Politics: Creating International Environmental Regimes*, Cornell University Press, Ithaca,1993, pp.1-21.

[145] Rowlands, Ian H., "Classical theories of international relations," in Luterbacher, Urs & Sprinz, Detlet F., *International Relations and Global Climate Change*, The MIT Press, Cambridge, Massachusetts, 2002, pp. 43-65.

[146] Keohane, Robert O., 1986, op.cit.

[147] Moravcsik, Andrew, "Taking preference seriously: A liberal theory of international politics," *International Organizations*, Vol.51:4, 1997, pp.513-553.

[148] Sykes, Alan O., "Regulatory protection and the law of international trade," *University of Chicago Law Review*, Vol.66, 1999, pp.3-46.

courts.[149] Public choice theory may be useful to analyze how international regimes' jurisdiction generally takes into account public international law.

Lastly, some scholars have approached international relations in a different way to evaluate international organizations, which emphasizes important roles of non-state actors.[150] They have proposed that international regimes should be formed by a horizontal rather than a vertical order. A complex pattern of international order is no longer to be explained by a simple "top-down" approach of rule-making procedures. Young states "this horizontal order enhances the capacity of individual regimes to avoid failures in the international system".[151] However, although non-state actors play an increasingly important role in international relations, in the analyses of trade and environmental regimes, those non-state actors are unlikely to widen their power into international regimes yet. In practice, non-state actors are still struggling in the administration system of unchanged regimes and their rules are limited by regimes' legal norms. Thus, the theoretical framework of this thesis does not include the international relations theories, which stress stakeholders' crucial role in regime negotiations.

2-2-3. Summary

There are several important candidates for discussions of international regimes in international relations. In the view of realists, systems of international relations whether conducted through individual nations or international organizations should aim to restructure and facilitate changes in the power structure.[152] Regime theory views the sovereign nation-state as the primary actor and accepts the state as the sole voice for its citizens in international relations.[153] Later, this power-based explanation of international regimes shifted to interest-based neoliberalism. This new institutionalism shares neoliberalism's commitment to rationalism and parsimonious systematic theorizing although it tends to specify states' unity functions differently.[154] Rationalist explanations of international regimes may need to be supplemented by a type of analysis, which focuses on the distribution of knowledge and shapes the preference of state actors.[155] On the other hand, cognitivists approach the link between learning processes and regimes' changes, which have generated a subset of studies that analyze how scientific and technological knowledge are incorporated into policies. Interdisciplinary

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[149] Slaughter, Anne-Marie, "International law and international; relations theory: A dual agenda," *American Journal of International Law*, Vol.87: 2, 1993, pp.205-239.

[150] Young, Oran R., *Resource Regimes: Natural Resources and Social Institutions*, University of California Press, Berkeley, 1982, p.15.

[151] Young, Oran R., "Why is there no unified theory of environmental governance?" Presented at The Commons in an Age of Globalisation, the Ninth Conference of the International Association for the Study of Common Property, Zimbabwe, June 17-21, 2002.

[152] Burley, Anne-Marie, "International Law: A dual agenda," in Keohane, Robert O. (ed.), *Neorealism and Its Critics*, Colombia University Press, New York, 1986, pp.208-218.

[153] Shell, Richard, "Trade Legalism and International Relations Theory: An Analysis of the World Trade Organization," *Duke Law Journal*, Vol.44, 1995, pp. 829- 847.

[154] Moravcsik, Andrew, "Liberalism and international relations theory," Working Paper Series 92-6, The Center for International Affairs, Harvard University, Cambridge, 1992.

[155] Hopf, Ted, "The Promise of Constructivism in International Relations Theory," *International Security*, Vol.23: 1, 1998, pp.171–200.

studies of international relations and international law cannot be ignored to analyze the current phenomenon of international relations. However, interdisciplinary studies have not engaged international relations and international law theories in the nature and conditions of regime studies yet.

International relations scholars have generally examined theories focusing on the development of a single regime, usually centred on its core international agreement and function. However, with the rising density of international regimes, overlap of regimes has become an increasingly common phenomenon in international relations. On the other hand, there has been a lack of functional approach to analyze the relationship between regimes, which requires paying more attention to boundary setting and interactions between regimes.[156] Conflicts between trade and environmental regimes have also been driven in a large part by efforts to resolve legal inconsistency in overlapping rules developed by different fora. However, international relations' scholars seem to focus on the evolution of regimes, which is driven by political contests over the rules of regimes. Regime studies may need to explore more the relationship between regimes' jurisdictional mechanisms and their norms, which have sustained their consistency. Thus, this thesis aims to explore the relationship between regimes' general norms and specific jurisdictions.

Lastly, the increasing influence of international organizations on domestic policies can be seen. However, in practice, states always try to find the forum for their different interests; hence international rules are sometimes affected by states' behaviours.[157] Thus, a reverse process has also increased in international relations.[158] Trade and environment issues should be a good research example to rebalance these contradictory processes and to achieve actual sustainable development.

2-3. Defining research questions: International relations and international law studies

The purpose of this section is to define the research question of this thesis. The thesis uses a case study: the relationship between the WTO and MEAs, which is analyzed by three conjectures about the dynamics of regime complex:

- ***WTO's environment-related measures and MEAs' trade measures***
- ***WTO's attempt to address MEAs' trade measures***
- ***WTO's influences on creation of new MEAs***

The theoretical framework conceptualizes these three conjectures by linking suitable international relations and international law theories, which are formulated in the principle of this thesis. Firstly, the theoretical framework conceptualizes whether changes of regimes' rules are

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[156] Young, Oran R., *The Institutional Dimensions of Environmental Change: Fit, Interplay, and Scale*, The MIT Press, Massachusetts, 2002, pp.129-132.

[157] Keohane, Robert O., "International liberalism reconsidered," in Dunn, Jone, (ed.), *The Economic Limits to Modern Politics*, Cambridge University Press, Cambridge, 1990, pp.165-194.

[158] Cortell, Andrew & James, Davis, "How do international institutions matter? The domestic impact of international rules and norms," *International Studies Quarterly*, Vol.40:4, 1996, pp. 451-78.

not changes in their norms. The WTO has extended its Agreements to environment-related measures and also MEAs have become contained trade measures to protect the environment. However, the theoretical framework argues that changes of trade and environmental regimes' rules are not necessarily changes in their norms, which have affected the clarification of the relationship between two Agreements. Secondly, the theoretical framework aims to form an idea: why coherence processes have been chilled between trade and environmental regimes. The limited cooperation between trade and environmental regimes has resulted in the WTO attempting to address the MEAs' trade measures rather than MEAs directing WTO's environment-related measures. The framework argues that the WTO's environment-related rules are largely driven by its norms, which have contradicted MEAs' norms. Thirdly, the theoretical framework conceptualizes how jurisdiction affects interaction between overlapping trade and environmental agreements. In particular, the WTO's legal norms have influenced negotiations of new MEAs, which facilitate trade measures. The framework explores a judicial view to analyze the relationship between trade and environmental regimes.

2-3-1. Changes of regimes' rules are not changes in their norms

Due to their many successes, the WTO and MEAs have extended their regulations to new areas and have brought broader issues under their scope. As a result, the WTO's and MEAs' policies have overlapped and they have had difficulties in clarifying this overlap. Conflicts between trade and environmental regimes usually occur due to uncoordinated negotiations among institutions, and these uncoordinated rules have let important agreements mandate in a parallel way. However, one of the problems with the density of international agreements is whether regimes can coexist without changing norms. This question is conceptualized by regime theory and contributes to answering the first question.

The corpus of regime theory is likely to enter a period of proliferation:

- declining effectiveness of major wars,
- increasing deterioration of the environment,
- widening economic interdependence, and
- spreading communications and consumer culture.[159]

This section applies regime theory in order to conceptualize the cases between trade and environmental regimes' norm-building.

Trade and environmental regimes

By the end of the Kennedy Round in 1967, the two main goals of the old General Agreement on Tariffs and Trade (GATT) of the 1950s were accomplished: to bring down the very high level of tariffs inherited from the 1930s; and to remove the post-war balance-of-

[159] Sutton, Brent A. & Zacher, Mark W., *Governing Global Networks: International Regimes for Transportation & Communication*, Cambridge University Press, Cambridge, 1992, pp. 16-19. All smaller indents in thesis are as a quotation.

payments restrictions in place in all the major trading countries except the United States and Canada.[160] Thus, the composition of GATT's membership changed as did its policy agenda. These changes produced a higher level of conflict and the conflict caused a decline in the traditional status of the GATT.

In the 1970s, at American insistence the concept of graduation was formally introduced into the GATT Articles after the Tokyo Round. Graduation holds that as countries become more developed they will accept rules consistent with liberal principles. Thus, these representatives from industrialized countries have chosen to interpret special and differential treatment of developing countries as a change within the regime.[161] The Tokyo Round negotiations also increased pressure for a more legalistic system of dispute resolution. It reaffirmed the right of a complainant to refer the complaint to a panel; it mandated time limits on the formation of a panel and formalized procedures for determining the composition of the panel; it specified that a report must be issued within a reasonable time; and it maintained adoption by consensus but made the report binding.[162]

Technological and scientific improvements and changes in the world environment have influenced the institution's principles, norms, rules and decision-making procedures. For example, in the 1970s the GATT Member States took up a number of issues relating to non-tariff trade practices, including subsidies and countervailing duties and technical barriers to trade such as environmental standards. If the world were viewed as a zero-sum game, extending the GATT's success in promoting free trade would cause damage to the environment.[163] Due to the pressures of economic distress and rapid changes on comparative advantage in the world economic system, the GATT could not just focus on promoting free trade.[164] According to the evolution of GATT/WTO history, change within the regime involves alterations of rules and decision-making procedures, but not of norms or principles. Although changing the regime would involve alteration of norms and principles, the GATT has not allowed itself to weaken the liberalized regime.

The beginning of the mid-1970s was when, in an era of rapid growth in the number and variety of intergovernmental environmental organizations, both developed and developing countries signed a series of environmental agreements. This is a reflection of rising levels of interdependence in international environmental affairs and the resulting need for international organizations to manage the complex interdependencies between different sectors.[165] However, there was shortage of international organizations capable of playing active roles in international environmental policy-making and negotiations.

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[160] Zeiler. Thomas W., *Free trade, free world: The advent of GATT,* University of North Carolina Press, Chapel Hill, 1999, p.50.
[161] Krasner, Stephen D., op.cit.,1982, pp. 185-205.
[162] Barfield, Claude E., *Free Trade, Sovereignty, Democracy: the Future of the World Trade Organization,* The AEI Press, Washington, D.C., 2001, pp.20-27.
[163] *The Economist*, "Who needs the WTO," December 4, 1999.
[164] Keohance, Robert O. & Nye, Joseph S., *Power and Interdependence*, Longman, New York, 2001, pp. 290-292.
[165] Malik, Madhu, "Do we need a new theory of international organizations?" in Bartlett, Robert V., et al. (eds.), *International Organizations and Environmental Policy*, Greenwood Press, Connecticut, 1995, pp. 223-238.

The more striking developments of the 1980s and 1990s in the realm of international environmental affairs are the emergence of United Nations Environment Programme (UNEP) as a prominent and effectual player in international environmental negotiations. UNEP has achieved a reputation of not only technical competence but also for strong leadership, which has followed a strategy of bringing science to bear and stressing the technical aspects of issues.[166] UNEP has become an instrument of environmental regimes' formation of MEAs. Such international institutions play significant roles in the institutional bargaining processes that produce constitutional contracts, especially during negotiations of the creation of new MEAs.[167]

The concept of sustainable development was introduced in this period, which can be defined as the maintenance of a constant per capita consumption across all generations or the maintenance of non-declining per capita income over the indefinite future.[168] The concept of sustainable development has been taken into account for environmental institutional buildings:

- how international environmental regulations and agreements are made,
- how the structure and functioning of international environmental rules and policy making procedures are understood, and
- how the participation of formal international institutions in international environmental policies and negotiations remains limited is evaluated.[169]

Environmental institutions figure prominently in most of the causes of major changes in biogeophysical systems as well as in many ecological prescriptions for solving environmental problems, which arise from these changes. Thus, there has been significant disagreement as to what the scope of international environmental institutions should and will be. States pursuing their self-interest also have a greater demand for international organizations than in the past, and international organizations have to play a larger role in the solution of environmental problems.[170] Environmental regimes generally use the conventional approach to deal with the complexity of the environmental problems. However, these solutions require states to give up the sovereignty to establish a common ground in the international community.[171] The nature of environmental problems may make international institutions more necessary for their solution than for other problems.

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[166] Young, Oran R., "International organizations and international institutions: Lessons learned from environmental regimes," in Kamieniechi, Sheldon (ed.), *Environmental Politics in the International Arena*, SUNY Press, New York, 1993, pp.145-164.

[167] Young, Oran R., "Perspectives on international organizations," in Sjostedt, Gunnar (ed.), *International Environmental Negotiation*, SAGE, 1993, pp.244-261.

[168] Ledec, G. & Goodland, R., *Neoclassical Economics and Principles of Sustainable Development*, Ecol, Modelling, No.38, 1987, pp.19-46.

[169] Young, Oran R. "Negotiating an International Climate Regime: The Institutional Bargaining for Environmental Governance," in Nazli, Choucri (ed.), *Global Accord: Environmental Challenges and International Responses*, MIT Press, Cambridge, 1993, pp. 431-452.

[170] Nordström, Håkan & Vaughan, Scott , Trade and environment, Special Studies 4, the WTO, Geneva 1999.

[171] Chayes, Abram & Chayes, Antonia H., "Adjustment and compliance processes in international regulatory regimes," in Mathews, Jessica T. (ed.), *Preserving the Global Environment*, W.W. Norton, New York, 1991, pp.280-308.

Conclusion

Regimes' norms and principles may be abandoned while there is either a change in the new regime or a disappearance of regimes from a new given issue area.[172] The theoretical arguments are likely to be concerned more with norms and principles than with rules and decision-making procedures. For instance, revisions of Articles in Agreements of the GATT have allowed the erosion of its principal rules of the liberal post-war order, the Most Favoured Nation Treatment of all Members. Nearly five decades after the founding of the GATT, the trade regime has had to admit various trade deals in accordance with the ever-changing environment. However, the WTO has never departed from the original norms of the GATT: promoting free trade and developing the global economy.[173] On the other hand, one of UNEP's successes was that environmental regimes have made a considerable effort in avoiding giving states' representatives a direct input in decision-making on the MEAs' negotiations.[174] However, in recent environmental negotiations, the role of UNEP as a leading actor has diminished due to increasing participation of states in the negotiation procedure and also awareness of environmental issues in the non-governmental community. Nevertheless, environmental regimes' norms are strengthened in creating more structured MEAs.

Theoretically, regimes' rules have changed in accordance with the international phenomenon. For instance, trade and environmental regimes have tried to amend their rules in order to clarify their relationship. However, in the case of the WTO and MEAs, changes in regimes' rules do not seem to be changes in regimes' norms.[175] This thesis aims to explore the relationship between regimes' rules and norms and to prove how each regime's different norms affect cooperation between them.

2-3-2. The limit of cooperation between trade and environmental regimes

Both the transboundary-character of environmental protection and the challenge of liberalization in trade obligate international regimes to involve themselves in multilateralism. Thus, the discussions to clarify the relationship between the two regimes seem to be controversial. Many political and jurisdictional factors have contributed to incoherency between trade and environmental regimes, which are inherent in normative factors. In the absence of normative transformation, the international level of openness for coherence between different regimes cannot be developed. This is because, in practice, one regime does not seem to create a

[172] Ruggie, John Gerard, "International responses to technology: Concepts and trends," *International Organization*, Vol.29:3, 1975, pp.557-583.
[173] Howse, Robert, "From politics to technology- and back again: The fate of the multilateral trade regime," *American Journal of International Law*, Vol.94, 2002, pp. 94-117.
[174] Töpfer, Klaus & Rummel-Bulska, Iwona, *Global Environmental Diplomacy: Negotiating Environmental Agreements for the World, 1973-1992*, The MIT Press, Massachusetts, 1998, p25.
[175] However, some recent works in regime theory have tended to move away from the distinction between rules and norms because it is not clear-cut in the "real" international relations, such as Liftin, Karen T., *Ozone discourses*, Columbia University Press, New York, 1994. I will reexamine this conceptual point in the conclusion of this thesis.

legitimacy challenge to another.[176] This section illustrates the normative differences between trade and environmental regimes, which are conceptualized by rational and cognitive approaches, and the theoretical framework implicates a way to achieve multilateral cooperation.

To conceptualize the relationship between regimes with the realities of strategic and economic interdependence, it may be necessary to unify two different approaches. The way regimes play in international relations is not in accordance with simple motivation; hence analyses of trade and environmental regimes need to have perspectives. The theoretical framework tries to create conditions for a productive synthesis between rationalism and cognitivism. Just as important in the connection of trade and the environment, are the differences between economic perspective/rationalists and sociological perspective/cognitivists which may be necessary to conceptualize coherence between different issues. The former studies regimes' behaviours under the principle of the logic of consequentiality, whereas the latter rejects this principle and argues that regimes are like other social actors, which follow logic of appropriateness.[177] At the same time, their core assumptions are sometimes compatible with one another.[178]

Rationality and cognition

International relations scholars have attempted to employ the rational approach to explain the evolution of the trade regime, which begins with an assumption of rational self-interest. Rationalists portray Member States as rational egoists who care only for their own gains.[179] The rational approach puts the study of institutions on a formal theoretical footing by building on the insights of microeconomics and transactions costs.[180] Rationalists do not believe that individuals' self-interests form government policy, which is formulated through a competitive process involving interest groups.[181]

Traditionally counterpoised to these rationalistic theories may be the sociological approach to the study of institutions, which stresses the role of impersonal social forces as well as the impact of cultural practices, norms and values that are not derived from calculations of interests.[182] Cognitivists tend to explain the development of environmental regimes by taking

[176] Lamborn, A.C., "Theory and the politics in world politics," *International Studies Quarterly*, 41: 2, 1997, pp.187-214.
[177] March, James G. & Olsen, Johan P., "The Institutional Dynamics of International Orders," *International Organization*, Vol.52: 4, 1998, pp. 943-969.
[178] Hasenclever, Andreas, et al., *Theories of International Regimes*, Cambridge University Press, Cambridge, 1997, pp. 219-220.
[179] Oneal, John R. & Russett, Bruce M., *Triangulating Peace: Democracy, Interdependence, and International Organizations*, Norton, New York, 2001, pp. 271-305.
[180] Powell, Robert, "Absolute and relative gains in international relations theory," *American Political Science Review*, Vol.85, 1991, pp.1303-1320.
[181] Colombatto, Enrico & Macey, Jonathan R., "The decline of the nation-state and its effect on constitutional international economic law: A public choice model of international economic cooperation and the decline of nation state," *Cardozo Law Review*, Vol.18, 1996, pp.924-955.
[182] Adler, Emanuel & Haas, Peter M., "Epistemic communities, world order and the creation of a reflective research program," in Hass, Peter M. (ed.), 1992, op cit., pp.367-390.

account of socio-economic factors. Cognitive theories of regimes have focused on the origins of interests as perceived by states and on this connection have emphasized the role of causal as well as normative ideas. Meanwhile, there are significant differences among cognitivists themselves as to how radical a critique of rationalism they deem necessary. There are weak and strong cognitivists. Weak cognitivists regard the problem of neoliberal and realist approaches to the study of international regimes as one of incompleteness, whereas strong cognitivists challenge the rationalist mode of analysis in the international relations theory.[183] The former examines the origins and dynamics of rational actors' understandings of the world; on the other hand, the latter inquires into the origins and dynamics of social actors' self-understandings in the world.[184] However, both suggest that regimes are better understood as role players than as utility maximizers.[185]

Due to an unstoppable phenomenon of globalisation, interconnectedness in economic, political and social factors in international relations has increased.[186] For multilateral governance in the changing world, the international community cannot keep creating new norms with new regimes for the new issues without resolving existing overlap problems. However, there are grounds for thinking that the real international system may be more capable of adjusting the changing world environment than theories. For example, Charnovits focuses on analyzing an "inherent" subject to search "linkage" between regimes.[187] And other scholars have proposed the necessity of a "bottom-up" approach for the complex of international agreements and multi-faced regimes' behaviors.[188]

Cognitive theorists may learn from rational theory to better understand the current environmentally unfriendly relationship between trade and environmental regimes. The rational approach identifies with the requirements associated with international trade and environmental agreements being self-enforcing and assumes uncompromising strategic incentives.[189] On the other hand, rational theorists can learn from the institutionally rich analysis of cognitive theory to understand transboundary environmental issues. The cognitive approach offers understanding of regimes' multiple roles in prompting cooperation in international relations. Leaning from the other school of thought can be important for crossover issues. There are areas where the two studies should fruitfully learn from each other, for example, in the consequences of unilateral action on international cooperation, and what limits the solving of existing/potential problems of

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[183] Guzzini, Stefano, "A Reconstruction of Constructivism in International Relations," *European Journal of International Relations*, Vol. 6:2, 2000, pp.147-82.

[184] Palan, Ronan, "A world of their making: an evaluation of the constructivist critique in international relations ," *Review of International Studies*, Vol.26:4, 2000, pp.575- 598.

[185] Wendt, Alexander, "Anarchy is what states make of it: the social construction of power politics," *International Organization*, Vol.46:2, 1992, pp.391-425.

[186] Bilgin, M. Fevzi, "*Normative Foundation of Global Governance*," The International Studies Association, New Orleans, March 24-27, 2002.

[187] Charnovits, Steve, "Triangulating the World Trade Organization," *American Journal of International Law*, Vol.96, 2002, pp. 28-55

[188] Jackson, John H., "Afterward: The linkage problem-Comments on five texts," *American Journal of International Law*, Vol.96, 2002, pp. 118-125

[189] Neumayer, Eric, "How regime theory and the economic theory of international environmental cooperation can learn from each other," *Global Environmental Politics*, No. 1, February, 2001.

trade and environmental issues.[190] However, a fundamental question still remains: since each school (rational and cognitive) has long evolved separately, how can they be applied together to analyze cooperation in international trade and environmental affairs.

Conclusion

The numbers of new international agreements and conventions/protocols have increased in the past few decades. Meanwhile, the international system is constantly facing new environmental demands requiring the development of solutions for new problems, which have become cross-sectional characters.[191] For example, environmental regimes encourage governments to impose trade restrictions in relation to new environmental problems, which often contradict the trade regime's policies for promoting trade liberalization. Thus, it is vital that international regimes play an essential role in developing social norms, conventions and considerations of fairness together with respecting their different norms.

One of the ideas for effective coherence problem solving may be based on an understanding of circumstances between different sectors.[192] International regimes have developed new and integrated understanding of problems, solutions and actions.[193] However, these are likely to be limited by normative core beliefs within existing regimes. In this respect, the development of the relationship between regimes needs to focus on institutional learning processes. Problems of coherence between trade and environmental regimes may be improved by filling the gap between their different learning processes.

2-3-3. Interdisciplinary relations between international law and international relations theories

Trade and environmental issues have become deeply involved with judicial matters, for example, clarifying the relationship between the WTO and MEAs within public international law; examining the compatibility between trade and environmental regimes' agreements; and investigating the impact of the WTO's case law on the MEAs. Different legal norms between trade and environmental regimes originated from their early establishment. Different major players founded them under different circumstances and aims; therefore, they have different rules, mechanisms and jurisprudence. The trade regime employs a host of procedures that purport to respect the sovereign equality of Member States. On the other hand, international environmental agreements are the product of the convention/protocol approach, in which broad, often softly worded, statements of principles are established, followed by multilateral agreements that elaborate the details. Environmental regimes propose a promotion of biological and cultural

[190] Young, Oran, 1994, op.cit., p12.
[191] Barnett, M. N.& Finnemore, M., "The Politics, Power, and Pathologies of International Organizations," *International Organization*, Vol. 53: 4, 1999, pp. 699-732.
[192] Young, Oran R., "Global Governance: Toward a Theory of Decentralized World Order," in Young, Oran R. (ed.), *Global Governance: Drawing Insights from the Environmental Experience*, MIT Press, Cambridge, 1997, pp.273-299.
[193] Koch, Martin, et al., "Organizational responses to new environmental demands- thinking about organizational learning," Annual conference of the International Studies Association, March, 2002.

diversity; more use of technological tools; and decentralized planning that uses multiple value systems.[194]

This section focuses on jurisprudence of trade and environmental regimes and conceptualizes them by using international law discipline, and interdisciplinary relations between international law and international relations theories. It also contributes to analyses of the direct relationship between trade and environmental regimes and of judicial prospects of trade and environmental issues.

As more institutionalised cooperation has taken as an increasingly jurisdictional or constitutional form, the increasing interest in interdisciplinary collaboration among scholars of international relations and international law can be seen. Both sets of scholars are witnessing a changing trend in the international community, which is often explained in terms of globalization and multilateralism. In this increasingly complicated international environment, multilateralism is understood as the formal and informal bundles of rules, roles and relationships, an idea whose resemblance to international relations and international law's definitions of international regimes is evident.[195] Both sets of scholars seem increasingly to be conceptualizing a proliferation of formal institutions for international cooperation. Governments conduct a larger proportion of their foreign affairs, in a wider scope of issue-areas, through more variety of formal agreements and organizations than they used to.[196] In response, international relations theorists are interested in the form of international institutions, whereas international law theorists have turned to use international relations for methodological tools and policy prescriptions.[197]

International relations scholars are likely to use interdisciplinary approaches self-consciously. Henkin states that "almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time".[198] Many political scientists and international lawyers, called interdisciplinary scholars, have been demonstrating and explaining this claim. Chayes and Chayes suggest that "participation in international legal process can contribute to the transformation of states' identities and interests in the direction of treaty norms".[199] Koh makes this idea a central feature of his model, in which the process of interaction and internalization is constitutive.

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[194] Jantsch, Erich, *The self-organizing universe: Scientific and human implications of the emerging paradigm of evolution*, Pergamon Press, New York, 1980, pp 2-3.
[195] Koh, Harold H., *Transnational Public Law Litigation, Yale Law Journal*, Vol.100, 1991.
[196] Jacobson, Harold K., et al., "Inertia and Change in the Constellation of International Governmental Organizations, 1981-1992," *International Organization*, Vol.50:4, 1996, pp. 593-627.
[197] Abbott, Kenneth W. & Snidal, Duncan, "Why States Act Through Formal International Organizations," *Journal of Conflict Resolution*, Vol.42: 1, 1998, pp. 3-32.
[198] Henkin, Louis, *How Nations Behave*, Columbia University Press, New York, 1979, p.47.
[199] Chayes, Abram & Chayes, Antonia Handler, *The New Sovereignty: Compliance With International Regulatory Agreements* Harvard University Press, Cambridge, 1998, pp.112-134.

- Each instance of interaction and norm interpretation generates a legal rule, which will guide future transnational interactions between the parties;
- future transactions will further internalize those norms; and
- repeated participation in the process will help to reconstitute the interests and even the identities of the participants in the process.[200]

On the other hand, Kratochwil has explored the value of constructivist approaches. He has challenged the rationalist account of norms. Constructivists insist that actors' identities and interests are not externally given but are constituted through interaction on the basis of shared norms such as international treaties.[201] On the other hand, liberalists such as Doyle are interested in developing the function of domestic rule of legal norms, its separation of powers and strong domestic courts, which directly implicates the importance of domestic legal structures and the relationship between domestic and international law.[202]

International law scholars engage in more interdisciplinary scholarship than international relations scholars, and this has looked to different paradigms or schools of international relations theory. Abbott has emphasized the value of regime theory often referred to as institutionalism, for international law scholars. He draws on ideological explanations to supplement a rational choice framework, and argues that shared ideas about markets, politics and state-society relations influence economic and political structures, markets and international regimes.[203] He also states that "these structures owe their existence to such constitutive ideas, and change as these ideas change".[204] Slaughter seeks to use international relations theory to reconceptualize the basic definition of international law. She argues for the basic assumptions of liberal international relations theory, in which "individuals and groups operating in domestic and transnational society are the primary actors in international relations".[205] She thinks that although these primary actors are represented in some manner by governments, "in intergovernmental relations, what states prefer is more privileged than what the primary actors can power".[206] Kingsbury also develops a different conception of the state by using international relations theory. He evaluates the advantages and disadvantages of the two conceptions: "the traditional model of the

[200] Koh, Harold Hongju, "Why do nations obey international law?" *Yale Law Journal*, Vol. 106, 1997, pp. 2599-2659. Simmons, Beth, "Capacity, commitment and compliance: International law and the settlement of territorial disputes," The paper delivered at Conference on Domestic Politics and International Law, St. Helena, California, June 4-7, 1997.

[201] Kratochwil, Friedrich V., *Rules, Norms,* and *Decisions*: *On the Conditions* of *Practical* and *Legal Reasoning* in *International Relations* and *Domestic Affairs*, Cambridge University Press, Cambridge, 1989, pp.152-154.

[202] Doyle, Michael W., *Ways of War and Peace: Realism, Liberalism, and Socialism,* W. W. Norton, New York, 1997, pp. 383-388.

[203] Abbott, Kenneth W., "Modern International Relations Theory: A Prospectus for International Lawyers," *Yale Journal of International Law*, Vol. 14, 1989, pp.335-411.

[204] Abbott, Kenneth W., ""Economic" issues and political participation: The evolving boundaries of international federalism," *Cardozo Law Review*, Vol.18, 1996.

[205] Slaughter, Anne-Marie, "International Law in a World of Liberal States," *European Journal of International Law*, Vol. 6:4, 1995, pp. 1-538

[206] Slaughter, Anne-Marie, "The Liberal Agenda for Peace: International Relations Theory and the Future of the United Nations," *Transnational Law & Contemporary Problems*, Vol.4:2, 1995, pp.377-420.

state as a principal and a liberal model of the state as an agent".[207] In addition, some scholars mentioned changed behaviour of states, which has shifted from bargaining strategy between regimes to more communicative action.[208]

Interdisciplinary scholars have proposed how international relations and international law scholars collaborate more advantageously to evaluate international affairs. Some ideas may be the key to analyze the relationship between trade and environmental regimes. There can be two important clusters: the regime design and the basis of shared norms.[209]

Firstly, the regime design focuses on the organizational features, functions and purposes of the structures and institutions that order the international system and are situated above the level of the state.[210] The regime design concentrates on what the specific design features of international regimes best address and responds to particular types of international problems.[211] International law scholars have assumed that the design of an international institution can fulfil its goals, whereas international relations scholars have begun to demonstrate this proposition by showing that structural variations can affect compliance with international treaties. The second cluster examines social construction through shared norms. It investigates how to increase discourse on the basis of shared norms through international agreements. To build the basis of shared norms, one possible suggestion may be to increase participants in international negotiation.[212] Then, actors and social structures in the international system are constituted and transformed by argument, reasoning and persuasion on the basis of shared norms.[213]

However, interdisciplinary scholars have not developed an agenda to clarify the relationship between international regimes although they are interested in how international agreements are embedded in public international law.

Trade and environmental agreements

The growth of the GATT's organizational structure since 1947 has been paralleled by a similar expansion in its legal texts. In the 1980s, the distributional consequences of the trade

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[207] Kingsbury, Benedict "The Concept of Compliance as a Function of Competing Conceptions of International Law," in Weiss, Edith Brown (ed.), *International Compliance with Non-Binding Accords*, American Society of International Law, Washington, DC., 1997.

[208] Eckersley, Robyn, "A green public sphere in the WTO: The Amicus curiae interventions in the Trans -Atlantic biotech dispute," *EcoLomic Policy and Law*, March 2005. Eckersley explained that "a deliberation approach is to persuade others to freely accept the appropriateness of certain norms or actions rather than to induce others to agree to a compromise in the basis of threats or promises."

[209] Beck, Robert J. "International law and international relations: the prospects of interdisciponary collaboration," in Beck, Robert J., et al. (eds.), *International Rules: Approaches from International Law and International Relations*, Oxford University Press, Oxford, 1996, pp. 3-33.

[210] Abbott, Kenneth W., "Remarks on "Rationalistic Theory"," the paper presented at conference on international law and international relations, Yale Law School, February 1996.

[211] Beck, Robert J., 1996, op.cit..

[212] Checkel, Jeffrey T., "International Norms and Domestic Politics: Bridging the Rationalist-Constructivist Divide," *European Journal of International Relations*, Vol. 3:4, 1997, pp.473-95.

[213] Ibid.

regime became clear as it became jurisdictional. Thus, for most GATT dispute cases, *the understanding of the GATT dispute settlement mechanism* appeared to move in the direction of legalism.[214] Direct responses have come about in relation to two changes arising from the Uruguay Round launched in 1986: the switch from non-binding to binding rules and the switch from a system of arbitration to a legalist framework headed by the Appellate Body. As a result of major changes agreed in the Uruguay Round in 1994, the WTO dispute settlement procedures have become much more systematic.[215]

Dispute settlement under the GATT was based on the consensus principle. For example, Parties to dispute cases seek the third-party adjudication to settle disputes, and trade pragmatists support non-binding dispute resolution.[216] This ensured that both Parties to disputes had to agree on the outcome, increasing the likelihood of implementation. In contrast, consensus among WTO Member States is hardly to be seen under the WTO dispute settlement procedures. The increasing complicated regulatory issues have illustrated ambiguities and contradictory language in the WTO treaty text.[217] Due to the gap between the complex rules and the systematic jurisdictional mechanisms, a panel and the Appellate Body seem to become a "lawmaker" in the WTO.[218] Thus, a substantial minority of Member States is unlikely to win dispute cases under the WTO case law.[219] Some scholars have recommended that reintroducing the GATT system may help to re-establish legal consensus among WTO Member States, such as conciliation, mediation and voluntary arbitration.[220]

Environmental agreements have been generally created as an instrument of codification. Making new agreements, for example, when environmental regimes established regulation for illegal transboundary movement of hazardous wastes into the legally binding treaty, they took the obligatory rules rather than the formal binding rules.[221]

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[214] Matsushita, Mitsuo, et al., *The World Trade Organization: Law, Practice, and Policy,* Oxford University Press, Oxford, 1995, pp. 53-67.

[215] Blackhurst, Richard, "The capacity of the WTO to fulfill its mandate," in Krueger, Anne O. (ed.), *The WTO as an International Organization*, The University of Chicago Press, Chicago, 1998, pp. 31-96.

[216] Jackson, J.H., et al., "Law and world economic interdependence," in Jackson, J.H., et al. (eds.), *Implementing the Tokyo Round: National Constitutions and International Economic Rules,* University of Michigan Press, Ann Arbor, 1984, p. 1-20.

[217] Hudec, R.E. & Southwick, J.D., **"**Regionalism and WTO rules: problems in the fine art of discriminating fairly," in Rodríguez, M., et al. (eds.), *Trade Rules in the Making: Challenges in Regional and Multilateral Negotiations,* Brookings Institution Press, Washington, D.C. 1999, p. 47-80.

[218] Raustiala Kal, "Rethinking the sovereignty debate in international economic law," *Journal of International Economic Law*, Vol.6: 4, 2003, pp. 841-878.

[219] Verdirame, E. G., **"**The definition of developing countries under GATT and other international law," *German Yearbook of International Law*, Vol.39, 1996, pp. 164-197.

[220] Verwey, W.D., "The preferential status of developing countries in international trade law after the Uruguay Round," in Denters, E. & Schrijver, N. (eds.), *Reflections on International Law from the Low Countries* , The Hague, Nijhoff, 1998, pp. 48-67.

[221] Mekouar, M.A., "Le droit de la chasse au Maroc," in Société Française pour le Droit de l'Environnement, *La chasse en droit comparé.* Actes du Colloque organisé au Palais de l'Europe, à Strasbourg, les 9 et 10 novembre 1995, L'Harmattan, Paris/Montréal, 1999, pp. 251-270.

There are number of devices used in international environmental agreements to avoid delays of treaty negotiation processes. These include provisional application of soft law and supplemental provisions within treaties making amendments or adjustments binding on all signatories, which are not specifically opposing them.[222] The term "soft law" is used to distinguish informal agreements from formal, legally binding agreements.[223] When a new environmental issue is requested for immediate international action, but governments are not prepared to enter into the treaty process, soft law may be enacted. Thus, the great advantage of soft law is that it does not require the formal ratification process.[224] However, its disadvantage is lack of legal force. Moreover, due to the new complex environmental problems, environmental agreements have become more specific and technical in the concept of "juridification"[225] in the area of international law.[226]

International environmental dispute cases are extremely difficult to weave a single way towards finding a solution that all disputants can accept.[227] Environmental disputes generally cross national boundaries where there are geographically and ethically different environments. Thus, third parties may help to identify the transcendent quality of disputes.[228] Regionalization may also need to be established in some areas of international environmental agreements, since countries of one origin may share the same problems with the others.[229]

Moreover, new international environmental conflicts are characterized by considerable scientific uncertainty or frequent changes in technology. One of the most difficult points in these cases comes at negotiation processes of treaties. For example, some parties consider agreeing on the extent to which a new environmental problem exists, but the other parties are desperate for a jointly negotiated response on this new issue.[230] Negotiations of new environmental issues often cannot extend over long periods but they require different kinds of expertise because of a lack of

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[222] Moravcsik, Andrew. "Taking Preferences Seriously: A Liberal Theory of International Politics," *International Organization*. Vol.51: 4, 1997, p.513.

[223] Abbott, Kenneth W. & Snidal, Duncan, "Hard and Soft Law in International Governance," *International Organization*, Vol.54: 3, 2000, pp.421-456.

[224] Abbott, Kenneth W., et al., "The Concept of Legalization," *International Organization*, Vol.54:3, 2000, pp. 401-420.

[225] ""Juridification" is an ambiguous term, both descriptively and normatively. International law scholars generally distinguish between five dimensions of "juridification"; constitutive juridification, juridification as law's expansion and differentiation, as increased conflict solving with reference to law, as increased judicial power and as legal framing." Blichner, Lars Chr. & Molander, Anders, "What is juridification?," ARENA Working Paper Series, March 2005.

[226] Mertens, Hans-Joachim, "Lex Mercatoria: A self applying system beyond national law?" in Teubner, Gunther (ed.), *Global Law without a State*, Dartmouth, Aldershot, 1997, pp.31-44.

[227] Palmer, G., "New Ways to Make International Environmental Law," *American Journal of International Law*, Vol. 86, 1992, pp. 259-283.

[228] Sands, Philippe**,** *Principles of International Environmental Law*, Cambridge University Press, New York, 2003, pp. 171-174.

[229] Raustiala, Kal, "The architecture of international cooperation: Transgovernmental networks and the future of international law," *Virginia Journal of International Law*, Vol.43, 2002, pp.2-92.

[230] Keohane, Robert O., et al., "The effectiveness of international environmental institutions," *Institutions for the Earth: Sources of Effective International Environmental Protection*, The MIT Press, Massachusetts, 1993, pp. 3-24.

internationally agreed scientific opinions.[231] Under these circumstances, it becomes important that environmental treaties also provide the overacting perspective or precautionary concerns on new environmental problems.[232]

Conclusion

Regimes have developed into a comparatively autonomous sectoral legal system because of their internalization of the making and application of law.[233] For example, dispute settlement functions have been internalized within the trade regime because the dispute settlement system can incorporate the normative expectations developed within the regime with cooperation among Member States. On the other hand, environmental regimes seem to struggle to keep consensus among their Parties because most of MEAs do not internalize dispute settlement procedures. As a result, some environmental regimes have moved towards stricter rules and implementation mechanisms to establish a common ground among Parties.

A new environmental issue created by new science and technologies may raise complex questions concerning international stakes in activities occurring largely inside the borders of individual states and the justifiability of various forms of intervention from outsiders.[234] International law has been shifting away from its focus on states' sovereignty. Thus, regimes may form the new centres of authority because of the inability of states to take unilaterally action on complex environmental problems.[235] As a result, trade and environmental regimes have been transformed to a highly legalized and administrated regime. However, the problem is that a consensus has not been built between trade and environmental regimes' legal norms.

2-4. Conclusion

This chapter has illustrated that the concepts of international relations can be an effective tool used to explain the problematic relationship between regimes. The conceptual framework of regimes' formation and evolution should recognize the importance of the unique structure of trade and environment issues as well as the nature and rules of the negotiating forum in international relations. However, the conceptual framework used to address overlapping problems between trade and environmental agreements is involved in a broader context. Given the complex reality of trade and the environment problems, the context within these problems may need a study that differs from mainstream regime theory.

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[231] Töpfer & Rummel-Bulska, 1998, op.cit., pp. 178-180.

[232] Rubin, Jeffrey Z., "Third-party roles: Mediation in international environmental dispute," in Sjostedt, Gunnar (ed.), *International Environmental Negotiation*, SAGE Publications, Newbury Park, 1993, pp.275-289.

[233] Schachter, Oscar, *International Law in Theory and Practice*, Martinus Nijhoff Publishers, Dordrecht, 1991, pp. 8-15.

[234] Raustiala, Kal & Victor, David G., "The Regime Complex for Plant Genetic Resources," Working Paper # 14, Program on Energy and Sustainable Development, Stanford University, May, 2003.

[235] Gehring, Thomas, "International environmental regimes: Dynamics sectoral legal systems," in Handl, Gunther (ed.), *Yearbook of International Environmental Law*, Graham and Trotman, London, 1990, pp.35-56.

Moreover, in an increasingly constitutionalized world system, the lack of jurisdictional consistency creates more overlapping rules in an incorporated international system. Thus, explaining the complex coherence processes between trade and environmental regimes without jurisprudent perspectives is a questionable prospect. Interdisciplinary relations between international law and international relations studies help better understanding of international regimes. Regimes' norms need to be evaluated by broad sociological perspectives from international relations theory; also regimes' jurisdictions should be analyzed by detailed theoretical perspectives provided by comprehensive legal framework.

The aim of the conceptual framework is to support the argument of the research question of this thesis: **what are the contradictions between different approaches towards the environment of the WTO and MEAs?** This chapter links the form of idea of the theoretical framework and the empirical study to analyze the question. Firstly, trade and environmental regimes have tried to cooperate towards trade and environmental issues. Nevertheless, their different norms have chilled coherence negotiations between trade and environmental regimes. The implication of the theoretical framework suggests that when regimes' rules are changed, it does not mean that their norms are also changed. The empirical study examines that although trade and environmental regimes have extended their rules to assess trade and environmental issues, their different norms have slowed cooperation between the two agreements. Secondly, the environment-related measures of the trade regime and the trade-related measures of environmental regimes seem to have become mutually contradictory. The theoretical framework implied that the limited cooperation between trade and environmental rules has resulted from their different norms. Thus, the empirical study analyzes how their different norms have contributed to the contradictional relationship between the two agreements. In particular, the empirical study tries to illustrate that the WTO's norms to access MEAs have a greater influence on their relationship than MEAs on their relationship. Lastly, the judicial relationship between trade and environmental regimes has become complex. The theoretical framework supports that jurisdiction has become one important aspect of the relationship between international regimes. The empirical study investigates how the WTO's legal norms have influenced negotiations of new MEAs, which have resulted in the controversial jurisdictional relationship between trade and environmental agreements.

Chapter 3

Methodological implication

3-1. Introduction

Chapter 3 describes the methodological framework, including methodology and methods, which are used to formulate research questions and approaches, to collect information and to interpret the information in order to appraise the research objects. The principal objectives of the case study are to interpret trade and environmental regimes' different sets of norms, principles, rules and policy-making procedures towards multilateral environmental agreements' trade restrictions and the World Trade Organization's environment-related regulations. This provides a profile of trade and environmental policy variables, which have affected states' motivations and performances towards trade liberalization and environmental protections, namely sustainable development. Under these circumstances, to analyze coherence problems between international regimes requires appropriate methodology, with links between case studies and theories.

This chapter discusses the methods used to obtain appropriate data; thus exploring the reasons for trade and environmental regimes' coherent problems. This thesis is undertaken by using the integration of two stages of approaches: employing a multiple empirical study as topics of an interview-oriented method; and applying theoretical devices to guide the dimensions of the conceptual framework and the interpretative findings. This research focuses on a multiple study approach and has employed an empirical discipline in order to find concrete instances of jurisdictional and political clashes between multilateral trade agreements and multilateral environmental agreements, by using evidence from all sides of the debate, including international organizations, national governments, industries, private sectors, academics, scientists, trade and environment research institutions, and intergovernmental institutions.

This chapter illustrates the methodology and methods adopted for this research and the issues of case selection. First, **3-2** and **3-3** (the methodology and methods) show the interrelations between participation and observation, which are relevant in obtaining information. Then, **3-4** explains research design and data collection. Lastly, **3-5** describes the methods by which information collection takes place, and briefly discusses caveats (the limits of information collection and interpretation).

3-2. Methodology

Certain arguments have been suggested about the differences between normative and empirical pursuits in international relations studies. Although both may rely on the same theory, the latter, which develops and uses theoretical constructs, is distinct from the methodology. In

general the political science theorist works in a world which consists of relationships between concepts, while the empirical-oriented researcher operates in the realm of observables.[236] Normative enquiry is concerned with questions "what ought to be", while empirical research is oriented towards finding out about "what is".[237] However, in the real world, such political arguments almost always include both normative and empirical elements. Empirical claims enter into normative arguments in many ways; also empirical research is not only used to advance an uncompromising normative agenda. The "how to" empirical research on international relations' agenda, driven explicitly by normative concerns, has become interestingly important in international relations studies.[238] Thus, increasing complicity of trade and environmental issues requires both normative and empirical disciplines of international relations studies. These issues are also influenced by environmental science and the comparison of legal cases.

The multiple empirical case approach is an empirical inquiry that investigates a contemporary event within its real life context, especially where the boundaries between the event and its context are not clearly evident. Political scientists such as Keohane believe that it can be the best methodology for social science research.[239] The empirical study approach also can be used for a variety of research cases, for example, to explain the links in real life interventions that are too complex for the survey or experimental strategies; to describe interventions and the real life context in which they have occurred; to illustrate certain topics within an evaluation in a descriptive mode; and to explore the situations in which the intervention being evaluated has no clear, single set of outcomes.[240] One of the unique strengths of empirical case studies is their ability to deal with a full variety of evidence: official documents, artifacts, interviews and observations, which will support reasonable theoretical argument in this thesis.

The main difficulty in analyzing trade and environmental regimes is the fact that there is no autonomous organization responsible for the implementation of trade and environmental issues. Many international organizations located at the centre of a trade and environmental network are involved to some extent in international trade and environmental affairs. This could be turned into a research strategy, which deals with a very large case study characterized by a particularly complex relationship between regimes. The multiple empirical case study approach narrows the broad set of potential findings and more importantly discovers variables that may have been overlooked in the initial framework; it is especially appropriate when variables bridge multiple levels of analysis: among international organizational, national governmental, private sector and institutions. Unlike the broader case study, the emphasis in this approach is on the empirical

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[236] O'Brien, Rory, Normative versus empirical theory method, in O'Brien, Rory & Theodoulou, Stella Z. (eds), *Methods for Political Inquiry*, Prentice Hall, New Jersey, 1999, pp. 77-100.
[237] Finnemore, Martha & Sikkink, Kathryn, "International norm dynamics and political change," *International Organization*, Vol.52: 4, 1998, p.889.
[238] Snyder, Jack, ""Is and "Ought": Evaluating empirical aspects of normative research," in Elman, Colin & Elman, Miriam Fendius (eds.), *Progress in International Relations Theory*, MIT Press, Cambridge, 2003, pp. 349-377.
[239] King, Gary et.al. *Designing Social Inquiry: Scientific Inference in Qualitative Research*, Princeton University Press, Princeton, 1994, pp. 3-9
[240] Gray, David E., *Doing Research in the Real World*, SAGE Publications, London, 2004, pp. 15-34.

investigation and on judgemental inferences, and not on the establishing of a necessary logical chain of causality as in the deductive method.[241]

In applying this methodology, two major empirical studies are contained in this thesis. The first empirical study focuses on separate institutional establishments and developments of trade and environmental regimes, to investigate problems of the relationship between the WTO and MEAs. To conceptualize their institutional developments, it explains how their different sets of norms, principles, rules and policy-making procedures have influenced their cooperation and coordination processes. Then, the study investigates whether these processes can be one of the main reasons for the "chilling" in the recent trade and the environment coherence negotiations. The second study involves Member States which are still a major driving force in international relations. It also includes why each state demands different environmental policies, which has slowed the progress in the WTO-MEAs coherent negotiation within the WTO as well as between trade and environmental regimes. It illustrates three major oppositions: the European Commission, the United States and South whose uncompromised positions have negatively affected WTO-MEAs synergy dialogues. Each state's divergent views have also influenced negotiations of a MEA (this thesis focuses on the Cartagena Protocol on Biosafety).

Following the high density of international agreements, the trade and environment conflict is not a unique phenomenon in international relations and law. Thus, it is important to analyze the compatibility between two different regimes. It is also essential to investigate each state's different motivation, because trade and environmental problems have become typical in the international community due to rapid technological invention and economic liberalization. This research will seek an evaluation of existing trade and environment problems, and the recommendations of multilateral trade and environmental governance. And it will look for the contribution of further international relations and international law studies.

3-3. Methods

To answer the principal research question, first the research must investigate the causes of trade and environment problems, by hiring the case of the political and jurisdictional relationships between the WTO and the Cartagena Protocol on Biosafety. Secondly, it seeks an alternative way of resolving these problems. The research method involves qualitative explorations and considerations, which involve individual interviews, because the conclusion of the research topic is not a clear-cut answer. There has been discussion about the relationship between the tradition of what is conventionally denoted quantitative and qualitative research by applying logic of inference to these two international relations studies. Some international relations scholars have evaluated international relations studies by hiring scientific method perspectives and also tried to improve international relations studies.[242] On the other hand, the social science research objective is generally a more complex phenomenon than the physical science; this research topic is not an exception. This is because standing conditions are usually

[241] Freeman, Howard E. & Rossi, Peter H., in Freeman, Howard E., et al. (eds.), *Evaluation-Systematic Approach*, Sage Publications , Newbury Park, 1999, p.91.
[242] For example, Lakatos' methodology. Waltz, Kenneth N., "Thoughts about assaying theories," Ibid, pp. vii-xiv.

specified in order to describe a normative condition by non-scientific base and those variables must be measured to obtain generalizations of events.[243] However, in conclusion, whether quantitative and/or qualitative, all good research methods should be understood to derive from the same underlying logic of inference. Thus, it is important to be aware of how the empirical world would be interpreted by appropriate methods and questions.

To answer the research question, the evidence of political and jurisdictional aspects of trade and environmental regimes, as well as among their Member States is needed. Primary written records and data collection in object institutes (the WTO, United Nations Environment Programme (UNEP) and the Cartagena Protocol on Biosafety) and from relevant national governments is essential. However, the primary resources available for this study from websites and published documents are limited. It is essential that particular research methods are identified, which are capable of capturing and reflecting the depth of knowledge, expertise and experience in this research field. The interview method is a good technique to obtain primary resources for the research because it enhances examination of relationships between trade and the environment as well as discovers unexpected issues. Interviews can provide more extended information for this research than statistical or document analysis can, because they reflect and explain individual international organizations and states' policies and strategies.[244]

The types of information needed for this research explain trade and environmental regimes' norms, namely the WTO and the Cartagena Protocol on Biosafety. The information should also illustrate divergent views among their Member States, especially between the US, EC and South. Then, these findings are categorized in order of the thesis structure.

3-4. Research design and data collection

To provide internal and external reliability, this thesis uses a variety of data collection procedures through primary research and fieldwork. The aim of gathering and collecting from primary and secondary sources is in order to develop conceptual frameworks. The sources for this project include: books, journals, official documents, internet websites and interviews. It also uses primary and secondary material and data from both within and outside international institutions/organizations and nation states, to improve the reliability of the empirical study. Multiple methods evenly support both (trade and the environment) sides of arguments and generalize the research question.

The primary material is supplemented by interviews and official unrestricted documents. It is also supplemented by conferences and meetings of object international organizations, and relevant academic symposiums and workshops. As the work concentrates on legally based aspects of international relations, a reasonable amount of official documents has been written by

[243] May, Tim & Williams, Malcolm, *Introduction to the Philosophy of Social Research*, UCL Press, London, 1996, pp. 47-68.
[244] Gubrium, Jaber F. & Holstein, James A., "The active interview in perspective," in Denzin, Norman K. & Lincoln, Yvonna S. (eds.), *The American Tradition in Qualitative Research Volume II*, SAGE Publications, London, 2001, pp. 55-65.

the Food and Agriculture Organization of the United Nations (FAO), the Organization for Economic Co-operation and Development (OECD), the United Nations Conference on Trade and Development (UNCTAD), UNEP, the World Health Organization (WHO), the Codex Alimentarius, the WTO and MEAs: the Basel Convention on Transboundary Movement of Hazardous Waste, the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) and the Montreal Protocol on Ozone-depleting Substances, as well as national governments. In addition, due to increasing participation of non-governmental organizations, this thesis recognises an *amicus curiae* from trade and environment think-tanks and research institutions as a primary source.

The secondary source for this thesis is mainly used for the literature review in the field of trade and the environment, which provides broader information and balanced perspectives for the case studies. The secondary source brings an objective of the thesis to discuss the overview of the trade and environment debate, which moves further towards an analytically meaningful definition of the concept of coherent process between the WTO and MEAs.

The goal of empirical study here is to explore and analyze the concept of the relationship between international regimes; hence the selection of research questions has been guided by considerations of conceptual argument of this thesis. A primary concern is to achieve maximum findings within the limited interviews; therefore several contextual dimensions, such as types of conferences, workshops and sessions as well as interviewees, should be carefully selected. It also needs to balance the general propositions of both trade and environmental regimes and three major opposing groups' (mainly the European Union, the United States and South) trade and environmental policies.

Two separate interview sources have been used in this study: an interview of officials within of object institutions/organizations and national governments involved in the research topic, and an interview of stakeholders (non-governmental organizations, academics and scientists external to international institutions/organizations).

The majority of interviews were conducted with UNEP and the WTO officials, but there were also a number of talks with national government officials and researchers in trade and environment institutions. Thus, most of the interviews were conducted in Geneva where the WTO headquarters and environmental international organizations' trade-related offices are located. It was an advantage to conduct fieldwork in Geneva, because many international trade and environment specialised research institutions are located there, as are many government trade and environmental officials.

Since interviews played such an important part in information collection, four important steps of technique should be mentioned. Firstly, interviews were arranged by e-mail or telephone, providing an introduction. Obtaining initial access to suitable interviewees who have the right kind of information needed is crucial for fruitful interviewing. Secondly, in dealing with busy people it is important to have sufficient preparation of background knowledge and the right questions for the individual. Thirdly, it is important to ask if interviewees could offer relevant documents and could introduce someone more knowledgeable for this research topic.

Lastly, the hierarchical level of interviewees often turned out to be meaningless as far as the value of the interview was concerned. On the other hand, the policy for this thesis it to not take into account the personal opinions and subjective assessments of interviewees.

Findings and primary resources have been conceptualized in the way discussed, interpreted into new perspectives for the research questions. These approaches require standards to guide the dimensions of generalization by theoretical devices, which were illustrated early in this chapter.

The interviews have been conducted using a standard protocol and a semi-structured questionnaire, which is more flexible than a structured interview method because it better reflects individuals' opinions and depends upon how discussions proceed. Since any discussion may touch upon sensitive matters with regard to the relations within/between the institutions, it is undertaken with complete confidentiality and tape recorders are never used. A note-taking method has been used and these notes have been reviewed and written up electronically. These research files have been analyzed in terms of a matrix of trade and environmental politics covering the areas of legal, social and political structural supports and the ongoing global commitment. Over fifty interviews were conducted in 2003 and 2004 fieldwork at the following organizations.

Geneva, Switzerland:

- The Centre for International Environmental Law (CIEL)
- International Centre for Trade and Sustainable Development (ICTSD)
- International Institute for Sustainable Development (IISD)
- The World Conservation Union (IUCN)
- The United Nations Conference on Trade and Development (UNCTAD), Division on International Trade and Commodities
- United Nations Environment Programme (UNEP), Economics and Trade Branch
- United Nations Environment Programme (UNEP), Global Programme
- World Health Organization (WHO), Food Safety Department
- World-Wide Fund for Nature (WWF)
- The Japanese Consulate
- South Centre
- The World Trade Organization (WTO), Agriculture Division
- The World Trade Organization (WTO), Legal Division
- The World Trade Organization (WTO), Trade and Environment Division

Montreal, Canada:

- The Convention on Biological Diversity (CBD)

Paris, France:

- United Nations Environment Programme (UNEP), Industry and Environment

Tokyo, Japan:

- The United Nations University, Institute of Advanced Studies

3-5. Caveats

The analysis of the dynamics of trade and environmental issues between regimes and among their Member States requires primary information from all object international regimes and countries. However, collection and interpretation of information face some limitations. Firstly, not all interviews are necessary to represent the positions or opinions of the object international organizations; hence, the interviews should not prejudice to their Members' rights and obligations. Secondly, a key limitation is the unbalanced distribution of information sources between trade and environmental regimes as well as three major opposing clusters. It has not been possible to obtain balanced information from all of them due to time limits and their availability. Thirdly, due to the time frame of this thesis, the Sixth WTO Ministerial Conference in Hong Kong and the Second Conference of the Parties of the Convention serving as the Meeting of the Parties to the Protocol on Biosafety (COP-MOP 2) have not been covered, although some of their results may affect the argument of this thesis. In addition, although the topic involves highly scientific matters including arguments on genetically modified organisms (GMOs), physical scientific discussions are limited in this thesis.

Chapter 4

World Trade Organization's environmental policies

4-1. Introduction

Chapter 4 describes the evolution of the World Trade Organization's environmental regulations and the motives and norms that have driven this evolution. The completion of the Uruguay Round promised a new era in international trading relations, which the World Trade Organization (WTO) has created to provide rules for trade in services, intellectual property, agriculture, technical barriers to trade, sanitary and phytosanitary measures and a dispute settlement process to resolve trade conflicts. The WTO has increasingly extended its reach into new areas, particularly through its dispute settlement process. These areas are normally thought to be environment policy with important implications for the environment. This trade regime's expansion has raised the debate about the relationship between trade and environmental agreements. The multilateral trading agreements have often harmfully affected the environment just as the multilateral environmental agreements have negatively affected trade.[245]

The WTO has extended its agreement to environment-related issues and multilateral environmental agreements (MEAs) have facilitated trade measures. However, the theoretical framework suggested that changes of rules of trade and environmental regimes are not necessary changes in their norms, which have affected the relationship between the WTO and MEAs. Thus, chapter 4 attempts to support theoretical arguments by the GATT/WTO's organizational and jurisdictional developments.

Substantively, this chapter describes the extension of the General Agreement on Tariffs and Trade (GATT) to include environmental issues. Firstly, **4-2** discusses the GATT/WTO's organizational and functional developments. Secondly, **4-3** shows the creation of the WTO Committee on Trade and Environment (CTE). Then, **4-4** analyzes GATT/WTO case laws on the environment and the increasing use of GATT *Article XX paragraphs (b)* and *(g)* in the environment-related dispute cases.

4-2. The WTO's historical background

The GATT's founding philosophy was greatly influenced by the neo-classical theory of international trade, which is based on the principle of comparative advantage. One common definition of comparative advantage is that "a country has a comparative advantage if the opportunity cost of producing that good in terms of other goods is lower in that country than it is

[245] UNCTAD, "Trade and environment review 2003," United Nations, Geneva, 2004.

in other countries".[246] In this way both countries may gain from trade. Thus, GATT's primary purpose was that "reciprocal and mutually advantageous arrangements should be directed to the substantial reduction of tariffs and other barriers to trade and to the elimination of discriminatory treatment in international commerce".[247]

According to neoclassical theories, free trade should be beneficial for country. However, there is an enormous gap between the theory and realities of international trade. For example, the benefits and costs are shared in different ways between the different groups in society, and these groups try to defend their interests by influencing trade policy decisions.[248] This brings each state to the political economy of the choice between free trade and protection, because an industry in danger of losing its protection has a definite interest in preserving it. However, the GATT's success towards "freer trade" had driven prices of the same commodity lower; hence the GATT system ironically resulted in some contracting parties setting higher levels of protectionism.[249]

This section describes the historical background of the trade regime and explains the early stage of the trade regime's formation: how the WTO was created. It shows the trade regime's organizational development, especially the transformation from GATT to the WTO. Secondly, this section explains the scope and functions of the WTO, especially those elements involved in environmental issues.

The organizational background of the WTO

In its early phases, the GATT used to fit comfortably with the realists' view of state power and international organizations. It was a purely state-to-state operation by consensus. The GATT 1947 began with 23 signatories while the WTO has almost 150 Members, an increasing proportion of which demand real participation in the organization's decision-making process.[250] The distributional consequences of the trade regime become clearer as the regime becomes more legalized, creating domestic political reaction against liberalization in such broad issues as health and the environment. The GATT has transformed to the WTO, which has become more a "bottom-up" forum where Member governments meet occasionally to try to reach consensus on the conduct of world trade.[251]

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[246] Krugman, Paul R. & Obstfeld, Maurice, *International Economics: Theory and Policy*, Addison Wesley, Boston, 2003, p. 12.
[247] Diebold, William Jr., "From the ITO to GATT-and back?," in Kirshner, Orin (ed.), *The Bretton Woods-GATT System: Retrospect and Prospect after Fifty Years*, M.E. Sharpe, New York, 1996, pp. 152-173.
[248] Rogowsky, Robert A. et al., *Trade liberalization: Fears and Facts*, Praeger, Westport, 2001, pp. 7-14.
[249] Frederic, Jenny, "Globalization, competition and trade policy: Issues and challenges," in Zach, Roger, et al. (eds.), *Towards WTO Competition Rules : Key Issues and Comments on the WTO Report*, Kluwer Law International, The Hague, 1999, pp.3-41.
[250] 148 Members on 16 February 2005. The WTO, Geneva, 2005.
[251] Kennedy, Kevin C., *Competition Law and the World Trade Organization: The Limits of Multilateralism*, Sweet & Maxwell, London, 2001, pp.vii-ix.

The most widely accepted realist theory about economic cooperation after the war - the theory of hegemonic stability – indicated that international monetary and trade systems were possible only as long as a dominant hegemonic power (the US) could both enforce and pay the costs of guaranteeing stability.[252] In the early post war period, most international organizations allowed the US to pursue its national self-interest. The three control-oriented regimes (the International Monetary Fund (IMF), the World Bank and the GATT) typically sought to ensure two kinds of regularization, internal and environmental. Internal regularity refers to orderly patterns of behaviour among members of the regime. The Bretton Woods international monetary regime and the GATT trade regime focused, first of all, on members' obligations. It was assumed that if members behaved according to the rules, the international monetary and trade systems would be orderly. If all significant actors within an issue area are members of the regime, this assumption is warranted and mutual control regimes tend to be effective.[253] Thus, disputes were settled through diplomatic negotiations, not legal process.[254]

This trend has changed because of rising membership and increasing divergence of views between rich and poor nations over fundamentals through the Kennedy Round in the 1960s, the Tokyo Round in the 1970s and the Uruguay Round in the 1980s to early 1990s.[255] The Kennedy Round dealt only with non-tariff measures in item-by-item talks. The negotiations expanded trade issues in the next Round. One of the significant subjects in the Tokyo Round was special and differential treatment of developing countries. Then, in the Uruguay Round, the negotiations extended coverage to new trade issues such as intellectual property and trade in services. One of the most significant outcomes during the Uruguay Round negotiations was the dispute settlement process and the creation of the Appellate Body.[256]

As a result, in 1995, the GATT became a part of a more wide-ranging organization, namely the WTO. Articles of the GATT 1947 were completed into wider and balanced agreements of the GATT 1994.[257] The United States and Britain were not able to dominate international trade negotiations as easily as they had been able to in setting up the monetary and finance systems. There were dilemmas as well, in that European countries demanded safeguards for reasons of employers in particular sectors and that the developing countries were pressing for attention to economic development issues.[258]

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[252] Steinberg, Richard H., "Trade environment negotiations in the EU, NAFTA and WTO: Regional trajectories of rule development," *American Journal of International Law*, Vol.91, 1997, pp.231-267.

[253] Keohane, Robert O., "The demand for international regimes," *International Organization*, Vol.36:2, 1982, pp. 325-355.

[254] Shell, Richard, "Trade legalism and international relations theory: An analysis of the World Trade Organization," *Duke Law Journal*, Vol.44, 1995, pp.856-857.

[255] Short, Clare, "Making the development round a reality," in Sampson, Gary P. (ed), *The Role of the World Trade Organization in Global Governance*, United Nations University Press, Tokyo 2001, pp.59-80.

[256] WTO Public Symposium: WTO after 10 years (GATT at 57): Global problems and multilateral solutions, "The Future of the WTO - The WTO at 10: The perceived loss of "sovereignty" due to WTO accords: should parliamentarians be concerned?," Geneva, 22 April 2005.

[257] In this thesis, generally the GATT implies the GATT 1994.

[258] Wiener, Jarrod, *Making Rules in the Uruguay Round of the GATT: A Study of International Leadership*, Dartmouth Publisher Co., Aldershot Brookfield, 1995, pp.181-191.

The value of the WTO has been seen quite widely as its potential to act as a focal point on which many divergent views on appropriate commercial policy converge.[259] However, the WTO retains its original norms as a prevailing post-war consensus on free trade through the GATT. These were developed into trade agreements based on the GATT 1947 *Article I*: *General Most-Favoured-Nation Treatment, Article III: National Treatment on Internal Taxation and Regulation,* and *Article XI*: *General Elimination of Quantitative Restrictions.*

Functions and structure of the WTO

As a result of the expanding WTO's scope in 1995, some 40 councils, committees, subcommittees, bodies, standing groups and working parties functioned under the WTO, which has increased more than twice the number under the GATT. [260] However, unlike the international monetary organizations, the WTO's secretariat is relatively small and its members are not decision-makers. The WTO's secretariat only has substantial influence as a result of its technical skills of its stuffs and familiarity with the issues. The WTO secretariat functions as the hub of a large and dispersed network based in Geneva, Switzerland; hence the WTO maybe characterized as a network organization.[261]

The WTO Member States make their decisions through a variety of councils and committees. The highest authority is the Ministerial Conference, which is generally organized once every two years (see Figure 1). The Ministerial Conference should take decisions on all issues, which involve the multilateral trade agreements. The second level is managed by three bodies: the General Council, the Dispute Settlement Body and the Trade Policy Review Body. These bodies operate day-to-day bases in between Ministerial Conferences and they meet under different terms of reference to report to the Ministerial Conference.[262]

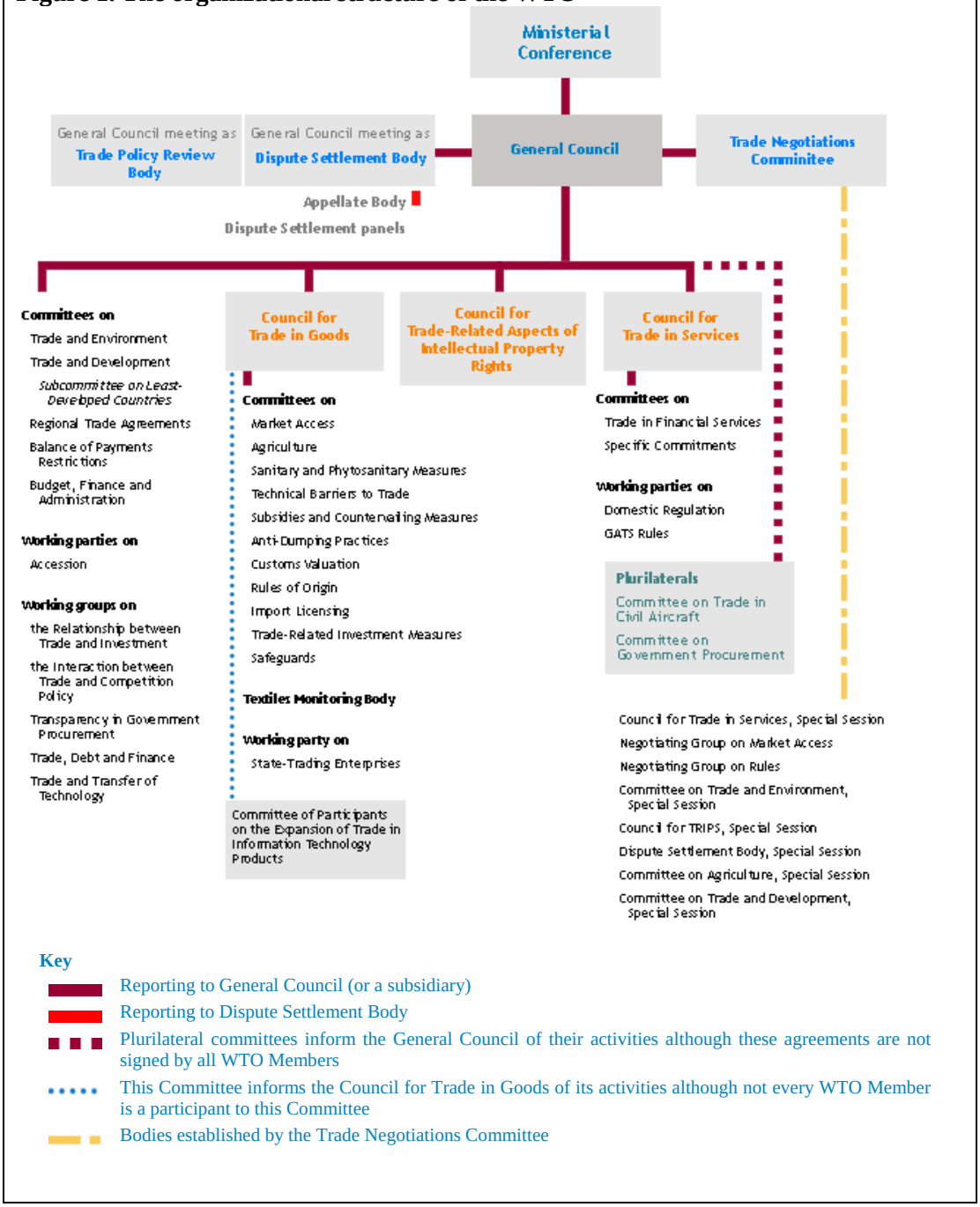
[259] Martin, Lisa L. & Simmons, Beth A., "Theories and empirical studies of international institutions," *International Organization*, Vol.52: 4, 1998, pp.729-757.

[260] The World Trade Organization, Understanding the WTO: The organization, Available online [http://www.wto.org/english/thewto_e/whatis_e/tif_e/org1_e.htm] viewed 20 December 2005.

[261] Blackhurst, R., "The capacity of the WTO to fulfil its mandate," in Krueger, A.O. (ed.), *The WTO as an international organization,* University of Chicago Press, Chicago, London ,1998, pp. 31-58.

[262] Jackson, John H., *The World Trade Organization: Constitution and Jurisprudence*, Royal Institute of International Affairs, London, 1998, pp. 36-47.

Figure 1. The organizational structure of the WTO



Source: The WTO, WTO organization chart, 5 December 2003, [http://www.wto.org/english/thewto_e/whatis_e/tif_e/org2_e.htm] viewed 20 December 2005.

At the third level, there are three additional councils (the Council for Trade in Goods, the Council for Trade in Services, and the Council for Trade-Related Aspects of Intellectual Property). Each of them deals with a different area of trade to report to the General Council.

There are six other bodies to cover issues such as administration, the environment, and trade and development. In addition, at the first Ministerial Conference in Singapore in December 1996, Member States agreed to establish three working groups to deal with trade facilitations, (trade and investment, competition policy, and transparency in government procurement).[263]

Each of the higher-level councils has subsidiary bodies. For example, two other subsidiary bodies keep the General Council informed of the plurilateral agreements because all WTO Members do not necessary need to sign them.[264] The Goods Council has eleven committees directing specialized subjects, such as agriculture, anti-dumping measures, market access and subsidies. On the other hand, a number of committees deal with specific topics of general concern called Committees on Topics of General Concern, Working Groups and Working Parties.[265] For example, the Committee on Trade and Environment (CTE) addresses environmental health and safety.

Most decision-making in the WTO follows GATT practices and is based on bargaining, consultation and consensus. Consensus was the *modus operandi* of the GATT. Even in cases where GATT rules called for a formal vote (such as on the granting of waivers of GATT obligations to a country), negotiation and consultations would usually be used to arrive at a consensus text before the formal vote was held.[266] The decision-making requirements of the WTO relate to the form of the process being considered (see Table 2). The Ministerial Conference may decide to ask a Member that does not accept an amendment to withdraw from the WTO, or grant it a waiver. The major traders must remain part of the WTO for it to retain its value; so large players cannot be forced to adopt changes they are unwilling to accept voluntarily. In other words, the mechanisms are highly theoretical.

Table 2. The decision-making requirements of the WTO[267]

amendments concerning general principles such as non-discrimination	*unanimity*
interpretations of the provisions of the WTO and waivers of WTO disciplines for members	*three quarters majority*
amendments to the WTO relating to issues other than general principles, accession	*two thirds majority*
where not otherwise specified	*consensus*

Source: The World Trade Organization, Principles of the trading system, Available online [http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm] viewed 20 December 2005.

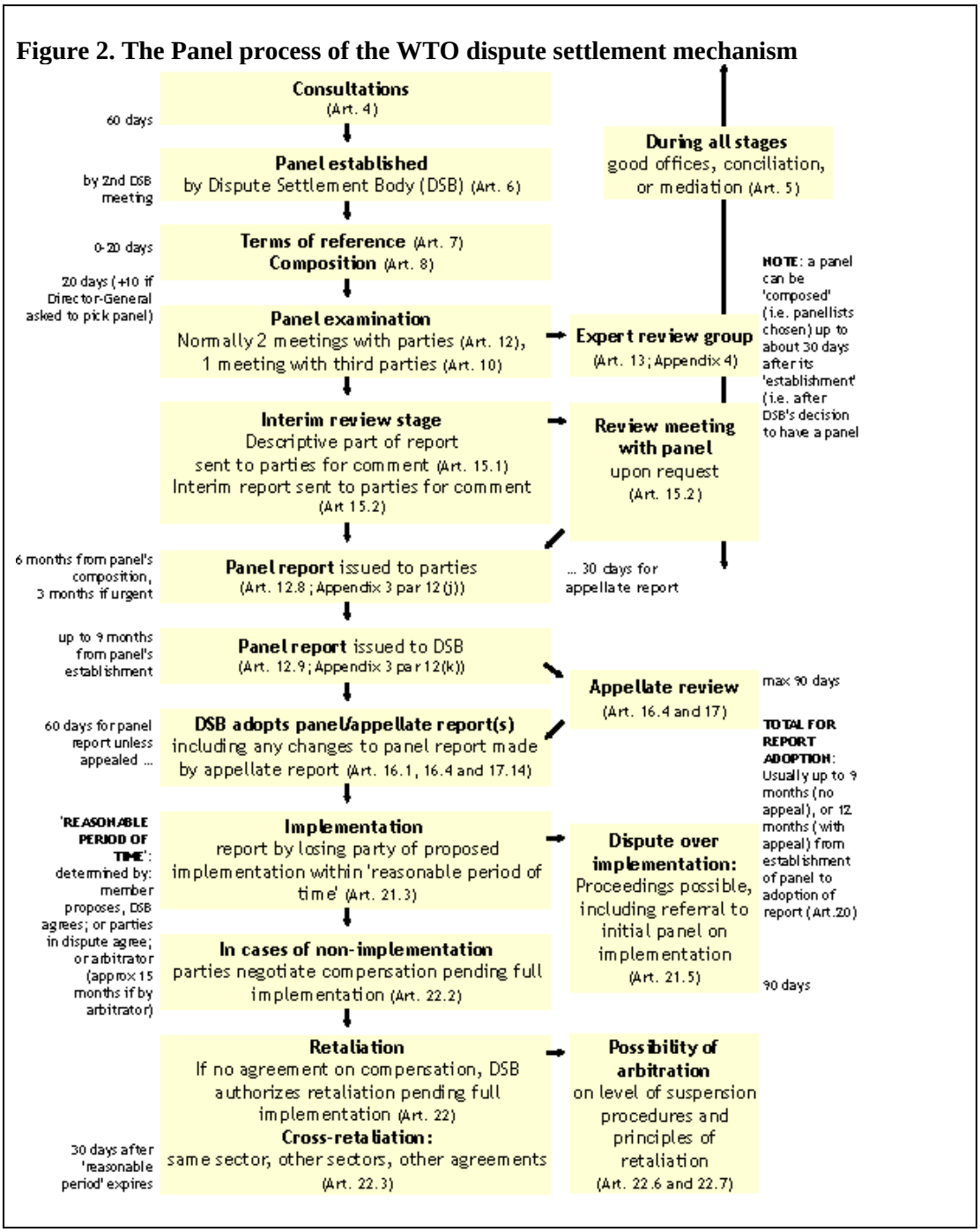
[263] The World Trade Organization, The First WTO Ministerial Conference, Available online [http://www.wto.org/english/thewto_e/minist_e/min96_e/min96_e.htm] viewed 20 December 2005.
[264] Interview with the WTO officer #4-1, September, 2003.
[265] The World Trade Organization, Understanding the WTO: The organization, op.cit.
[266] Wilkinson, Rorden, *Multilateralism and the World Trade Organisation: The Architecture and Extension of International Trade Regulation*, Routledge, London, 2000, pp. 69-70.
[267] In 1995, WTO Members decided not to apply provisions allowing for a vote in the case of accessions and request for waivers, but to continue to proceed on the basis of consensus. The Decision-Making Procedures under Articles IX and XII of the WTO Agreement agreed by the General Council in November 1995, WT/L/ 93.

The Trade Policy Review Mechanism (TPRM), established during the Uruguay Round, builds upon a 1979 Understanding on Notification, Consultation, Dispute Settlement and Surveillance. The main objective of the TPRM is to improve observance of WTO rules through greater transparency.[268] Strengthening the dispute settlement mechanism may be one of the most significant results of the Uruguay Round because the rules-based system would be less effective without the rule enforcement mechanism.[269] Underscoring the WTO jurisdiction makes the multilateral trading system more certain and conventional. The WTO Dispute Settlement Understanding (DSU) has clearly defined rules with fixed timetables for completing dispute cases (see Figure 2). The WTO Dispute Settlement Body is formed by all Member governments, usually represented by ambassadors or equivalent. The permanent seven-member Appellate Body is appointed for four-year terms organized by the Dispute Settlement Body.[270] Only the Dispute Settlement Body has the authority to set up a panel of experts to deal with dispute cases.

However, the WTO does not have internal systems able to provide adequate guidance for WTO judicial bodies, although the dispute settlement system that has been established to support this kind of regulatory activity includes participating technical or scientific experts. The TPRM also includes functions for updating Members with information about these jurisdictional processes.[271] However, although the TPRM has promoted greater transparency in Members' trade related policies, it may not reduce nor have any impact on the lack of clarity of the WTO dispute settlement process.[272]

[268] Abbott, Roderick, "GATT and the Trade Policy Review Mechanism: further reflections on earlier reflections," *Journal of World Trade* Vol. 27 3, June 1993, pp.116-119.
[269] González-Calatayud, Alexandra & Marceau, Gabrielle, "The Relationship Between the Dispute Mechanisms of MEAs and those of the WTO," *Trade and Environment, the WTO, and MEAs Facets of a Complex Relationship*, The Heinrich Böll Foundation, Washington D.C., March 29, 2001, pp. 71-102.
[270] However, it is not a transparent process how the Appellate Body has been selected. Interview with the WTO officer #4-2, September, 2003.
[271] Qureshi, Asif H., "Some Lessons from 'Developing' Countries' Trade Policy Reviews in the GATT Framework: An Enforcement Perspective," *The World Economy*, Vol.18: 3, 1995 May pp. 489-503.
[272] Petersmann, Ernst-Ulrich, "The GATT/WTO dispute settlement system: International law," *International Organizations and Dispute Settlement*, Kluwer Law, London, 1997, pp. 35-44.

Figure 2. The Panel process of the WTO dispute settlement mechanism



Source: The WTO, The panel process, 5 December 2003, [http://www.wto.org/english/thewto_e/whatis_e/tif_e/disp2_e.htm] viewed 20 December 2005.

Moreover, the WTO has gradually developed into a fully appointed constitutional order. These ideas can be reviewed in light of history – the Uruguay Round agenda represented the triumph of neo-liberalism. However, this Member-driven nature of the Organization has created a considerable tension among the national delegations of Members. This is because this nature

of the WTO often depends on incentives of political mobilization of its Member States. The WTO's legalization on trade liberalization may lead to scepticism regarding the effects of legalization on national compliance.[273] Thus, if the increasing legalization of the WTO continues, it may be essential that real transparency is promoted and uncertainty reduced.

Conclusion

Economists believe that the purpose of multilateral trade agreements is to thwart the ambitions of protectionist special interests by constraining governments and enforcing a pre-commitment to free trade.[274] In the case of the GATT/WTO, the advantage of preventing protectionist measures is evident in the short term; while the advantage of liberalization takes longer to become apparent and is much harder to achieve.[275] The WTO is essentially a permanent negotiating forum in which trade issues may be discussed and agreed upon against a background of provisions of various agreements. All trade negotiations are multi-level, involving both domestic bargaining among interest groups and negotiations between governments that represent these national interests.

There have been changes in the international trading system itself. The WTO has become the only international organization with an effective intergovernmental dispute settlement mechanism of any kind to enforce its rules. However, the changes in rules do not represent changes in the regime because the changes are to functions and scope but not the norms. There is also a fundamental difference between viewing changes in rules as indicators of change within the regime and viewing them as indicators of changing regimes in international relations.[276] Since the Kennedy Round, deadlocks in GATT Rounds have regularly been accompanied by warnings about the possibility of collapse of the multilateral trading system.[277] Although these warnings were most likely overstatements, this may indicate the existence of a formal and highly articulated trade regime. As a result, the trade regime chose to extend its coverage outside of the trade object and facilitated more systematic jurisdiction. However, its liberalization may make the existence of a multilateral trade agreement more controversial than it used to be.

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[273] Goldstein, Judith, et al., "Introduction: Legalization and World Politics," *International Organization*, Vol.54: 3, 2000, pp.385-400.

[274] Howse, Robert & Nicolaides, Kalypso, "Legitimacy and Global Governance: Why Constitutionalizing the WTO is a Step Too Far," in Porter, R. *et al.* (eds.), *Efficiency, Equity, and Legitimacy: The Multilateral Trading System at the Millennium*, The Center for Business and Government, Harvard University, 2001.

[275] Lanjouw, G.J., *International trade institutions*, Longman, New York, 1995, pp. 6-24.

[276] Krasner, Stephen D., "Structural causes and regime consequences: Regimes as intervening variables," *International Organization*, Vol. 68: 2, 1982, pp.185-205.

[277] Finlayson, Jock A. & Zacher, Mark W., "The GATT and the regulation of trade barriers: Regime dynamics and functions," *International Organization*, Vol.35:4, 1998, pp.561-602.

4-3. The WTO Committee on Trade and Environment

This section focuses on the WTO Committee on Trade and Environment (CTE). The CTE is the main body of the WTO that deals with trade and environmental issues. This section explain how CTE was established, the functions of CTE; and how the CTE has addressed coherence between trade and environmental regimes within the WTO.

The CTE is a continuation of a working group that was originally formed in 1971, but with had been dormant until 1991. At the November 1971 meeting of the GATT Council of Representatives, they agreed to establish a group on environmental measures and international trade, known as the Group on Environmental Measures and International Trade (EMIT).[278] The Group was organized at the request of the contracting parties; however, until 1991 no requests had come.[279] In the 1990s, a period when environmental issues had again attained a high profile on the international policy agendas, the GATT Working Group was re-activated. In 1991, the European Free Trade Association asked the GATT Director General to convene the group in order to inquire into the trade-environment relationship and to involve the 1992 UN Conference on Environment and Development in Rio de Janeiro. At the GATT Marrakesh Ministerial Meeting in 1994, trade ministers decided to widen and intensify debates on the trade and environment linkage, which led to a Ministerial Decision on Trade and Environment calling for the creation of a Committee on Trade and the Environment.[280] In the next meeting of the General Council of the WTO in 1995, the CTE was officially established.

The Committee meets formally approximately three times a year to report to the General Council. It has structured its works, which were listed in the 1994 Decision:

1. The relationship between the provisions of the multilateral trading system and trade measures for environmental purposes, including those pursuant to multilateral environmental agreements;
2. The relationship between environmental policies relevant to trade and environmental measures with significant trade effects and the provisions of the multilateral trading system;
3. The relationship between the provisions of the multilateral trading system and:
   a) Charges and taxes for environmental purposes
   b) Requirements for environmental purposes relating to products, including standards and technical regulations, packaging, labeling and recycling;
4. The provisions of the multilateral trading system with respect to the transparency of trade measures used for environmental purposes and environmental measures and requirements which have significant trade effects;
5. The relationship between the dispute settlement mechanisms in the multilateral trading system and those found in multilateral environmental agreements;
6. The effect of environmental measures on market access, especially in relation to developing countries, in particular to the least developed among them, and environmental benefits of removing trade restrictions and distortions;
7. The issue of exports of domestically prohibited goods;

[278] Nordström, Håkan & Vaughan, Scott , Trade and environment, Special Studies 4, the WTO, Geneva 1999.
[279] Trade and Environment at the WTO, Trade and Environment Division, World Trade Organization, Advance copy, November 2003.
[280] Committee on Trade and the Environment, *Environmental Policy and Law*, Vol. 27:1, 1997, pp. 33-36.

8. The relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights;
9. The work programme envisaged in the Decision on Trade in Services and the Environment; and
10. Input to the relevant bodies in respect of appropriate arrangements for relations with inter-governmental and non-governmental organizations.[281]

The CTE mandates "to make appropriate recommendations on whether any modifications of the provisions of the multilateral trading system are required, compatible with the open, equitable and non-discriminatory nature of the system".[282] In particular, the CTE addresses "to identify the relationship between trade measures and environmental measures, in order to promote sustainable development".[283] These mandates have implications for the multilateral trading system such as product packaging and eco-labelling rules.[284]

The CTE has focused its work primarily on the trade and trade policy aspects of environmental policy, including provisions in multilateral environmental agreements to use trade sanctions or bans as enforcement or implementation instruments, the environmental effects of agricultural support policies, and trade in domestically prohibited goods.[285] The CTE has tried to educate trade officials on international efforts to cooperate on environmental matters, including treaties and conventions, as well as to instruct the environmental community regarding the limits of WTO rules.[286] Nevertheless, many developing countries remain sceptical of the environmental agenda, seeing it as an excuse to promote environmental standards as protectionist barriers to trade. This viewpoint is understandable especially when much of the debate is focused on the competitive advantage that some nations may achieve through lower environmental standards.[287] The first CTE Report presented at the 1996 Singapore Ministerial Conference states that "the CTE has made an important contribution towards fulfilling its work program".[288] However, the Report also states that "WTO Member governments are committed not to introduce WTO-inconsistent or protectionist trade restrictions or countervailing measures in an attempt to offset any real or perceived adverse domestic economic or competitiveness effects of applying environmental policies".[289]

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[281] Trade and Environment, GATT Ministerial Decision of 14 April 1994, 33 ILM 1267.
[282] The WTO Trade Negotiating Committee, Decision of 15 December 1993.
[283] Ibid.
[284] The World Trade Organization, Work in the Committee on Trade and Environment, Available online [http://www.wto.org/english/tratop_e/envir_e/wrk_committee_e.htm] viewed 20 December 2005.
[285] Trade and Environment at the WTO, Trade and Environment Division, World Trade Organization, Advance copy November 2003.
[286] Schultz, Jennifer, "The GATT/WTO Committee on Trade and the Environment - Toward environmental reform", *American Journal of International Law*, Vol. 89: 2, 1995, pp.423-439.
[287] Williams, Marc, "Trade and environment in the world trading system: A decade of stalemate?," *Global Environmental Politics*, Vol. 4, November 2001, pp.1-9.
[288] The CTE Report, WT/CTE/1, 1996.
[289] The CTE Report, WT/CTE/1, 1996, paragraph 169.

Conclusion

Through the work of the CTE, trade and environment issues have been explored at great length. However, the WTO would not restrict the use of green policies by Members in which environmental treaties may be the appropriate instrument to address global environmental problems, if a country seeks to induce another to adopt stricter environmental norms. WTO Members have stressed that the WTO is neither a "world environmental organization" nor an enforcement agency for environmental standards.[290] The other Committees and the rulings of the Appellate Body also have stressed that the solution to trans-boundary environmental problems should be in the negotiation of environmental regimes.[291]

Moreover, the CTE is not like the other Committees, such as Agriculture, which are under the Councils and have specific trade agreements. Thus, the CTE is not a rule-making body and it does not have power to regulate trade and environmental issues.[292] Thus, environmentally sound policies in the WTO are still in a weak position. However, the CTE still can contribute to improve coherence between trade and the environment, which builds awareness of trade and environmental issues. For example, the CTE provides a channel of communication to outside interest groups and organizes a forum for representatives of some MEAs secretariats.

4-4. The GATT/WTO's environment-related dispute cases and the GATT 1994 Article XX on general exceptions

Since the 1980s, debates between economic development and environmental protection have arisen, the GATT dispute settlement system has been used more frequently for the settlement of environmental disputes between states than any other international dispute settlement mechanism.[293] Under the GATT (1948–94), six panel proceedings examined environmental measures or human health-related measures under *Article XX* of the General Agreement:

[290] Interview with the WTO officer #4-3, July, 2004.
[291] Ibid.
[292] Interview with the WTO officer #4-4, September, 2003.
[293] Petersmann, Ernst-Ulrich, "International trade law and international environmental law: prevention and settlement of international environmental dispute in GATT, *Journal of World Trade*, Vol.27:1, 1993, pp. 43-81.

- *United States — Prohibition of Imports of Tuna and Tuna Products from Canada,*[294]
- *Canada — Measures Affecting Exports of Unprocessed Herring and Salmon,*[295]
- *Thailand — Restrictions on the Importation of and Internal Taxes on Cigarettes,*[296]
- *United States — Restrictions on Imports of Tuna (Mexico),*[297]
- *United States — Restrictions on Imports of Tuna (EEC),*[298] and
- *United States — Taxes on Automobiles*.[299]

Since the WTO's dispute settlement procedure took over from the GATT in 1995, three proceedings have been completed:

- *United States — Standards for Reformulated and Conventional Gasoline,*[300]
- *United States — Import Prohibition of Certain Shrimp and Shrimp Products,*[301] and
- *European Communities — Measures affecting asbestos and asbestos-containing products*.[302]

Significantly, the United States has involved all environment-related cases except the most recent case (*the EC-Asbestos case*) and there have been four SPS-related dispute cases, which will be discussed in chapter 8.[303]

This section introduces these environment-related dispute cases examined under *Article XX (b)* and *(g)*. It analyzes how norms of the GATT/WTO case law have interpreted trade measures involved in environmental protection by comparing each case.

Four cases (against the consumption of cigarettes, protection of dolphin life and health, reduction in air pollution resulting from the consumption of gasoline, and reduction in the risk posed by asbestos fibres) are recognized by panels as dealing with *Article XX (b)*: *necessary to*

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[294] Panel Report, *United States - Prohibition of Imports of Tuna and Tuna Products from Canada,* BISD 29S/91, 22 February 1982.
[295] Panel Report, *Canada - Measures Affecting Exports of Unprocessed Herring and Salmon,* BISD 35S/98, 22 March 1988.
[296] Panel Report, *Thailand - Restrictions on the Importation of and Internal Taxes on Cigarettes,* BISD 37S/200, 7 November 1990.
[297] Panel Report, *United States - Restrictions on Imports of Tuna (Mexico),* BISD 39S/155, 3 September 1991.
[298] Panel Report, *United States - Restrictions on Imports of Tuna (EEC),* DS29/R, 16 June 1994.
[299] Panel Report, *United States - Taxes on Automobiles,* DS31/R, 11 October 1994.
[300] Appellate Body Report, *United States - Standards for Reformulated and Conventional Gasoline,* WT/DS2/AB/R, 29 April 1996.
[301] Appellate Body Report, *United States - Import Prohibition of Certain Shrimp and Shrimp Products,* WT/DS58/AB/R, 6 November 1998.
[302] Appellate Body Report, *European Communities - Measures affecting asbestos and asbestos-containing products,* WT/DS135/AB/R, 12 March 2001.
[303] The environment-related cases have decreased; however, more numbers of SPS-related cases have been brought under the WTO including ongoing the US/Canada — Continued suspension of obligations in the EC—hormones dispute.

protect human, animal or plant life or health. Paragraph (b) is designed to allow WTO Members to adopt policy measures that would normally be inconsistent with the GATT, when "necessary" to protect human, animal or plant life or health or if related to the conservation of exhaustible natural resources".[304] This section introduces the three notable cases examined under *Article XX (b)* ordered by date.

The Thailand-Cigarettes case involved a dispute between Thailand and the United States. The US filed a complaint against Thailand arguing that Thailand's restrictions on the import and internal taxation of imported cigarettes were contrary to the GATT. The Cigarettes Panel found Thailand's import restrictions inconsistent with *Article XI: 1* of the General Agreement.[305] The Panel went on to analyze whether the measure could be justified under *Article XX (b)* exception for human health.[306] Two situations have been envisaged:

1) Situations where an import ban is the only measure which could protect public health.[307]
2) Situations where a Member may be able to justify its measures as necessary within the meaning of Article XX, even if there would be other measures available.[308]

The Panel found that "the import restrictions were not "necessary" within the meaning of *Article XX(b)*", however, "the internal taxes were found to be consistent with *Article III:2*".[309]

The US-Tuna (Mexico) case represented the first instance in which the GATT Panel had been asked to consider a unilateral trade measure to protect the global commons. The US had imposed an embargo on yellow-fin tuna and tuna products caught by Mexican vessels in accordance with the US Marine Mammal Protection Act (MMPA), which bans "the import of fish caught in a manner that incidentally kills marine mammals in excess of US standards".[310] Mexico tried to challenge certain provisions of the US MMPA. However, the US argued to the Panel that this embargo should be justified under *Article XX(b)*'s exception for trade restriction.

The US argument was rejected for three main reasons. Firstly, the Panel stated that "the prohibition of imports of certain yellow-fin tuna and certain yellow-fin tuna products of Mexico and the provisions of the Marine Mammal Protection Act under which it is imposed are contrary to *Article XI:1"*.[311] Thus, the Panel decided that "they are not justified by *Article XX(b)* or *Article XX(g)*".[312] Secondly, the Panel determined that "the import prohibitions imposed by the

[304] The WTO, Relevant WTO provisions: descriptions, Available online [http://www.wto.org/english/tratop_e/envir_e/issu3_e.htm#gattart20] viewed 20 December 2005.
[305] Shaffer, Gregory C., "The World Trade Organization Under Challenge: Democracy and the Law and Politics of the WTO's Treatment of Trade and Environment Matters", *Harvard Environmental Law Review*, Vol.1, 2001, pp.6-7.
[306] Panel Report, *the Thailand - Cigarettes case*, DS10/R- 37S/200, paragraph 27.
[307] Panel Report, *the Thailand - Cigarettes case*, DS10/R- 37S/200, paragraph 74-75.
[308] Ibid.
[309] Ibid. paragraph 87-88.
[310] In 1972, the Marine Mammal Protection Act (MMPA) was passed by the U.S. Congress to protect the many mammals that live in the world's oceans.
[311] Panel Report, *the US-Tuna (Mexico) case*, DS21/R -39S/155, paragraph 7.1.
[312] Ibid.

United States with regard to certain yellow-fin tuna and certain yellow-fin tuna products of "intermediary nations" and the provisions of the Marine Mammal Protection Act under which they are imposed are contrary to *Article XI:1* and are not justified by *Article XX(b), XX(d)* or *XX(g)*".[313] And lastly, the Panel concluded that "the CONTRACTING PARTIES request the United States to bring the above measures into conformity with its obligations under the General Agreement".[314]

Article XX(b) aims to protect life or health of humans, animals or plants within importing countries; hence, *Article XX(b)* should only be invoked for trade ban that protects the global commons located within the boundaries of nations. The GATT/WTO case law also does not recognize that Member States take any unilaterally action because the Panel considered that such a broad interpretation of trade agreements may weaken the multilateral trade system.

The EC-Asbestos case was the first case that found a measure to be inconsistent with substantive obligations under the GATT yet justified under an environmental exception in *Article XX*. Chrysotile asbestos is generally considered to be "a highly toxic material, exposure to which poses significant threats to human health such as asbestosis, lung cancer and mesothelioma".[315] The EC justified its ban on imported asbestos for public health reasons. The EC claimed that asbestos was hazardous not only to the health of construction workers but also to the health of the general population.[316] On the other hand, Canada - the second largest producer of asbestos world-wide claimed that a distinction should be made "between chrysotile fibres and chrysotile encapsulated in a cement matrix".[317] Canada also argued that the substances which France was using as substitutes for asbestos had not been sufficiently studied and could themselves be harmful to human health.[318]

Comparing *the Asbestos case* with other environmental measures in previous environment-related cases, the main difference is that the French ban on asbestos protected human health.[319] The French measure was not in violation of any substantive obligations, so the Appellate Body was not necessary to address the *Article XX (b)* issue. According to the Appellate Body's decision to support the Panel's *Article XX (b)* analysis, the WTO case law is likely to recognize that human health is superior to exhaustible natural resources.[320] Moreover, *the Asbestos case* was the first time an environmental measure passed the "necessity test". *Article XX (b)* requires that environment-related measures are essential to protect human, animal or plant life or health. The Appellate Body noted that:

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[313] Ibid.
[314] Ibid.
[315] The United States Environmental Protection Agency, Asbestos (CASRN 1332-21-4).
[316] The WTO, Environmental disputes in GATT/WTO, Available online [http://www.wto.org/english/tratop_e/envir_e/envir_backgrnd_e/c8s2_e.htm#european_communities_asbestos] viewed 20 December 2005.
[317] Panel Report, *the EC- Asbestos case*, WT/DS135/R.
[318] Ibid.
[319] *The Thailand-Cigarettes case* also aimed to protect human health, but the measure involved discrimination between domestic and foreign cigarettes; hence it was not accepted under *Article XX (b)*.
[320] Panel Report, *the EC- Asbestos case*, WT/DS135/R, paragraph 8.194.

> [w]e observed, in the case, that "[t]he more vital or important [the] common interests or values" pursued, the easier it would be to accept, as "necessary", measures designed to achieve those end[s]. (footnote is omitted)…[321]

This case stresses that if a WTO Member wishes to have a certain level of protection within its own territory, it must design the measure to apply equally to imports and to national products, and apply the measure in a non-discriminatory manner in order to satisfy *the Chapeau* of *Article XX*. However, the measures of extraterritorial implications face much tougher scrutiny by a panel. *The Asbestos case* showed that it is not necessary for future cases falling in this category; hence, environment-related cases under WTO jurisdiction may not be important precedents of all types of environmental measures.

The other cases (the conservation of tuna stocks, the conservation of salmon and herring, the conservation of dolphin stocks, the conservation of petroleum, the conservation of clean air and the conservation of sea-turtles) are recognized by panels as dealing with *Article XX (g)*: *relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption*. This section introduces the three outstanding cases examined under *Article XX (g)* ordered by date.

The US-Canadian Tuna case was the first case dealing with *Article XX (g)* under the GATT in which an import ban was introduced by the US. Canada arrested American fishermen who were fishing albacore tunas without authorizing by the Canadian government. A dispute settlement panel was established to hear the case. The Panel found that the import ban was inconsistent with the *Article XI* prohibition against quantitative import restrictions.[322] However, the US argued that its action was fully consistent with the public policy exception articulated in *Article XX (g)*. Although the Panel noted that "the discrimination of Canada in this case might not necessarily have been arbitrary or unjustifiable" and that "the United States action should not be considered to be a disguised restriction on international trade".[323] This is because the US prohibition was publicly announced; hence the Panel found that while the US embargo applied to all types of tuna, the corresponding domestic restrictions did not.[324] The Panel concluded that the US action did not meet the *Article XX (g)* requirement that restriction on domestic production and consumption be made in conjunction with an equally restrictive embargo and that the import restrictions were inconsistent with the GATT.[325]

The first panel report under the WTO dispute settlement system (*the US-Gasoline case*), the Gasoline panel report, was issued in 1996 after Brazil and Venezuela complained about the discriminatory standards for imported gasoline in the United States.[326] The US established Regulation of Fuels and Fuel Additives - Standards for Reformulated and Conventional

[321] Appellate Body Report, *the EC- Asbestos case*, WT/DS135/AB/R, paragraph 172.
[322] Panel Report, *the US - Canadian Tuna case*, L/5198 29S.91, paragraph 4.15.
[323] Panel Report, *the US - Canadian Tuna case*, L/5198 29S.91, paragraph 4.8.
[324] Ibid.
[325] Ibid.
[326] Petersmann, Ernst-Ulrich, op.cit., 1997, pp. 94-95.

Gasoline,[327] and it prohibited the dumping of fuel components into conventional gasoline, which cause environmentally harmful emissions. The *US-Gasoline* decision was the first time that a dispute settlement body made the explicit distinction between *Article XX (b)* and *Article XX (g)*. The Panel decided that "the Gasoline Rule violated *Article III*: *4* of the General Agreement, and could not be justified under *Article XX (b), (d)* and *(g)*".[328] However, with regard to reformulated Gasoline, the Appellate Body restated that "the baseline establishment rules did not fall within the justifying terms of *Article XX (b)*.[329] The Appellate Body also restated that "the baseline establishment rules, although within the terms of *Article XX (g)*, are not entitled to the justifying protection afforded by *Article XX* as a whole".[330] This is because "they fail to meet the requirements of the *Chapeau* of *Article XX* of the General Agreement, and accordingly are not justified under *Article XX* of the General Agreement".[331] However, the Appellate Body concluded that "there is specific acknowledgement to be found about the importance of coordinating policies on trade and the environment".[332] Nevertheless, sovereignties of Member States to establish their own policies on environmental protection are likely to be limited under the WTO jurisdiction.

In *the US-Shrimp case*, it was the first time that two groups of environmental NGOs had successfully submitted an *amicus curiae* brief directly to a WTO dispute resolution body.[333] India, Malaysia, Pakistan and Thailand brought a joint complaint against a prohibition that "the US imposed on the import of certain shrimp and shrimp products".[334] The Panel found that the US embargo on shrimp harvested with methods which harm sea turtles was inconsistent with *Article XI*: *1*.[335] The Appellate Body agreed with the Panel that "the US measure was provisionally justified under *Article XX (g)*".[336] However, the Appellate Body stated that "the shrimp embargo did not meet the requirements of *the Article XX Chapeau*" because "the application of the measure constituted arbitrary or unjustifiable discrimination between countries".[337]

There are three points that should be noted in the *Article XX*-related dispute cases. Firstly, *Article XX (g)* contains an additional requirement, which states that the measure should be "made

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[327] The US Environmental Protection Agency, "Regulation of Fuels and Fuel Additives - Standards for Reformulated and Conventional Gasoline," WT/DS2/1, 15 December 1993.
[328] Panel Report, *the US - Gasoline case*, WT/DS2/R, paragraph 6.42
[329] Appellate Body Report, *the US - Gasoline case*, WT/DS2/AB/R, p.16.
[330] Ibid. p.29.
[331] Ibid.
[332] Ibid. p.30
[333] On July 28, 1997, the Panel received a brief from the Center for International Environmental Law (CIEL) and the Center for Marine Conservation (CMC). On September 16, 1997, the Panel received a brief from the World Wildlife Fund for Nature (WWF). However, an amicus is a "friend of the court" who has a compelling interest in the resolution of the case, but is not a recognized party to the dispute. Hedman, Susan, "Friends of the Earth and Friends of the Court: Assessing the Impact of Interest Group Amici Curiae in Environmental Cases Decided by the Supreme Court," *Virginia Environnemental Law Journal*, 1991, pp.187- 188.
[334] Panel Report, *the US - Shrimp case*, WT/DS58/R.
[335] Ibid., paragraph 7.17.
[336] Appellate Body Report, *the US - Shrimp case*, WT/DS58/AB/RW, paragraph 104.
[337] Ibid. paragraph 140.

effective in conjunction with restrictions on domestic production or consumption".[338] This is important because Member States must maintain measures to impose restrictions which are equally to apply domestic and imported products. The Appellate Body has acknowledged that "Member States have rights to protect human, animal or plant life and health and to take measures to protect exhaustible resources".[339] However, the WTO jurisdiction only recognizes their levels of protection which are considered appropriate under the WTO case law.

Secondly, when a panel or the Appellate Body decides that a measure fulfils the conditions of the paragraphs of *Article XX*, they re-examine a measure by the application of the *Chapeau* of *Article XX*.[340] For example, in *the US-Shrimp case*, the Appellate Body divided the *Chapeau* into three distinct standards as reformulated in the *US-Gasoline* case to examine the measure:

> The chapeau, it will be seen, prohibits such application of a measure at issue (otherwise falling within scope of Article XX (g) as would constitute
> (a) "unjustifiable discrimination" (between countries where the same conditions prevail);
> (b) "arbitrary discrimination" (with the same qualifier); or
> (c) "disguised restriction" on international trade.[341]

Lastly, in *the US-Shrimp case*, the US government was clearly influenced by both considerations: environmental and economic. The US not only aimed to save turtles, but it also sought to protect own fishermen from an economic disadvantage by other fish-exporting countries. The WTO case law attempted to develop a new test for balancing environmental protection and trade liberalization under the *Article XX* C*hapeau*. The Appellate Body has stated that:

> ….[I]n our view, the weighing and balancing process we have outlined is comprehended in the determination of whether a WTO-consistent alternative measure which the Member concerned could "reasonably be expected to employ" is available, or whether a less WTO-inconsistent measure is "reasonably available".[342]

However, there is no fundamental difference within the WTO case law to distinguish between protectionism and legitimate protection of health and the environment. After the *US-Shrimp* Appellate Body decision, it has become more unclear how the WTO jurisdiction interprets the relationship between environmental protection and trade liberalization.

Conclusion

As the successor to GATT, the WTO has provided a wide legal and institutional foundation for the global trading system. Some Member States have challenged tenets of the liberalized trade regime and the WTO legal norms. Disputes have arisen concerning the development and

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[338] The GATT Article XX (g)
[339] Appellate Body Report, *the US - Shrimp case*, WT/DS58/AB/RW.
[340] Appellate Body Report, *the US - Gasoline case*, WT/DS2/AB/R, p.27; Appellate Body Report, *the US - Shrimp case*, WT/DS58/AB/RW, paragraph 140.
[341] Appellate Body Report, *the US - Gasoline case*, WT/DS2/AB/R, p.23.
[342] Appellate Body Report, *the Korea - Beef case*, WT/DS161/AB/R, WT/DS169/AB/R, paragraph 166.

interpretation of legal standards between trade and non-trade issues. In the case of environment-related disputes, although *the US-Tuna (Mexico) case* of the Panel report was not adopted by GATT Members, its ruling showed environmental regimes' limitation of the trade regime's legal norms. The GATT jurisdiction was unlikely to modify its interpretation of "like" products to provide a justification of discriminatory action according to production methods and its interpretation of extraterritoriality under *Article XX*.

However, the WTO/GATT jurisdiction left it to each WTO Member State to decide its own environmental policies, but none of these dispute case reports challenged the environmental objectives pursued by individual government's concerns. All reports found that the respective trade restrictions were in some way discriminatory or unnecessarily trade restrictive in achieving the stated environmental objectives. The Appellate Body considered in *the US-Shrimp case*:

> ….[i]t is not acceptable, in international trade relations, for one WTO Member to use an economic embargo to *require* other Members to adopt essentially the same comprehensive regulatory program, to achieve a certain policy goal, as that in force within that Member's territory, *without* taking into consideration different conditions which may occur in the territories of those other Members.[343]

Since the WTO rules have been extended to non-trade issues, deeply divergent values among Members seem to preclude a judicial trade-oriented determination. A number of the WTO Members have argued that the Appellate Body extended its authority beyond that granted to it under the WTO Agreements.[344] The president of the World Wildlife Fund International has also been concerned that "*the US-Shrimp case* illustrates that formal WTO dispute settlement, because of its adversarial nature, may not be the best means to resolve disputes of this kind."[345] Moreover, it seems to be difficult for the WTO to hold consultation jointly with the relevant MEAs in terms of the subject matter. Some WTO officials mentioned during my interviews with them that the dispute cases such as *the US-Shrimp case* "could be carried out by MEAs outside of the WTO if the idea was not adopted by the WTO".[346] This is because that the multilateral trading system, rules of the trade regime and the nature of the GATT/WTO have shaped the role of the WTO in developing and maintaining international trade law.[347]

4-5. Conclusion

Chapter 4 showed that liberalization and expansion of the trade regime have resulted in a unique organizational structure and have developed various non-trade rules. The GATT reflected a prevailing post-war consensus on free trade and the US leadership of an international

[343] Appellate Body Report, *the US - Shrimp case*, WT/DS58/AB/RW, paragraph 164.
[344] Jackson, John H., "Comments on Shrimp/Turtle and the Product/Process Distinction," *Environmental Journal of International Law*, Vol. 11:2, 2000, pp.291-302.
[345] Martin, Claude, Director General of the World Wildlife Fund International, "Trade, environment and the need for change," in Sampson, Gary P. (ed), op.cit., 2001, p.143.
[346] Interview with the WTO officer #4-5, September, 2003.
[347] Petersmann, Ernst-Ulrich, "Trade and the protection of the environment after the Uruguay Round: An agenda for future WTO negotiations," in Wolfrum, R. (ed.), *Enforcing Environmental Standards: Economic Mechanisms as Viable Means?* Springer-Verlag, Berlin/Heidelberg, 1996.

trade system. The transformation of the GATT into the WTO is a good illustration of how new rules respond towards greater transparency of trade policies as scope. The GATT 1947 was widened to include not only trade and goods, but also trade and services and other behind border issues such as intellectual property rights.

The WTO includes explicit references to the task of reconciling trade and other issues such as the environment by more systematic functions. In the case of trade and environment, the WTO CTE deals with the complex interrelationships between trade and environmental laws and policies. The CTE concerns whether any modification of WTO law is needed to enhance the mutual consistency of trade and the environment. However, the contribution of the CTE does not seem to be fruitful because of the diversity of Member States' positions about trade and the environment.

The WTO has become an administrative agent, setting and enforcing global regulatory standards in such areas as the environment, health and safety.[348] However, the changes in the rules of the trade regime do not seem to represent a change in the regime's norms. According to GATT/WTO environment-related dispute cases, the trade regime merely enforces the rights of nations against discriminatory treatment both at and inside the borders of their trading partners. The rulings of the WTO dispute settlement body and the pursuit of environmental obligations are likely to be confronted. To keep the GATT principle of antidiscrimination and "free trade" viable, the WTO jurisdiction has been adopting a series of procedurally oriented tests to prohibit protectionism in national laws.

The US-Shrimp case may be a landmark decision because it articulated an understanding of the difficult relationship between the WTO Agreements and MEAs. Some questions remain: who should set international environmental standards and should a role of the WTO be to continue dominantly enforcing these environmental standards? These questions are addressed in chapter 5 by analyzing the relationship between the WTO and environmental regimes.

[348] McGinnis, John O. & Movsesian, Mark L., "Against Global Governance in the WTO," *Harvard International Law Journal*, Vol. 45, 2004, pp. 353-366.

Chapter 5

The history of the relationship between the World Trade Organization and multilateral environmental agreements

5-1. Introduction

Chapter 5 analyzes how the World Trade Organization's environment-related Agreements attempt to address some multilateral environmental agreements (MEAs), which facilitate trade measures. During the past century, the spread of a scientific culture and the creation of an international associational system, most prominently around the United Nations, have helped to structure international environmental regimes. The development of these international regimes has taken a course different from the one that would be predicted by trade regime theories. After 1945, the United Nations system facilitated a dramatic expansion in the number and scope of international and intergovernmental environmental organizations. These organizations have stricter rules and implementation mechanisms than traditional environmental regimes to achieve their goals. International non-governmental associations have also played a major part in supporting varieties in environmental treaties among governments, especially for developing countries. However, these environmental regimes' developments have created tensions between Members/Parties of trade and environmental regimes. Thus, the trade regime could no longer ignore the MEAs' trade measures, and also the debates of the relationship between the World Trade Organization (WTO) and MEAs have got an attention in international relations.

Chapter 4 demonstrated that changes of regimes' rules are not always a case of changes in their norms, which has affected the relationship between the WTO and MEAs. Chapter 5 extends this argument to why coherence processes between them have been deadlocked. The theoretical framework claims that WTO's environment-related rules are largely driven by its norms, which have generally contradicted MEAs' norms. Chapter 5 examines how the limited cooperation between trade and environmental regimes results in WTO attempts to address MEAs' trade measures rather than MEAs directing WTO's environment-related rules.

Firstly, **5-2** explains the early stage of environmental regimes' formation. It illustrates the main perception of environmental regimes' conceptualization of sustainable development. Secondly, **5-3** conceptualizes problematic negotiations of the WTO Doha Ministerial Declaration; in particular, it focuses on *Paragraph 31 (i)* and *(ii)*, which indirectly reshape the relationship between the dispute settlement systems of MEAs and those of the WTO Agreements. Then, it discusses the WTO-MEAs relationship from an international law perspective in order to analyze how the WTO's environment-related Agreements are likely to address MEAs.

5-2. Historical development of MEAs

World society is not organized around a single state, and separate national states took up environmental concerns only belatedly.[349] International environmental institutions have been demanded as new approaches to solving emerging environmental problems but the resultant innovations have come forward slowly as responses to specific problems, and many of them reflected developments that did not fit easily into existing institutions.[350] However, since the UN system has contributed to global problem solving, the new approaches have emerged not only as novel ways of addressing specific problems at the international level, but also as sources of insight into strategies for meeting demands for governance that have a broader or more generic interest than previously. A growing awareness of the need for new arrangements had led to the growth of functionally specific regimes, which deal with an array of matters, such as endangered plants and animals, migratory species, marine pollution, transboundary fluxes of airborne pollutants, hazardous wastes, ozone depletion and climate change.[351]

Despite the fears and criticisms of single nation states concerning the loss of sovereignty and maintaining economic growth, over 200 international environmental organizations have arisen since the creation of the first international environmental organizations in the second half of the twentieth century.[352] Thirty-eight MEAs, which contain trade measures, are estimated to comprise about thirteen percent of international treaties and agreements in the field of the environment.[353]

This section shows the different stages of environmental regimes' formation. It analyzes environmental regimes' conceptualization by focusing on the main events: the Stockholm Conference on Human Environment in the 1970s, the introduction of sustainable development in the 1980s, the Rio Conference on Environment and Development in 1990s, and the World Summit on Sustainable Development in the 2000s. This section also explains what MEAs are and why MEAs were created.

The origin of environmental organizations

Although the League of Nations had developed its system to organize conferences during the inter-war period, the only progress made on environmental problems belonged to the ornithologists. The International Committee for Bird Protection (ICBP) was founded at a meeting in London in 1922, which aimed to strengthen links between American and European bird protection groups.[354] The key to the ICBP's success was to gain public attention to the over depletion of migratory birds caused by the international trade in feathers. In 1928, van

[349] Meyer, John W., et al., "The structuring of a world environmental regime 1870-1990," *International Organization*, Vol. 51: 4, 1997, pp. 623-629.
[350] Young, Oran R., "Rights, rules and resources in world affairs," in Young, Oran R. (ed) *Global Governance: Drawing Insights from the Environmental Experience*, The MIT Press, Massachusetts, 1997, pp.1-23.
[351] Breitmeier, Helmut, "International organizations and the creation of environmental regimes," in Ibid. pp.88-114.
[352] *Yearbook of International Organizations*, 2000-2001, pp.1670-1671.
[353] UNEP and WTO surveys, 2000.
[354] Report of the Committee on Bird Protection, 1937.

Tienhoven created a Dutch-subsidized international coordinating office, the International Union of Biological Science, which was reconstituted in 1934 as the International Office for the Protection of Nature (IOPN).[355] However, the IOPN was short-lived and had to be ended because Europe was diverted by the escalating threat of war. The first wave of interest in international cooperation about environmental protection was consequently diminished by another world war.

In the post-war time, the UN Educational, Scientific and Cultural Organization (UNESCO) was founded in November 1946 to promote cooperation in education, science and culture. However, UNESCO did not seem to commit itself to specific action on nature protection. UNESCO's Department of Natural Science was one of the smallest of its seven departments, because UNESCO thought of conservation in relation to works of art.[356] Governments, especially British and American, proposed that UNESCO created a new organization, which could manage a technical conference on nature protection. As a result, the new organization for nature conservation: the International Union for Protection of Nature (IUPN) was created in October 1948 at Fontainebleau.[357] Its goals were to promote cooperation between governments and non-governmental organizations on nature protection, public education, scientific research and legislation and to collect analyses and disseminate data and information. IUPN's interests have gradually broadened to include conservation due to the influence of the Commission on Ecology,[358] which warned that people should be aware of the ecological consequences of their activities. As a result, IUPN changed its name to the International Union for Conservation of Nature and Natural Resources (IUCN) in 1956.[359]

In this period, the UN saw conservation as a part of the total problem of collaboration on resource planning and exploitation.[360] Environmental problems were barely given consideration; however, this situation rapidly changed when environmental problems suddenly became a part of everyday life as a result of the ongoing expansion of industrial capacity without environmental protection. As a result, the UN started considering sustainable development and the use of natural resources.

The 1972 Conference in Stockholm

The dominance of the economic driven paradigm began to weaken by 1962 after Rachel Carson's *Silent Spring*, which exposed the danger of the pesticide dichloro-diphenyl-

[355] "The International Office for the Protection of Nature," *Ecology*, Vol. 17: 1 , 1936 , p. 186.

[356] UNESCO, UNESCO's history, Available online [http://portal.unesco.org/en/ev.php-URL_ID=6207&URL_DO=DO_TOPIC&URL_SECTION=201.html] viewed 20 December 2005.

[357] Huxley, Julian, "Early days," (of UNESCO; excerpt from "Memories II"), *UNESCO Courier*, October 1985, pp.24-27

[358] The Commission on Ecology, which is the IUPN's major network, was organized by the American ecologist Edward Graham. The Commission coordinates ecological research and promotes contact between ecologists.

[359] In 1990 it was shortened to IUCN -The World Conservation Union. IUCN, About IUCN, Available online[http://www.iucn.org/about/] viewed 20 December 2005.

[360] Brabyn, Howard, "Birth of an ideal," *UNESCO Courier*, October 1985 pp.5-8.

trichloroethane (DDT) and questioned environmentally unfriendly technological progresses.[361] In the 1970s, in connection with the Stockholm Conference on the Human Environment, new social movements dared to bring in moral considerations and hold these against any economic calculation of cost or scientific calculation of risk to the environment, such as the struggle against nuclear energy, transforming the environmental consciousness. Owing to the growing awareness of environmental problems, international organizations became active in the field of environmental problems; and also local, regional and national governments started to work on environmental policy. International conferences had started assessing the problems of the global environment and to suggest corrective action including the Club of Rome, which published a report about the forthcoming collapse of life on earth.[362] These new environmental movements led to the first of the major global summits on environmental studies, the 1972 UN Conference on the Human Environment.

The Conference was held in Stockholm from 5 to 16 June 1972. Representatives attended the Conference from 113 countries, 19 inter-governmental agencies, and about 400 other inter-governmental and non-governmental organizations.[363] This Conference was the pivotal event in the growth of the global environmental movement, which aimed to create a basis for wide-ranging consideration about the human environment within the UN system. It was also the first occasion on which the political, social and economic problems of the global environment were discussed at an inter-governmental forum with a view to taking corrective action.[364] Thus, it focused the attention of governments and public opinion in various countries on the importance of the environmental problem.

The Stockholm Conference produced a Declaration, a list of Principles and an Action Plan. Although participants had different political, economic and social systems, the Principles outlined broad common goals and environmental philosophical practices. For example:

- Natural resources should be conserved, the earth's capacity to produce renewable resources should be maintained, and non-renewable resources should be shared;
- Development and environmental concerns should go together, and less developed countries should be given every assistance and incentive to promote rational environmental management;
- Each state should establish its own standards of environmental management and exploit resources as it wished, but should not endanger other states. There should be international cooperation aimed at improving the state of the environment;
- Pollution should not exceed the capacity of the environment to clean itself, and marine pollution should be prevented; and
- Science, technology, education and research should all be used to promote environmental protection.[365]

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[361] Carson, Rachel, *Silent Spring,* Houghton Mifflin Company, New York, 1962.

[362] Meadows, D., *The Limits to Growth, A Global Challenge; A Report for the Club of Rome Project on the Predicament of Mankind,* Universe Books, New York, 1972, pp.122-128.

[363] UN Economic and Social Council, Annexes, *Agenda Item 12*, ECOSOC, New York, 1972.

[364] Haley, Mary Jean, "Introduction," in Haley, Mary Jean (ed.), *Open Options: A guide to Stockholm's Alternative Environmental Conferences,* Stockholm, 1972, p.3.

[365] UNEP, Stockholm 1972, Declaration of the United Nations Conference on the Human Environment, Available online [http://www.unep.org/Documents/Default.asp?DocumentID=97&ArticleID=1503] viewed 20 December 2005.

The Conference confirmed the trend towards a new emphasis on the human environment. Environmental concerns had progressed from the limited aims of nature protection and natural resource conservation to the more comprehensive view of human mismanagement of the biosphere. The new environmental movement was transformed into a new stage of environmental management. The new management brought more governments to develop national policies on the environment, particularly it encouraged less developed countries to be in the environmental debate. The Conference adopted its Action Plan, which aimed to increase knowledge of environmental trends and their effects on man and resources, and to protect and improve the quality of the environment and the productivity of resources by integrated planning and management.[366] The Conference also resulted in the creation of the UN Environment Programme (UNEP), which was expected to bring industrial and developing countries' different perceptions of environmental priorities into open discussion, and to cause a fundamental shift in the direction of environmentalism becoming more rational and global.[367]

The pressures of environmental issues have developed differently in countries with the range of professional opportunities. Pressures have opened up in this period with the identification of new kinds of international or global environmental issues, which have called for integration in an environmental consciousness, with sustainable paths of socio-economic development. The emerging culture was subdivided into a range of streams or branches, all framed by the integrated cognitive praxis that formed in the 1972 UN Conference era, increasingly fragmented or differentiated from one another. As a result, varieties of specified MEAs were formed in this period. MEAs are the main method available under international law, and are agreements between states that work together on global environmental issues. For example:

- those covering biodiversity and wildlife, including the Ramsar Convention on Wetlands of International Importance in 1971, the Convention on International Trade in Endangered Species (CITES) in 1973, the Bonn Convention on the Conservation of Migratory Species in 1979;
- those protecting the marine environment, including the London Convention on the Prevention of Marine Pollution by Dumping of Waste and other Matter in 1972, the Marpol Protocol[368] in 1978, the UN Convention on the Law of the Sea in 1982;
- those designed to protect the atmosphere, including the Vienna Convention for the Protection of the Ozone Layer in 1987, the Montreal Protocol on Ozone-depleting Substances in 1987; and
- those regulating waste, such as the Basel Convention on Hazardous Waste in 1989.

[366] UNEP, Stockholm 1972, Action Plan, Available online [http://www.unep.org/Documents/Default.asp?DocumentID=97&ArticleID=1512] viewed 20 December 2005.
[367] UNEP, WSSD Sector Report, Available online [http://www.uneptie.org/pc/mining/wssd/milestone.htm] viewed 20 December 2005.
[368] The MARPOL Convention is the global agreement to control pollution from ships. MARPOL *Annex VI* regulates the emission into the atmosphere of specified pollutants from ships.

Many MEAs use the "soft-law" approach, which is based on non-legally binding agreements; hence their Parties have to respect each other whilst considering environmentally unfriendly actions. Other MEAs take the "hard-law" approach, which facilitates the compliance system in their agreements to work toward the environmental protection.

The cumulative impact that human beings have had on the earth brought an increased understanding of ecological processes in the 1970s. However, the UN system has become the focal point for numerous multilateral environmental negotiations in the Stockholm era because environmental problems do not respect national boundaries. Trans-boundary air pollution, the degradation of shared rivers and the pollution of oceans and seas are just a few examples of the international dimensions of environmental problems.[369] Population growth, in combination with resulting urbanization and industrialization has also served to increase the amount and frequency of major international environmental problems.

The concept of sustainable development and the Brundtland Report

The debate of the relationship between economy and ecology took place in the 1980s. Despite the relatively unfavourable social and political climate post Stockholm, environmental issues were placed on the policy agenda and environmental policies were expanded. The attitude of the business community towards the environment helped to create the new concept that pollution prevention pays, which aimed to make production operate in a more environmentally friendly way.

Economy-ecology debates have tended to give way in the course of the 1980s to encouragement of sustainable development. The concept of sustainable development is a synthesis between economic development and environmental preservation. It can be achieved at the maximum amount of consumption and can also be achieved without reducing net wealth, environmental quality and the stock of renewable resources. A steady state economy is one in which there are constant stocks of people and physical wealth that are kept at a desired level.[370] This approach basically raises doubt about human kind's ability to indefinitely extract more energy and materials from the world's ecosystem. It also disputes the neoclassical assumption in which income growth leads to an increase in human satisfaction. The development concepts of doom, "limits to growth" and "population bombs" have been replaced by more ecological and conciliatory messages: "changing course", "greening of industry", "ecological modernization" and "partnership ethics".[371]

Environmental concerns were supported by more than one variety of influential actors

[369] After the Stockholm Conference, the first results of the Conference were published by the Organization for Economic Cooperation and Development in 1977. The Organization for Economic Cooperation and Development, *OECD Study on Long-range Transboundary Air Pollution in Europe*, 1977.

[370] Asafu-Adjaye, John, "Sustainable Development," *Environmental Economics for Non-Economists*, World Scientific, Singapore, 2000, pp. 277-299.

[371] Fischer, Frank & Hajer, Maarten, "Beyond Global Discourse: the rediscovery of culture in environmental politics," *Living with Nature, Environmental Politics as Cultural Discourse*, Oxford University Press, Oxford, 1999, pp.1-20.

"internationally" and "intranationally", which were from all relevant levels in the international community.[372] By the late 1980s, environmental concern emerged into a new global level of management for a range of new environmental problems such as climate change and ozone depletion, consequently having established new institutions and forms of competence. However, reliable and continuous wealth creation has been the most powerful definition of development. Thus, ecologists have tried to achieve the notion of stewardship, trusteeship for the planet and future generations, and the notion of shared development for mutual gain.[373]

The concept of sustainable development has become commonly used as a result of the 1987 Word Commission of Environment and Development (WCED) known as the Brundtland Report, entitled *Our Common Future*.[374] The Report defined sustainable development as:

> [d]evelopment that meets the needs of the present without compromising the ability of future generations to meet their own needs.[375]

The Report proposed the two key concepts:

1. The concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given.
2. The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future 'needs'.[376]

The Brundtland Report uses the concept of "needs" in both human and natural perspectives on different levels. The Report mainly discusses human needs:

> Sustainability requires concepts of human needs and well-being that incorporate such non-economic variables as education and health enjoyed for their own sake, clean air and water, and the protection of natural beauty;[377] and
> The common theme throughout this strategy for sustainable development is the need to integrate economic and ecological considerations in decision making.[378]

On the other hand, the Report questions the wisdom of cultivating new and changing needs: "at a minimum, sustainable development must not endanger the natural systems that support life on Earth: the atmosphere, the waters, the soil, and the living beings".[379]

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[372] Intergovernmental Panel of Climate Change, "Climate Change 2001: Mitigation," Available online, [http://www.grida.no/climate/ipcc_tar/wg3/056.htm] viewed 20 December 2005.
[373] Voisey, Heather & O'riordan, Tim, "The Political Economy of Sustainable Development," *Environmental Politics*, Vol.6, Spring 1997, pp.1-23.
[374] International Institute for Sustainable Development, The World Trade Organization and sustainable development: an independent assessment, Manitoba Canada, 1996.
[375] The World Commission on Environment and Development, *Our Common Future*, Oxford University Press, Oxford, 1987, p. 44.
[376] Ibid. p. 43.
[377] Ibid, p. 62
[378] Ibid. p. 53.
[379] Ibid. p. 44.

The relationship between economy and ecology used to be thought to conflict; hence an expanding economy automatically meant more pollution, depletion of natural resources and damage to ecosystems.[380] However, in this period, people were aware that trade liberalization and environmental protection should be dependent on each other. The Brundtland Report also proposed that economy and ecology should be dependent on each other and that confronting environmental problems requires sufficient resources, which can be obtained by economic growth.[381] This proposal can apply in improving the relationship between the WTO and MEAs.

The 1992 UN Conference in Rio de Janeiro

As a new world environmental order emerges, there is likely to be more international environmental cooperation, at the same time as more international conflict over trade and the environment. UNEP has been involved in a variety of environmental issues as authorized organizations. Although the total number of international environmental treaties has continued to rise in recent decades, growth in the rate of treaty formation has slowed, which has been reflected in the emergence of more official intergovernmental organizations. Thus, new environmental issues are increasingly being handled by the expansion of extant official organizations rather than by the signing and formalizing of new, specialized treaties.

UNEP organized a conference to review progress on the Brundtland Report, at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, which was the largest diplomatic gathering ever held. There was a high level of agreement among international environmental agencies when it came to identifying specific regimes. International regimes came in many sizes and shapes, and they shared a number of features that placed them in the same universe, setting them apart from entities that were emphasized in other approaches to governance in international society.[382] They also had significantly different degrees of formalization, and some rest on legally binding conventions of treaties, while others were founded on soft law agreements. The Rio Declaration states in its *Principle 7* that:

> States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

However, the 1992 UN Conference may highlight the limited capacity of the UN to solve problems involving the relationship between humans and the environment. A weakness is an underdeveloped capacity to sort out overlaps and intersections among issue-specific

[380] Chapmam, Duane, *Environmental Economics: Theory, Application, and Policy*, Addison-Wesley, Massachusetts, 1999, pp.170-173.
[381] Daly, H.E., "Allocation, Distribution, and Scale: Towards an Economics That is Efficient, Just and Sustainable," *Ecological Economics*, No.6, 1992, pp.7-34.
[382] Levy, Marc A., et al., "The study of international regimes," *European Journal of International Relations*, Vol.1, 1995, pp. 267-330.

arrangements. Individual regimes have been created for different purposes by different actors who often make little attempt to coordinate their efforts or to identify the links between regimes. Dealing with environmental concerns has also brought to people's attention the need to think more systematically about institutional linkages and about the ways in which individual regimes should be embedded in larger institutional structures and impinge on one another in international society.[383]

The Rio Earth Summit proposed the key tasks for the industrialized countries:

- to assist the eradication of poverty by substantial increases in development aid and changing the rules of the international balance of economic forces;
- to change consumption and production patterns by reducing energy consumption and CO_2 emissions, in order to allow for necessary compensatory increases in developing countries; and
- to develop and transfer environmentally sound technology in order to smooth the transition to sustainable development.[384]

The Summit also emphasized that both developed and developing countries triple the total expanse of protected natural areas so as to conserve a representative sample of the earth's ecosystems.[385] However, the United States failed to sign almost all of the multinational environmental accords initiated in the Rio Summit including the Kyoto Protocol on global warming.

The Rio Summit preparations resulted in a document, known as Agenda 21, which details a global program for the twenty-first century and implicitly addresses all sides of the sustainable development debate. Agenda 21 provides detailed program guidance used for addressing key environmental and developmental problems facing nations and the globe itself. For example, Agenda 21 proposes that international environmental policy should to a great extent be based on the science in *Chapter 35: Science for Sustainable Development*.[386] Political prioritization therefore should be based on the best available knowledge. *Chapter 37: National Mechanisms and International Cooperation for Capacity-building in Developing Countries* also says that for more effective international co-operation on environmental protection, the economic capacity connected with international bodies should be increased to transfer more resources, technology and know-how.[387] This is critical in getting developing countries, which do not have sufficient technologies, to implement common objectives.

Agenda 21 comprehensively covers the major actions necessary for governments, in particular, to integrate environmental concerns more thoroughly into development in certain sectors. The most important proposal of Agenda 21 is that sustainable development should be an

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[383] Charnovitz, Steve, "Improving environmental and trade governance," *International Environmental Affairs*, No.7, 1995, pp. 59-91.

[384] Langhelle, Oluf & Lafferty, William M., "Future Challenges of Sustainable Development," in Langhelle, Oluf & Lafferty, William M. (eds.), *Towards Sustainable Development: On the Goals of Development- and the Conditions of Sustainability*, Macmillan, London, 1999, pp.213-239.

[385] United Nations, Report of the United Nations Conference on Environment and Development, A/CONF.151/26 (Vol. III), June 1992.

[386] UN Department of Economic and Social Affairs, Division for Sustainable Development, Agenda 21: Chapter 35.

[387] Ibid. Chapter 37.2.

integrated part of the mandate for central departments, international organizations and large private organizations. Although the main emphasis is placed on integrating environmental concerns at the national level, the integration of the environmental and development policies should also be a main objective in existing international institutions. Agenda 21 proposed "Means of Implementation". It includes *Chapter 38: International Institutional Arrangements* in which is proposed "the integration of environment and development issues at national, sub-regional, regional and international levels, including the United Nations system institutional arrangements".[388] Agenda 21 also incorporates *Chapter 39: International Legal Instruments and Mechanisms*, which concerns the development of international law and law on sustainable development should be conducted on a "universal basis".[389]

Agenda 21 tried to address trade and environmental issues, such as an equitable distribution of income and an efficient allocation of resources for various imperfect markets. *Chapter 2* concluded that domestic policies must be supported by a dynamic international economy, which is "an equitable, secure, non-discriminatory and predictable international trading system".[390] In particular, it seeks better market access for exports of developing and transition economies, adequate financial resources, acceleration of the development of environmentally friendly technologies and consistent patterns of production, which promote economic growth and environmental protection.[391]

Agenda 21 elaborates on the Brundtland's proposal of 1987. Agenda 21 advocates binding resolutions that take all countries' special needs and interests into consideration, which means that it is clearly based on the principle of national sovereignty and the veto rights of all countries.[392] Brundtland's concept of "our common future" has also been interpreted to emphasize "intergenerational equity", which is that "future generations should be given the same opportunity as present ones to decide how to use these resources".[393] However, need of "intragenerational equity", which generally concerns "equity among sections of the present generation",[394] was stressed in the Rio era. The problems of "intragenerational equity" have been largely caused by short-term economic factors, which widened the gap between North and South. On the other hand, people have been aware that trade liberalization and environmental protection should depend on each other. This thought was also extended to the relationship between trade and the environment.

[388] Ibid. Chapter 38.7.
[389] Ibid. Chapter 39.1.
[390] Ibid. Chapter 2.10.
[391] Ibid. Chapter 2.9.
[392] Skjærseth, Jon Birger, "Sustainable Development: Caught between National Sovereignty and International Challenges," in Langhelle & Lafferty (eds.), *Towards Sustainable Development*, Macmillan, London, 1996, pp. 137-171.
[393] Garcia, S. M., et al., "The ecosystem approach to fisheries," FAO Fisheries Technical Paper 443, Rome, 2003.
[394] Ibid.

The 2002 UN World Summit in Johannesburg - From the 2001 WTO Ministerial Conference in Doha

The Fourth WTO Ministerial Conference in Doha, Qatar, in November 2001 was the first time in the WTO's history that governments at the Doha Ministerial Declaration agreed to negotiate on environment-related issues. At the meeting in Doha Conference, Ministers launched negotiations on trade and the environment, in particular on the relationship between existing WTO rules and specific trade obligations set out in MEAs. The 2002 United Nations World Summit on Sustainable Development was held one year after the Fourth WTO Ministerial Conference in Doha. The Johannesburg Summit aimed to achieve economic and social development, to prevent environmental degradation and to strengthen the universal commitment to sustainable development.[395] The four-page political declaration adopted at Johannesburg restated the importance of the links between economic and social development and the environmental protection, and the need of the challenges for sustainable development raised by globalization.[396]

The Secretariats of the WTO, UNEP, some MEAs, governments and non-governments organized the six meetings between June 1999 and the pre-Johannesburg Summit period:

- *WTO/MEAs Meeting*, 28 June 1999;
- *High Level Panel Discussion on MEAs and the WTO*, 27 April 2000;
- *Enhancing Synergies and Mutual Supportiveness of MEAs and the WTO*, 23 October 2000;
- *High Level Meeting on Environment, Sustainable Development and Trade*, 20-22 March 2001;
- *Compliance, Enforcement and Dispute Settlement in MEAs and the WTO*, 26 June 2001; and
- *Workshop on Capacity Building on Environment, Trade and Development*, 19-20 March 2002.

In these meetings, the Secretariats tried to identify specific trade and environmental problems rather than to provide theoretical arguments of WTO-MEAs linkage. The meetings identified a number of concrete steps that enhance synergies between the WTO and MEAs including:

- greater cooperation between the WTO and MEAs in the context of potential trade and environment disputes, with the aim of avoiding formal disputes;
- greater participation of MEA Secretariats in WTO regional seminars on trade and environment;
- design of economic instruments which can provide effective tools for enhancing the benefits of trade liberalization policies, as well as for implementing MEAs; and

[395] United Nations, World Summit on Sustainable Development, Report of the World Summit on Sustainable Development, A/CONF.199/20, September 2002.
[396] United Nations, World Summit on Sustainable Development, A/CONF.199/L.6/Rev.2, 4 September 2002.

- identifying specific trade measures that can contribute to MEA implementation while enhancing synergies and minimizing potential tensions with WTO rules.[397]

More importantly, these series of meetings have aimed to increase communication to reduce potential tensions between trade and environmental regimes. They proposed that:

- environmental policy-makers could seek to increase their comprehension of WTO rules, the economic dimensions of environmental policy, and the potential negative effects of more liberalized trade on the environment; and
- trade policy-makers could increase their knowledge of the economic value of environmental resources and of existing economic practices and policies (e.g. concessions and subsidies) that negatively impact on the environment and natural resources.[398]

These WTO-UNEP synthesis processes were further discussed in the WTO Committee on Trade and Environment (CTE), and its report was initially released at the WTO's Ministerial Conference in Doha 2001.[399] At the Doha, Ministers restated that:

> ….[t]he aims of upholding and safeguarding an open and non-discriminatory multilateral trading system, and acting for the protection of the environment and the promotion of sustainable development can and must be mutually supportive.[400]

The reports of the WTO-MEAs meetings were also submitted as a background note to the Second Summit Preparatory Committee of the World Summit on Sustainable Development in January 2002. From the Johannesburg Summit, Ministers responded with the Doha statement that:

> A universal, rule-based, open, non-discriminatory and equitable multilateral trading system, as well as meaningful trade liberalization, can substantially stimulate development worldwide, benefiting countries at all stages of development.[401]

In contrast, at the Johannesburg Summit, there was not likely to be seen a concrete action plan for trade and the environment problems and also scope was not created for a clearer appreciation of the relationship between the work of the WTO and UN Agencies.

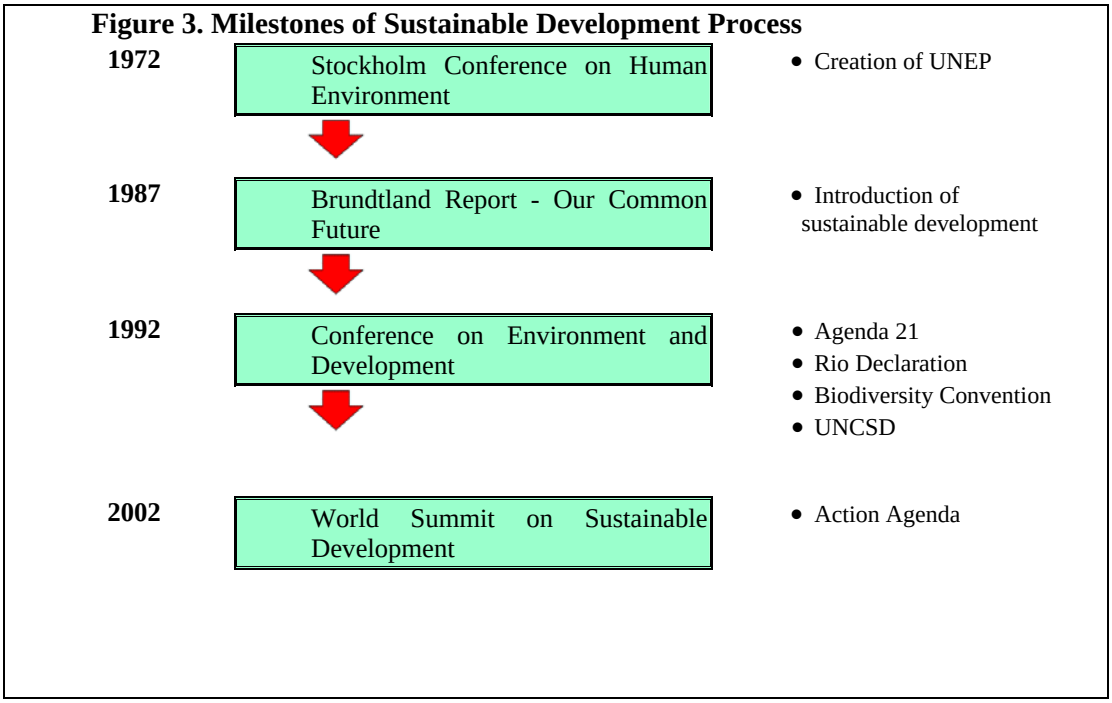
Conclusion

The new environmental concerns have become broad based and have received much wider public support than previously. The sustainable development process started in the 1970s, when the largest environmental demonstration in history to show concern for the environment swept through many developed countries. (see Figure 3) This new mass movement had emerged to bring environmental issues into the new political agenda; as a result the concerns of the

[397] UNEP, Multilateral Environmental Agreements and the WTO: Building synergies, May 2002.
[398] UNEP, Enhancing Synergies and Mutual Supportiveness of Multilateral Environmental Agreements and the World Trade Organization: A synthesis report, January 2002.
[399] The WTO CTE Report, WT/CTE/W/191.
[400] The WTO, Doha Declarations, The Doha Development Agenda, paragraph 6.
[401] United Nations, The General Assembly, 2005 World Summit Outcome, 15 September 2005, paragraph 27 A.

environment have become ultimately universal. The events and debates have placed increasing pressure on governments to act in a concrete way to address the real and potential problems of the global environment.

Figure 3. Milestones of Sustainable Development Process



Source: UNEP WSSD Sector Report, 8 August 2003, Available online [http://www.uneptie.org/pc/mining/wssd/milestone.htm] viewed 20 December 2005.

In the 1980s, as a result of economy-ecology debates, the concept of sustainable development emerged. Coexistence of economic development and environmental protection needs fundamental and radical changes in the value and institutions.[402] However, a wider social transformation was only taking place in industrial societies. Thus, international environmental institutions have started to take a more global and the intergenerational approach. When varieties of new environmental problems occurred in the 1990s, many environmental treaties were created, which have formulated more constructive rules and agreements. These developments emerged to recognize the environmental regimes' takeover of a portion of trade agreements; hence the importance of relationships with the trade regime. However, changes of environmental regimes' rules do not always represent changes in their norms, which have affected the cooperation with the trade regime.

The intrinsic contradiction between trade and environmental regimes implies that coherence between the Doha and Johannesburg Agendas is likely to depend on the WTO to stop governments from shaping their economies so that they run counter to the original mission of the 1992 Rio Earth Summit. The next section investigates how the WTO attempts to address the MEAs' trade measures and to clarify the relationship with MEAs.

[402] Cotgrove, Stephen, *Catastrophe or Cornucopia*, Wiley, Chichester, 1982, p.5.

5-3. Negotiations of the Doha Ministerial Declaration and applicability under public international law

The emerging issues in trade and the environment have not yet been successfully addressed through negotiation among Members of the WTO.[403] Due to the substantial increase in and diversity of WTO Members, trade and environmental issues have become highly controversial within the trade regime. Thus, trade and environmental dispute cases have been generally through recourse to dispute settlement procedures of the WTO.

The WTO has been an observer to the Governing Council of UNEP, which constitutes the forum either in its regular sessions or special sessions, and in most MEAs, which contain trade measures. Thus, the WTO Secretariat usually participates in relevant environmental regimes' meetings and the WTO has observed some MEAs' negotiation processes. UNEP has been given an observer status to the WTO CTE and the TBT, but not the SPS Committees, to participate in general meetings in these divisions. Four MEAs (the Convention on Biological Diversity (CBD), CITES, International Commission for the Conservation of Atlantic Tunas and United Nations Framework Convention on Climate Change (UNFCCC)) also have observer status in the CTE, but their requests for special sessions have been pending, which usually precede policy making.[404] However, Members in the CTE Special Sessions have tried to invite some MEAs to attend CTE general meetings, on an *ad hoc*, meeting-by-meeting basis; hence they can share the knowledge of MEAs.[405]

This section shows the WTO Member States' diverse positions in the Doha negotiating mandate, especially driven by their different trade and environment regulations. It also indicates how the WTO's environment-related Agreements address MEAs' trade measures by explaining the judicial relationship between trade and environmental agreements from international law perspectives.

5-3-1. Negotiations of the Doha Ministerial Declaration

In the 1996 Report of the CTE to the Singapore Ministerial Conference, the CTE summarized the discussions of trade and environment issues including its various work programme and proposed recommendations to the Conference.[406] In particular, *paragraph 171* of the Report states that the WTO and MEAs should be mutually supportive of each other:

> The CTE endorses and supports multilateral solutions based on international cooperation and consensus as the best and most effective way for governments to tackle environmental problems of

[403] Low, Patrick, "Trade and Environment: What Worries the Developing Countries?" *Environment Law*, Vol. 23: 2, 1993.
[404] The WTO CTE Report, WT/CTE/W/41/Rev. 8, 19 September, 2001. Also Interview with the WTO officer #5-1, October, 2003.
[405] Interview with the WTO officer #5-2, September, 2004.
[406] The WTO CTE Report, TN/TE/S/1, 23 May 2002.

> a transboundary or global nature. WTO Agreements and multilateral environmental agreements (MEAs) are representative of efforts of the international community to pursue shared goals, and in the development of a mutually supportive relationship between them due respect must be afforded to both.[407]

The Chairman's summary of the 2001 WTO-MEAs Secretariat Meeting made eight general points about the WTO-MEA relationship, which included:

- MEAs and the WTO agreements are separate but equal bodies of international law;
- MEAs and the WTO emphasize different approaches to securing the effectiveness of their respective agreements: the MEAs focus primarily on promoting all parties' compliance with their provisions and avoiding disputes, the WTO focuses primarily on resolving disputes in a timely and binding manner; and
- The fact that MEAs are designed to protect human health and the environment, including areas of shared environmental concern, requiring broad international cooperation. On the other hand, the WTO has a major role in the settlement of trade disputes which arise from perceived injury to commercial interests, helps to explain their differing emphasis on compliance and dispute settlement.[408]

Negotiations had been in progress at the WTO to deal with the relationship between MEAs, which contain specific trade obligations (STOs), and WTO rules as one of the tasks launched at the Fourth WTO Ministerial Conference in Doha. The Doha Declaration has proposed a "win-win-win" outcome for the world trading system, which is "good for the environment, good for trade and good for development".[409] The WTO has evaluated the negotiations of the relationship between trade rules and MEAs, and the possible impacts of the WTO rules on the environment and development. *Paragraph 51* of the Declaration could contribute to the integration of social and environmental concerns into the trade regime; hence it would contribute to sustainable development:

> The Committee on Trade and Development and the Committee on Trade and Environment shall, within their respective mandates, each act as a forum to identify and debate developmental and environmental aspects of the negotiations, in order to help achieve the objective of having sustainable development appropriately reflected.[410]

Paragraph 6 of the Doha Declaration also emphasized the mutually supportive relationship between trade and environmental regimes:

> [W]e welcome the WTO's continued cooperation with UNEP and other inter-governmental environmental organizations. We encourage efforts to promote cooperation between the WTO and relevant international environmental and developmental organizations, especially in the lead-up to

[407] The 1996 Report of the CTE to the Singapore Ministerial Conference, WT/CTE/1, November 1996.
[408] UNEP Meeting on Compliance, enforcement and dispute settlement systems of multilateral environmental agreements (MEAs) and the World Trade Organization (WTO), 26 June 2001, Chairman's summary.
[409] The WTO, The Doha agenda, The Trade and Environment Committee.
[410] The World Trade Organization: Doha Development Agenda, WT/L/579, *paragraph 51*, 2 August 2004.

> the World Summit on Sustainable Development to be held in Johannesburg, South Africa, in September 2002.[411]

WTO Members have agreed to clarify the relationship between the WTO and MEAs. Some Members have clearly stated that WTO rules should only apply to a conflict between WTO Members which are both Parties to an MEA.[412] Thus, they have not particularly agreed to negotiate the applicability of WTO rules between WTO Members one of which is a Party and the other a non-Party to an MEA. And also some Members think that any attempt to amend WTO rights and obligations through these negotiations of *Paragraph 31 (i)* and *(ii)* would be contrary to *Paragraph 32*.[413] (see Box 1) However, *Paragraph 31* and *32* should be mutually supportive of each other because the negotiation of *Paragraph 31* mandate should be helped by *Paragraph 32* to resolve potential conflicts arising from WTO trade and environment issues. *Paragraph 32* should also give structured instructions to assist the negotiation of *Paragraph 31* to be resolute.[414]

Box 1. Doha Ministerial Declaration Paragraph 31 and 32

31. With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on:
(i) the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs). The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the MEA in question. The negotiations shall not prejudice the WTO rights of any Member that is not a party to the MEA in question;
(ii) procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and the criteria for the granting of observer status;
(iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services.
We note that fisheries subsidies form part of the negotiations provided for in paragraph 28.
32. We instruct the Committee on Trade and Environment, in pursuing work on all items on its agenda within its current terms of reference, to give particular attention to:
(i) the effect of environmental measures on market access, especially in relation to developing countries, in particular the least-developed among them, and those situations in which the elimination or reduction of trade restrictions and distortions would benefit trade, the environment and development;
(ii) the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights; and
(iii) labelling requirements for environmental purposes.
Work on these issues should include the identification of any need to clarify relevant WTO rules. The Committee shall report to the Fifth Session of the Ministerial Conference, and make recommendations, where appropriate, with respect to future action, including the desirability of negotiations. The outcome of this work as well as the negotiations carried out under paragraph 31(i) and (ii) shall be compatible with the open and non-discriminatory nature of the multilateral trading system, shall not add to or diminish the rights and obligations of members under existing WTO agreements, in particular the Agreement on the Application of Sanitary and Phytosanitary Measures, nor alter the balance of these rights and obligations, and will take into account the needs of developing and least-developed countries.

[411] Ibid. *paragraph 6.*
[412] The WTO CTE Report, Compilation of submissions under *Paragraph 31(i)* of the Doha Declaration, TN/TE/S/3/Rev.1, April 2003.
[413] Interview with the WTO officer #5-3, September, 2004.
[414] Interview with the WTO officer #5-4, September, 2004.

Source: The World Trade Organization: Doha Development Agenda, WT/L/579, 2 August 2004.

In pre-Doha era, since the creation of the CTE in 1995, there are four major positions addressing the WTO-MEA relationship. They can be summarized as:

- Changes to WTO rules to accommodate MEAs are unnecessary, particularly in light of the fact that no MEA-related disputes have come to the WTO to date. This was described as the "status quo" approach and was favoured by the US and many developing countries including Brazil, India and Mexico;[415]
- WTO rules should only accommodate MEAs in a limited fashion - accommodation through an "understanding", through "guidelines" but not through a change to the rules. This was called a "soft accommodation" approach and supported by another group of countries such as Japan;[416]
- WTO rules should be amended to explicitly accommodate trade measures taken in accordance with MEAs and to subject these measures to less stringent WTO scrutiny. The European Commission (EC) and Switzerland supported this "full-scale accommodation" approach; and[417]
- MEAs should take the rules of international trade into account when negotiating their agreements, and themselves accommodate these rules by restraining their use of trade measures. This approach, which proposed that the "burden of accommodation" should fall to the MEAs themselves, was advocated by New Zealand and has gained support from developing countries.[418]

Then, after the Doha Ministerial Conference, the different proposals were narrowed down to two major positions in accordance with the CTE Special Session documents:

- a "top-down" approach supported by the EC and Switzerland. This approach included discussions on issues of scope and definition of STOs, the development of certain principles to address the WTO-MEA relationship, dialogue with MEAs, and the development of options or solutions.[419]
- a "bottom-up" approach advocated by Australia and supported by a number of other Members such as the US. This approach consisted of identification of STOs and WTO rules that are relevant to these obligations, exchange of experience on these provisions, including information exchange with MEAs Secretariats, and discussion of matters arising from the work undertaken in phases one and two and focus on the outcome of the negotiations.[420]

[415] The WTO CTE Report, WT/CTE/M/24, WT/CTE/W/65, WT/CTE/W/85.
[416] The WTO CTE Report, WT/CTE/W/31.
[417] The WTO CTE Report, WT/CTE/W/168, WT/CTE/W/170.
[418] The WTO CTE Report WT/CTE/W162, WT/CTE/W/180. Motaal, Doaa Abdel, "Multilateral environmental agreements (MEAs) and WTO rules; Why the burden of accommodation sold shift to MEAs," *Journal of World Trade*, Vol. 35: 6 2001, pp 1215-1233.
[419] The WTO CTE Special Session documents, TN/TE/W/1, WT/TE/W/4, WT/TE/W/16.
[420] The WTO CTE Special Session document, TN/TE/W/7.

At the Doha Ministerial Conference, the Doha Development Agenda focused only a little on trade and environment issues, and particularly avoided controversial issues. However, six MEAs (the Basel Convention, CITES, the CBD, the Montreal Protocol, the International Tropical Timber Organisation (ITTO), and the UNFCCC) have been identified as having STOs that WTO Members generally agreed to discuss in the negotiations. Like the discussions of the WTO–MEAs relationship, the Doha negotiations have also deadlocked because Members had difficulty in providing guidance on how to handle a dispute between WTO Members one of which is a Party and the other a non-Party to an MEA due to *Paragraph 31 (i)*. There has been a general agreement in the CTE Special Session that this issue is still early in negotiation to reach a consensus yet.[421]

Moreover, at the WTO Ministerial Conference in Cancún, Mexico 10-14 September 2003, the regular session of the CTE made a report on the Doha Ministerial declaration *Paragraphs 32* and *33*. However, discussions within the CTE on the Doha Agenda had not reached any possible consensus. The Agenda was negotiated at Cancún, but the WTO–MEAs issues were entirely sidelined because the Cancún negotiations concentrated on high profile issues, such as agriculture and investment. The WTO-MEA-related negotiations only progressed on a smaller range of agreements, such as identification of STOs and MEAs.[422]

Paragraph 31 (i) and *(ii)* may be the most controversial MEA-related negotiations within the WTO. There have been wide differences among Member States especially between the EC and the US positions and increasing South demand, which have made negotiation difficult.

The EC proposed four clusters of trade obligations under MEAs, presented at the April 2004 Special Session of the CTE Meeting, which are defined as "global governance" principles based on the European tradition of the concept of "sustainable development". The proposal includes:

- emphasizing the importance and necessity of MEAs;
- designing environmental policy within multilateral environmental fora;
- ensuring close cooperation and increased information flow at the national and international levels for the mutual supportiveness of trade and environmental policies;
- recognizing the fact that MEAs and the WTO are equal bodies of international law; and not interpreting WTO rules in "clinical isolation" from other bodies of international law.[423]

The European Union (EU) strategy seems to have softened toward the relationship between the WTO and MEAs. One of the reasons is that the EU is unlikely to want one organization to have too much power.[424] However, the EU proposal might lead to a situation in which a majority of the WTO Members would secure a ruling from the WTO but some Members may act illegally under WTO rules by restricting trade in accordance with the terms of an MEA.

[421] The WTO, Trade and environment at the WTO, November 2003.
[422] The WTO CTE Report, WT/CTE/W/234.
[423] The WTO CTE Special Session document, TN/TE/W/39.
[424] Interview with the EC officer #5-1, September, 2004.

At the June 2004 CTE Meeting, the US proposed the importance of accountability, national coordination and transparency in the negotiations of the MEA-related issues.[425] The US sought to clarify the definition of STOs, which should be based on all obligations set out in MEAs; hence the definition of MEAs should not be required under *Paragraph 31 (i)*.[426] The US showed its own experiences to support its proposal, for example, the implementation of export restrictions in three MEAs (CITES; the Stockholm Convention on Persistent Organic Pollutants (POPs); and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC)).[427] The US proposal concluded that the WTO-MEAs relationship has been mutually supportive; hence conflicts between WTO rules and MEAs have not arisen.[428] However, the US did not favour to negotiate the relationship between a Party and a non-Party to an MEA. This is because the US has not been a Party to key MEAs, which are in contradiction with some WTO rules.

Meanwhile most developing countries are against the EC's new environmental protectionism and have submitted their own proposals. Countries of the South, such as India, Malaysia, Indonesia and Pakistan, suggested that WTO-MEAs issues should be negotiated under the UN. They explained that the UN membership reflects geographical diversities and different stages of economic and social developments among universal participants.[429] On the other hand, some resource-rich developing countries often consider themselves unfairly disadvantaged by MEAs' trade measures. Thus, these resource-rich developing countries have proposed that:

- each MEA is dealing effectively with the relevant environmental threat,
- each MEA is truly a platform for consensus; and
- each MEA has an effective dispute settlement mechanism.[430]

Their proposal states that changes to WTO rules to accommodate MEAs are unnecessary, particularly in light of the fact that no MEA-related disputes have come to the WTO to date.

Although the Southern countries have sharpened their opposition for "greening" the WTO, each of them has positioned itself differently on the specific scope of STOs. They are divided on their position by the increasing gaps between the EC and the US; however, the US seems to compete to win more support from developing countries in return for an "environmental package" for the WTO.[431] The US has stressed the need to look for "win-win" situations and suggested the removal of certain subsidies that block developing countries' market access and are environmentally unfriendly.[432]

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[425] The WTO CTE Special Session document, TN/TE/W/40.
[426] Ibid.
[427] The WTO CTE Special Session document, TN/TE/9.
[428] The WTO CTE Special Session document, TN/TE/W/40.
[429] The WTO CTE Special Session document, TN/TE/R/6.
[430] The WTO CTE Special Session document, TN/TE/W/36.
[431] Araya, Monica, "Environmental dilemmas on the road to Doha: Winning southern support for greening the WTO," Heinrich Boll Foundation, 2001.
[432] General Council Report, WT/GC/W/194.

The negotiations of the Fifth Ministerial Conference in Cancún, Mexico in September 2003, ended with most of the Agendas in deadlock. After the Conference, WTO Members worked to set the new target date of reaching agreement on the "July Package" of framework agreements by the end of July 2004. There has been no progress in the area of negotiation to mandate in *Paragraphs 31(i)* and *(ii)* because if there is no progress in the area of negotiations such as agriculture, there will be no progress on "marginal" areas such as trade and the environment.[433]

The negotiations are still taking place on a variety of MEAs' trade measures and it is not known whether they can be considered STOs. Although WTO specialized divisions have tried to invite MEAs on an *ad hoc* basis, MEAs' positions do not seem to be taken into account in trade and environment issues in the WTO system. This is because the negotiating mandate in *Paragraphs 31(i)* and *(ii)* has been motivated by the different stances among the WTO Member States such as between the EU, the US and South. Also, WTO-MEAs issues within the WTO negotiation are largely driven by trade norms, which have been affected by the negotiation of how the WTO assesses MEAs. During my interview with the WTO CTE, they have suggested that developments of certain principles to clarify the WTO-MEA relationship are essential, which would establish conformity of WTO rules in MEAs.[434]

5-3-2. The relationship between the dispute settlement mechanisms of MEAs and those of the WTO

The jurisprudential analysis of the relationship between two or more international treaties may contribute the same subject matter in the case of the WTO-MEA relationship. There is the distinction between disputes arising between two WTO Members, one of which is not a Party to a MEA and between WTO Members which are both Parties to a MEAs. The former case has been the mainstay of the arguments of the WTO-MEA relationship.

Unlike the WTO's dispute settlement mechanism, many MEAs take non-compliance procedures and offer technical assistance to avoid a dispute between Parties.[435] For example, *Article 8* of the Montreal Protocol comprises a non-compliance procedure. In November 2003, the Protocol established the Implementation Committee to supervise the implementation of its Articles at the national level. The Committee reports to the Meeting of the Parties including any cases of non-compliance; then, the Parties identify necessary measures and may enforce full compliance within the Protocol.[436]

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[433] Interview with the WTO officer #5-5, September, 2004.

[434]The WTO CTE, The Doha negotiating mandate on MEAs, Available online [http://www.wto.org/english/tratop_e/envir_e/envir_backgrnd_e/c5s3_e.htm] viewed 20 December 2005. also Interview with the WTO officer #5-6, September, 2004.

[435] UNEP, UNEP Meeting on Compliance, Enforcement and Dispute Settlement in Multilateral Environmental Agreements and the World Trade Organization, Palais de Nations, June 2001.

[436] "Vienna Convention for the Protection of the Ozone Layer, including the Montreal Protocol on Substances that Deplete the Ozone Layer," Yearbook of International Co-operation on Environment and Development, Available online [http://www.greenyearbook.org/agree/atmosphe/vienna.htm] viewed 20 December 2005.

Many MEAs do not facilitate an obligatory dispute settlement mechanism that produces binding decisions. Thus, they advise an option of dispute settlement means, which generally consist of the International Court of Justice (ICJ) or arbitration adopted by Parties.[437] For example, the Basel Convention requires its Parties to seek a peaceful resolution in accordance with *Article 20.1*:

> In case of a dispute between Parties as to the interpretation or application of, or compliance with, this Convention or any protocol thereto, they shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.

If the Parties fail to reach a peaceful resolution, *Article 20.2* of the Convention suggests that:[438]

> If the Parties concerned cannot settle their dispute through the means mentioned in the preceding paragraph, the dispute, if the Parties to the dispute agree, shall be submitted to the International Court of Justice or to arbitration under the conditions set out in Annex VI on Arbitration. However, failure to reach common agreement on submission of the dispute to the International Court of Justice or to arbitration shall not absolve the Parties from the responsibility of continuing to seek to resolve it by the means referred to in paragraph 1.

Furthermore, some MEAs have had consultations with the GATT/WTO Secretariats on the compatibility of their trade measures with the WTO rules since 1987. For example, CITES Secretariat has adopted a five-year strategic plan that aims the recognition of CITES' trade measures by the WTO.[439] The Montreal Protocol has even established a sub-group of legal, technical and trade experts to examine compatibility between its proposed trade measures and GATT *Article XX*. However, some GATT legal experts raised the question of "whether a proposed action to implement the trade restrictions satisfies *Article XX* lies with GATT Contracting Parties normally in the context of a complaint by one GATT Party against another".[440] On the other hand, a Sub-Group on Trade Issues established by the Ad Hoc Working Group of Legal and Technical Experts of the Montreal Protocol stated that its *Article 4. 2 bis*. would be consistent with the GATT's non-discriminatory principle[441]:

> Commencing one year after the date of entry into force of this paragraph, each Party shall ban the export of any controlled substances in Group II of Annex C to any State not party to this Protocol.

Article 4. 2 bis. allows suspension of trade restrictions for those non-Parties deemed to be in compliance. The Working Group also advised if quantitative restrictions on trade would be directed against non-Parties of the Protocol, they should apply against WTO Members who are

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[437] Economics and Trade Unit and International Institute for Sustainable Development, *Environment and trade: A handbook*, UNEP, Geneva, 2000.

[438] For the other example, *Article 27.4* of the Convention on Biological Diversity foresees compulsory conciliation, if Parties have not accepted the same or any procedure for dispute settlement.

[439] UNEP, CITES echoes UNEP call for synergies amongst conventions, 2000.

[440] Report of the Ad Hoc Working Group on the Work of its Second Session UNEP/WG.167/2, March 1987.

[441] Krueger, Jonathan, "Trade restriction ns for the global environment: The case of the Montreal Protocol," in Tussie, Diana (ed.), *The environment and international trade negotiations: developing country stakes*, Macmillan Press LTD, London, 2000, pp.151-166

not Protocol signatories.[442] However, the GATT Secretariat stressed the final judgement should be left to the GATT contracting Parties in the case of dispute.[443]

The case of a dispute between WTO Members which are both Parties to a MEA may be solved legally by relevant rules contained in the 1969 Vienna Convention of the Law of Treaties and some principles of international law, which aim to resolve possible conflicts in the application of different treaties.

Firstly, *Article 31.3 (c)* of *the Vienna Convention on the Law of Treaties* may apply to a dispute case between WTO Members which are both Parties to a MEA when it interprets obligation of a treaty. The Article mandates "any relevant rules of international law applicable in the relations between Parties".[444] For example, a MEA dispute settlement mechanism constitutes its rules applicable between Parties, which should be also conceded by a WTO adjudicating body.[445] *Article 31.3 (c)* aims to promote some harmonization between the interpretations of obligations of treaties, so that rules of relevant international law can avoid contradictions and be mutually supportive each other.[446]

Secondly, *lex specialis derogat generali* and *lex posteriori derogat priori* may be applicable to rules of international law, which should be conceded by a panel whilst interpreting a treaty. *Lex specialis derogat generali* is the principle that "specific law prevails over general law", which has been applied in some cases by the ICJ.[447] *Lex posterior derogat priori* is the principle that "more recent law prevails over an inconsistent earlier law".[448] In these interpretations, the *lex specialis* rule can be understood as an exception of the *lex posteriori* rule; hence *lex specialis* and *lex generalis* should not deal with the same subject case.[449]

Reliance on *Articles 30.3*, *30.4* and *59* of the Vienna Convention provide further guidance of *lex posterior derogat priori*; if the later treaty is "so far incompatible" with the earlier treaty so that two treaties "are not capable" to apply at the same time, then the earlier treaty in its entirety shall be terminated.[450] In other words, if the inconsistency is "less incompatible" and generally the simultaneous application of two treaties "is still capable", the inconsistent provisions are presumed divisible and their specific application can be suspended or terminated. Thus, language about the level of inconsistency between two treaties may not clarify the WTO-

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[442] Campbell, Laura B. & Twum-Barima, Rosalind, "Protecting the Ozone Layer through Trade Measures: Reconciling the Trade Provisions of the Montreal Protocol and the Rules of the GATT," Environment and Trade Report No. 6, UNEP, Geneva, 1994.

[443] Report of the Ad Hoc Working Group on the Work of its third Session UNEP/WG.172/2, May 1987.

[444] The Vienna Convention on the Law of Treaties. *Articles 30.3*.

[445] Marceau, Gabrielle, "A Call for Coherence in International Law - Praises for the Prohibition against 'Clinical Isolation' in WTO Dispute Settlement," *Journal of World Trade*, Vol. 33: 5, 1999, pp. 87-153.

[446] Jenks, Wilfred, "Conflict of Law-Making Treaties," *The British Yearbook of International Law*, Vol. 30, 1953, p.401-405.

[447] Beck's Law Dictionary, A Compendium of International Law, The University of Virginia, Virginia, 1999.

[448] Ibid.

[449] Fitzmaurice, Gerald, *The Law and Procedure of the International Court of Justice*, Grotius Publications, Cambridge, 1986, pp. 370-372

[450] The Vienna Convention on the Law of Treaties. *Articles 30.3* and *59.1*.

MEAs relationship. Due to the increasing numbers of specific MEAs, *lex specialis* could be a better solution used in trade and the environment than *lex posteriori* would be. However, although both *lex specialis* and *lex posteriori* rules can theoretically apply in the case of a dispute between two WTO Members that are both Parties to MEAs, this theory has not been applied to an actual conflict between two treaties.

Thirdly, the principle of *lis alibi pendens* may also apply to clarify the overlapping situation between the WTO and MEAs. The *lis alibi pendens* rule objects parallel proceedings. The rule applies to a case involving the same parties and caused by the same action, which are continuing in two different treaties at the same time with the risk of irreconcilable judgments.[451] For example, this principle could be applied in *the EC-Swordfish case*. The EC challenged Chile's enacted swordfish conservation regulations as being incompatible with its WTO rights in accordance with *Article V* of GATT.[452] *Article V* states that "freedom of transit" of goods along Members' territories. Chile responded to the EC's WTO challenge by initiating the dispute settlement provisions of the United Nations Convention on the Law of the Sea (UNCLOS).[453] However, a WTO dispute settlement tribunal was completed before the International Tribunal on the Law of the Sea (ITLOS) process had been accomplished. Thus, it is difficult to conclude that there would be *lis alibi pendens* based on a binding ITLOS judgement. Although it remained on the docket of the Tribunal, proceedings have been stayed following an "out-of-court" agreement between the Parties.[454]

There is currently no single international institution that makes rules and settles disputes between trade and environmental regimes without having a bias toward either side. MEAs see themselves as being consistent in the case of measures to restrict trade in products that produce enormous amounts of pollution. *Principle 12* of the Rio Declaration supports the use of MEAs to deal with global environmental problems:

> States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.

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[451] Reichert, Douglas D., "Problems with parallel and duplicate proceedings: The litispendence principle and international arbitration," *Arbitration international*, Vol. 8: 3, 1992, pp. 237-255.
[452] The WTO DS Report, *the EC- Swordfish case*, WT/DS193/1.
[453] The mechanism established by the UNCLOS provides for four alternative means for the settlement of disputes: the International Tribunal for the Law of the Sea, the International Court of Justice, an arbitral tribunal constituted in accordance with Annex VII to the Convention, and a special arbitral tribunal constituted in accordance with Annex VIII to the Convention.
[454] Orellana, M., "The EU and Chile Suspend the Swordfish Case Proceedings at the WTO and the International Tribunal of the Law of the Sea," *ASIL Insights*, No. 60, February 2001.

The 1996 Report of the Committee on Trade Environment to the WTO Singapore Ministerial Conference also encourages its Member States through the dispute settlement mechanisms available under MEAs:

> The CTE recognizes that WTO Members have not resorted to WTO dispute settlement with a view to undermining the obligations they accepted by becoming Parties to an MEA, and the CTE considers that this will remain the case. While WTO Members have the right to bring disputes to the WTO dispute settlement mechanism, if a dispute arises between WTO Members, Parties to an MEA, over the use of trade measures they are applying between themselves pursuant to the MEA, they should consider trying to resolve it through the dispute settlement mechanisms available under the MEA. Improved compliance mechanisms and dispute settlement mechanisms available in MEAs would encourage resolution of any such disputes within the MEA.[455]

However, WTO Members are likely to be confident that the WTO dispute settlement provisions can satisfactorily undertake any problems, which arise in the environment-related area.[456]

In conclusion, the WTO Appellate Body states that the General Agreement should not be isolated from international law:

> That general rule of interpretation has attained the status of a rule of customary or general international law. (footnote is omitted) As such, it forms part of the "customary rules of interpretation of public international law" which the Appellate Body has been directed, by Article 3(2) of the DSU, to apply in seeking to clarify the provisions of the General Agreement and the other "covered agreements" of the Marrakesh Agreement Establishing the World Trade Organization (footnote is omitted) (the "WTO Agreement"). That direction reflects a measure of recognition that the General Agreement is not to be read in clinical isolation from public international law.[457]

In practice, however, the interpretation of WTO rules in the broader context of international law lead to the important conclusion that policy formulation and legal interpretation of MEAs have not yet prioritized the trade and environment dispute cases. Moreover, language of "the same subject matter" in the Vienna Convention is not explicitly stated; hence the judicial relationship of the WTO-MEAs has to be determined on a case-by-case basis.

5-4. Conclusion

The different attitudes between trade and environmental regimes can be seen as managing the impacts of human culture on ecological systems. Chapter 5 argues that MEAs have been created for different reasons and motivations from trade agreements. Since the concept of sustainable development emerged in the 1980s, there have been debates on how to balance economic development and environmental conservation. Environmental regimes believe that there are important thresholds of scale, which can cause large-scale and irreversible losses in the

[455] The WTO CTE Report, WT/CTE/1, paragraph 178.
[456] Gonzàlez-Calatayud, Alexandra & Marceau, Gabrielle, "The relationship between the dispute-settlement mechanism of MEAs and those of the WTO," *RECIEL*, Vol.11: 3 2002, pp. 275-285
[457] Appellate Body Report, *US -Gasoline* WT/DS2/AB/R, p.17.

functioning of ecological and physical systems.[458] Environmental agreements began with commitments to common norms, and weak binding rules, which largely depended on people's awareness of environmental degradation. However, international environmental institutions have shifted to enhance the ability to make and keep agreements; to promote concern among governments; and to build national political and administrative capacity.[459]

Difficulties of the Doha negotiations illustrated that these environmental regimes' developments have created a contradictory relationship between trade and environmental agreements. The WTO CTE thus tried to advise Member States that the environmental aspects of the Doha principles should be harmonized among Members whether a Party or non-Party to MEAs. Declarations of the UN World Summit and the WTO Ministerial Conference seek to promote mutual support between the multilateral trading system and the multilateral environmental agreements, while recognizing the importance of maintaining the integrity of two different sets of instruments. The WTO CTE has particularly been searching for rules of coherence with MEAs to share the knowledge of trade and environment. Nevertheless, synergies between the two regimes have not moved forwards following the Johannesburg Summit.

Chapter 5 also illustrated concerns about contradictions between legal norms of trade and environmental regimes. There is the possibility of international law being used to clarify the WTO-MEAs' relationship. However, international law does not clearly clarify the relationship between trade and environmental agreements' jurisdictions. Chapters 6 and chapter 7 closely look at the Cartagena Protocol on Biosafety's trade-related measures and the WTO's environment-related rules to analyze potential jurisdictional contradictions between trade and environmental regimes.

[458] Norton, Bryan G. & Toman, Michael A., "Sustainability: ecological and economic perspectives," *Land Economics*, Vol.73, November 1997, pp.553-569.
[459] Keohane, Robert O., et al., "Improving the effectiveness of international environmental institutions," *Institutions for the Earth: Sources of Effective International Environmental Protection*, The MIT Press, Massachusetts, 1993, pp.397-426.

Chapter 6

The Cartagena Protocol on Biosafety

6-1. Introduction

The purpose of chapter 6 is to show how multilateral environmental agreements' trade measures have been established, which are illustrated by the negotiations of a new multilateral environmental agreement (MEA). As a result of technological developments, the traditional environmental regimes have increasingly needed to deal with new environmental issues. This chapter focuses on a new MEA: the Cartagena Protocol on Biosafety, which regulates transboundary movement of living modified organisms (LMOs). The Biosafety Protocol also facilitates strong trade measures to deal with this new environmental area. Thus, the key negotiation of the Protocol has been to specify the interrelationship between the specific procedures for transboundary movement of LMOs and general trade rules, particularly concerning relevant World Trade Organization's Agreements.

Environmental regimes have shifted to create conditions that make for strict rules and implementation mechanisms, even though effective rules and meaningful national implementation are time-consuming to create.[460] In particular, the Cartagena Protocol on Biosafety has been considered to contradict the trade regime's legal norms. Unlike other MEAs, the Biosafety Protocol has been negotiated without evidence of concrete environmental damage, such as the resulting release of LMOs into the environment. Thus, the biosafety agreement is a truly precautionary instrument, setting rules for decision-making that seek to minimize the risk of future, and potential, damage. Questioning the scientific paradigm of genetic engineering and arguing for a broader understanding of the principles of biotechnology have led to controversial debate in the area of risk assessment and those of socio-economical impacts.

Previous chapters demonstrated that changes of regimes' rules do not always mean to be changes in their norms. These trade and environmental regimes' different norms have limited coherence between the World Trade Organization (WTO) and MEAs. The theoretical framework explored how trade and environmental regimes' different jurisdictions affects interaction between their overlapping agreements. Chapter 6 focuses on negotiations of the Cartagena Protocol on Biosafety, which have been influenced by the WTO's legal norms because of potential contradictions between the two Agreements.

Although the Cartagena Protocol on Biosafety has been ratified, there are still many issues left for future negotiations. However, to exemplify procedural issues and divergent views of negotiation groups illustrates trade regime's influence on the creation of a new MEA. Firstly, **6-**

[460] Chayes, Abram, "Managing the transition to a global warming regime or What to do till the Treaty comes," *Foreign Policy*, Vol. 82, Spring 1991.

2 gives details of the background of the Cartagena Protocol on Biosafety negotiation processes. Secondly, **6-3** illustrates the key scope and points of the Biosafety Protocol: risk assessment and precaution, socio-economic consideration and identification requirements. However, further developments of these Articles in the First Conference of the Parties of the Convention serving as the Meeting of the Parties to the Protocol on Biosafety (the COP-MOP 1) are discussed in chapter 8. Lastly, **6-4** evaluates the relationship between the Biosafety Protocol and other international agreements, particularly the trade regime.

6-2. The background of the negotiations of the Cartagena Protocol on Biosafety

This section shows the creation process of the Cartagena Protocol on Biosafety. This negotiation process explains the nature of MEAs. This section also illustrates different motivations among negotiations parties; some are strongly influenced by trade-centred perspectives from the WTO, and others take on environment-oriented factors.

In 1985, the United Nations Industrial Development Organization (UNIDO), United Nations Environment Programme (UNEP) and the World Health Organization (WHO) set up a joint informal working group on biotechnology safety; later, the Food and Agriculture Organization of the UN (FAO) also joined them. Throughout their work, these groups have maintained strong links with the International Centre for Genetic Engineering and Biotechnology (ICGEB), which was initially launched in 1987 as a UNIDO project. This working group:

- developed the Voluntary Code of Conduct for the Release of Organisms into the Environment[461] under UNIDO's lead in 1991;
- established International Information Resource for the Release of Organisms (IRRO) into the Environment under UNEP as the lead agency in 1990;
- launched a joint UNEP/ICGEB training programme on biotechnology safety in 1991;
- prepared *Genetically Modified Organisms: a Guide to Biosafety* jointly by UNIDO, UNEP, WHO and FAO, which was published by UNIDO in 1995; and
- organized a Biosafety Module on Biotechnology Safety included in the WHO training courses on biotechnology, diagnostic technologies and laboratory practices.

However, genetically modified organisms (GMOs) have already been placed on the market without being backed up by globally coordinated action and legally binding measures.

In 1992, the issue of biosafety was considered in two global conferences: the UN Conference on Environment and Development (UNCED) and the Convention on Biodiversity (CBD). The CBD is the first international legally biding instrument containing provisions on biotechnology. These provisions reflect the potential benefits and risks that modern biotechnology entails, for example: *Articles 8 (g)*: *In-situ Conservation*:

[461] The International Centre for Genetic Engineering and Biotechnology, The code sets out general principles, a framework and guidelines to be adopted at national, regional and international levels to facilitate the safe application of biotechnology. Available online [http://www.icgeb.org/~bsafesrv/] viewed 20 December 2005

> Establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health;

Article 19.3: *Handling of Biotechnology and Distribution of its Benefits*:

> The Parties shall consider the need for and modalities of a protocol setting out appropriate procedures, including, in particular, advance informed agreement, in the field of the safe transfer, handling and use of any living modified organism resulting from biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity;

and *Article 19.4:*

> Each Contracting Party shall, directly or by requiring any natural or legal person under its jurisdiction providing the organisms referred to in paragraph 3 above, provide any available information about the use and safety regulations required by that Contracting Party in handling such organisms, as well as any available information on the potential adverse impact of the specific organisms concerned to the Contracting Party into which those organisms are to be introduced, addressed biosafety issues.

After resolution 2 of the Nairobi Final Act (International Cooperation for the Conservation of Biological Diversity and the Sustainable Use of its Components Pending the Entry into Force of the Convention on Biological Diversity) was adopted by the CBD in May 1992, the Convention invited UNEP to consider its *Article 19.3*. In response, at the Rio Conference, UNEP assessed which provisions of the CBD would need immediate implementation and established expert Panels.[462] The Panels began to discuss the creation of a biosafety protocol pursuant to *Article 19.3* of the CBD. The Governing Council of UNEP also established the Intergovernmental Committee on the Convention on Biological Diversity (ICCBD) to prepare for the first Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP-1). Matters of particular concern in the Working Group were:

- the need for adequate and transparent safety and border control procedures to manage and control the risks associated with the use and release of LMOs resulting from modern biotechnology;
- enabling the potential benefits of biotechnology to be maximized; and
- gaining widespread public acceptance, especially in developing countries.[463]

The first COP meeting was held in Nassau, the Bahamas, in 1994, and an ad hoc group of government nominated experts was established to prepare a background document and begin preparations for the negotiation of a protocol. The negotiating mandate not only included wide definition of the scope of protocol that the G-77 and China had demanded, but also it reflected the developed countries' desire to focus on the transboundary movement of LMOs. In particular,

[462] Pomerance, Rafe, "Genetically Modified Organisms: Colloquium article the Biosafety Protocol: Cartagena and beyond," *New York University School of Law, Environmental Law Journal*, Issue 3, 2000, pp. 614-621.
[463] The COP-1 Report, UNEP/CBD/COP/1/4/, paragraph 223.

countries which already have advanced industrial resources in biotechnology, such as the US, either opposed the idea of a formal biosafety agreement or preferred to limit its scope strictly with the parallel work in the existing UNEP International Technical Guidelines in Safety on Biotechnology.[464]

At the second meeting of the Conference of the Parties (COP-2) in November 1995 in Jakarta, the Parties involved finally agreed to negotiate a formal and binding protocol to certify compliance with the biosafety provisions of the Convention. The core decision was determined that the international agreement should cover:

> [t]o seek solution to the above-mentioned concerns through a negotiation process to develop, in the field of the safe transfer, handling and use of living modified organisms, a protocol on biosafety, specifically focusing on transboundary movement, of any living modified organism resulting from modern biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity, setting out for consideration, in particular, appropriate procedure for advance informed agreement.[465]

At the COP-2, the Open-ended Ad-Hoc Working Group on Biosafety (BSWG) was created to complete an international protocol. The Group's first meeting was held in July, 1996, and six meetings were organized between 1996 and 1999 under the chairmanship of Mr. Veit Koester, the Chair of the Ad Hoc Open-ended Working Group on Biosafety.

The first meeting of the BSWG was held in Aarhus, Denmark as an open forum to encourage participation from all sectors: diplomats, scientists, environmentalists and industry representatives. Representatives from over ninety countries, twenty-eight non-governmental organizations, and assorted other intergovernmental organizations presented opinions and proposals, many of which focused on the development of a network for information exchange among Parties.[466] After the pre-negotiation phase was completed in Aarhus, a draft Protocol was created during the next two meetings held in Montreal, Canada, after which serious negotiations began. Thus, the emergence and solidification of a more structured negotiation style was developed. At BSWG-3, a series of four main groups emerged:

- Contact Group 1 had its mandate extended to deal with annexes to the Protocol and was supplemented by three other groups;
- Contact Group 2 was mandated to address institutional matters and final clauses;
- Sub-Working Group I was charged with dealing with the advance informed agreement procedure and related issues including articles on risk assessment and risk management; and

[464] La Vina, Antonio G. M., "A mandate for a biosafety protocol: the Jakarta negotiations," in Bail, Christoph et al. (eds) *The Cartagena Protocol on Biosafety: Reconciling trade in Biotechnology with Environment and Development?*, RIIA, London, 2002, pp. 34-43.
[465] The CBD, Decision II/5, Noting 1.
[466] The BSWG-1 Report, UNEP/CBD/BSWG/1/4.

- Sub-Working Group II dealt with a diverse range of remaining issues including capacity building, the clearing house and socio-economic considerations.[467]

These groups remained intact through the negotiations that eventually led to the adoption of the Protocol.[468]

At BSWG-4, it was clear that the Protocol would not be ready for adoption by May 1998 when the Working Group had been asked to complete its work and the COP was expected itself to complete the negotiations. The COP accepted that the Working Group would need more time and approved two further meetings.[469] At BSWG-5 in August 1998 held in Montreal, another small group was charged with addressing the issue of liability and redress and the main discussion took placed in these sub-working groups and the contact groups.[470]

The sixth and last BSWG meeting in Cartagena de Indias in February 1999 was attended by over 600 representatives from governments, international organizations, industry and NGOs.[471] Many issues prevented the BSWG-6 from reaching a consensus during negotiations; the President of the Conference, Mr. Laszlo Miklos, exhorted the Parties to show their commitment to the promotion of biodiversity by finalizing a protocol.[472] Furthermore, five distinct negotiating groups had emerged during the course of the Cartagena meetings: the Central and Eastern Europe Group, the Compromise Group, the European Union, the Like-minded Group and the Miami Group.

Firstly, the Miami Group composed of Argentina, Australia, Canada, Chile, the United States, and Uruguay, comprised the largest grain commodity and GMO exporting countries. The main goal of the Miami Group was to negotiate a treaty that would protect the global biological resources without disrupting worldwide trade.[473] The Miami Group argued that commodities, which total 90% of all GMOs, and pharmaceuticals, should be entirely excluded from the Biosafety Protocol.[474] Throughout negotiations, the Miami Group advocated a narrow protocol, which recognized intellectual property rights and limited regulation to products with a scientifically demonstrated ability to affect biodiversity. Representatives of the Miami Group

[467] The BSWG-3 Report, UNEP/CBD/BSWG/3/6/, paragraph 17-25.
[468] Koester, Veit, "The history behind the Protocol on Biosafety and the history of the Cartagena Biosafety Protocol negotiation process," CBD News Special edition, The Cartagena Protocol on Biosafety: From negotiation to implementation, pp.6-9.
[469] The CBD, Decision IV/3.
[470] The BSWG-4 Report, UNEP/CBD/BSWG/4/4.
[471] The BSWG-6 Report, UNEP/CBD/BSWG/6/INF/10.
[472] The BSWG-6 Report, UNEP/CBD/BSWG/6/8, p.1.
[473] Schnier, David J., "Genetically Modified Organisms and the Cartagena Protocol," *Fordham Environmental Law Journal*, Vol. 12, 2000, pp. 377-417.
[474] Friends of the Earth, "Who Wants What at the International Biosafety Protocol Negotiations?," Available online [http://www.foe.org/safefood/biosafetyneeds.html] viewed 20 December 2005

were concerned that an overly broad Protocol could result in countries using the Protocol to justify the adoption of protectionist measures.[475]

Secondly, the Like-Minded Group consisted of most developing countries known as the Group of 77 plus China, but with exception of Argentina, Chile and Uruguay, which was created to provide a separate voice for developing countries. This block represented the largest number of countries, almost 80% of the world's population with most of the world's biological diversity located within their borders.[476] The Like-Minded Group's members stressed that they were committed to protecting the global environment from potential threats posed by biotechnology; hence they supported a strong Biosafety Protocol. The Group preferred comprehensive identification and documentation requirements, a strong statement of the precautionary principle, and strict liability and redress provisions.[477] They were also particularly concerned about their lack of capacity to adequately regulate and handle GMOs.[478] The principle of the Like-Minded Group throughout the negotiations was to protect the health of citizens and their wealth of biodiversity.

Thirdly, the European Union negotiating block included all 15 members of the EU. The EU attempted to take the middle ground between the Miami Group and the Like-Minded Group during the negotiating sessions. However, the EU did not have any strong biotechnology export interests; therefore, it became necessary for the EU to be seen as an actively advocating global actor for safety in biotechnology in order to respond to domestic civil society's concerns and reassure public opinion over a series of agricultural and food safety crises including the Bovine Spongiform Encephalopathy (BSE) crisis in 1997.[479] Due to the incredible public outrage over food safety, the EU sought a comprehensive treaty that would include threats to human health. The whole European Commission came out in favour of a position balancing environmental and trade concerns; as a result the EU gave additional weight to the development and environment angle in its negotiating position.[480]

Fourthly, the Central and Eastern European Group was formed by Russia, former Republics of the Soviet Union, and other Eastern European countries. This Group was reported to have taken moderate positions during the negotiations; however these countries preferred to form their own group rather than to join the EU. This is because their region is where natural resources have been wasted and highly polluted during the Soviet era, and on the other hand,

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[475] Stewart, Terence P. & Johanson, David S., "A Nexus of Trade and the Environment: The Relationship between the Cartagena Protocol on Biosafety and the SPS Agreement of the World Trade Organization," *Colorado Journal of International Environmental Law and Policy*, Vol.14, 2003.

[476] Meijer, Ernestine & Stewart, Richard, "The GM Cold War: How developing countries can go from being dominos to being players," *RECIEL*, Vol.13: 3, 2004, pp. 247-262.

[477] Salamat, Mohammad Reza, "Iran," in Bail, Christoph, et al. (eds), op cit. pp. 155-159.

[478] Yu, Vicente Paolo B. III, "Compatibility of GMO import regulations with WTO rules," in Weiss, Edith Brown & Jackson, John Howard, *Reconciling Environment and Trade* , Transnational Pub Published , 2001, pp. 575-672.

[479] Tsioumani, Elsa, "Genetically modified organisms in the EU: Public attitudes and regulatory developments," *RECIEL*, Vol.13: 3, 2004, pp. 279-288.

[480] Pythoud, François & Thomas, Urs P. "The Cartagena Protocol on Biosafety," in Le Prestre, Philippe G. (ed) *Governing Global Biodiversity: The Evolution and Implementation of the Convention on Biological Diversity*, Ashgate, Aldershot, Hampshire UK, 2002, pp. 39-57.

where biological diversity has been less exploited compared to several other parts of Europe.[481] The region also aimed to establish an international legally binding instrument on the handling, use and trade of LMOs as did the Like-Minded Group.[482]

Lastly, the Compromise Group was formed toward the end of the Cartagena negotiations, specifically to create positions to bring the negotiating parties to consensus. The Compromise Group included Japan, Mexico, Norway, South Korea and Switzerland, later joined by New Zealand and Singapore. This Group helped to strengthen the positions of the EU and the Like-Minded Group, and to make the Central and Eastern European Group more flexible.[483] On the other hand, the Compromise Group worked on these Groups to take into account the concerns of the Miami Group, so that the Miami Group would accept the final compromise on the protocol rather than the finalized the Biosafety Protocol without the Miami Group.[484]

At BSWG-6, further informal groups were created to consider elements of the draft negotiating text; most importantly, the Legal Drafting Group was formed to review draft Articles of the Protocol to endure legal consistency and wording in the text of the Protocol.[485] The chairmanship of Mr. Veit Koster also introduced the "Friends of the Chair", a group of individuals nominated by the regional groups, which received reports from the chairs of the sub-working groups and contact groups and helped in guiding the overall negotiation process. The group also tried to assist the "Chair's proposed text"; however, this "clean text" could not come to an agreement on the draft text.[486] Some negotiations were forwarded to the Extraordinary Meeting of the Conference of the Parties (ExCOP). The ExCOP immediately followed BSWG-6 in Cartagena de Indias, but was suspended due to continuous disagreements of these key provisions that persisted among the negotiation blocks. However, the ExCOP in Cartagena at least agreed that the title of the Protocol would be the "Cartagena Protocol on Biosafety".[487]

Informal negotiation took placed in Montreal and Vienna in 1999 and continued for two ExCOPs in Montreal in 2000. At the final act in Montreal, the ExCOP benefited from the Ministerial Conference of the WTO held in Seattle a year before, which gained attention of a proposal to set up a working group on biotechnology. On the other hand, the Conference made the negotiation parties of the Biosafety Protocol realise difficult trade-related issues needed to be resolved.[488] Despite the fact that the text of the Protocol was not yet finished, a last minute compromise was agreed at the Montreal Conference with more than 130 governments taking part

[481] Nechay, Gabor, "Central and Eastern Europe," in Bail, Christoph et al. (eds) op cit. pp. 212-216.
[482] International Institute for Sustainable Development, Earth Negotiations Bulletin, The BSWG-6 Report, February 1999, Available online [http://www.iisd.ca/biodiv/bswg6/] viewed 20 December 2005
[483] Nobs, Beat, "Switzerland," in Bail, Christoph et al. (eds) op cit. pp.186-192.
[484] Anderson, Troy, "The Cartagena Protocol on Biosafety to the Convention on Biological Diversity: trade liberalisation, the WTO, and the environment," *Asia Pacific Journal of Environmental Law*, No. 1, 2002, pp. 1-38.
[485] The BSWG-5 Report, UNEP/CBD/BSWG/5/3/, paragraph 53, The EXCOP-1 Report, UNEP/CBD/ExCOP/1/2, Paragraph 18.
[486] The EXCOP-1 Report, UNEP/CBD/ExCOP/1/2, paragraph 22, 41-45.
[487] The CBD, Decision EM-I/1, paragraph 3.
[488] Stilwell, Matthew, "Implications for developing countries of proposals to consider trade in Genetically Modified Organisms at the WTO", CIEL Discussion Paper, Available online [http://www.twnside.org.sg/title/ciel-cn.htm] viewed 20 December 2005.

in the negotiations. *Article 19.3* of the CBD resulted in what became the first global environmental agreement in the new millennium, namely the Cartagena Protocol on Biosafety to the Convention of Biological Diversity on 29 January 2000, once ratified by a minimum of 50 countries.[489]

Conclusion

The three years' worth of negotiations that resulted in the adoption of the final Biosafety Protocol were divisive and contentious with the global North-South split, and the international biotechnology regulation dispute between the US and the EU. The South had pushed for a binding Protocol that would have included strict labelling, advance notification, risk assessment and risk management, and liability provisions. On the other hand, the advanced biotechnology countries of the North pressed for a voluntary and less-restrictive guideline to implement individual countries' domestic regulations. The Biosafety Protocol strongly involves trade measures used to regulate transboundary movement of LMOs; hence these different positions were motivated by protecting a country's own markets and also by eyeing the relationship with other trade agreements, especially the WTO. These splits can be seen as a reflection of trade negotiations.

Although the North-South and Trans-Atlantic conflicts have not been resolved, the final adoption of a protocol came almost a year after it had initially been planned. Some countries believed that these conflicts could be a legal and diplomatic game between the EU and the Miami Group originating in their trade disputes.[490] The ExCOP representatives concluded that the only option for reaching an agreement would be to come up with a "package deal" that reflected a compromise among groups across the various articles in the text.[491] However, the Protocol saved its main principle of "precautionary approach" to reflect in the final text, but it had to drop other key issues such as the "savings clause".

6-3. The principle coverage of the Cartagena Protocol on Biosafety and its procedural issues

The Cartagena Protocol on Biosafety regulates international trade in LMOs. As the Biosafety Protocol concerns trade in commodities, such as genetically modified seeds and vegetables, its agreements have become of major significance to the world's economy. According to its *Article 36*:

> The provisions of this Protocol shall not affect the rights and obligations of any Party to the Protocol deriving from any existing international agreement to which it is also a Party, except

[489] The CBD, Decision EM-I/3.
[490] Eggers, Barbara & Mackenzie, Ruth, "The Cartagena Protocol on Biosafety," *Journal of International Economic Law*, 2000, pp.525-543.
[491] Samper, Christian, "The extraordinary meeting of the Conference of the Parties," in Bail, Christoph et al. (eds) op cit. pp. 62-75.

> where the exercise of those rights and obligations would cause serious damage or threat to biological diversity.

In May 2000, States and regional economic integration organizations opened the Biosafety Protocol for signature at the United Nations Office at Nairobi. This was followed by the act at the United Nations Headquarters in New York from June 2000 to June 2001 with 103 signatures.[492] The Biosafety Protocol came into force on 11 September 2003, ninety days after receipt of the 50th instrument of ratification in accordance with its *Article 37: Entry into force*.[493]

The following section explains the term of LMOs used in the Biosafety Protocol. Then, it focuses on the negotiation of three principle issues of the Protocol (risk assessment, risk management and the precautionary approach; socio-economic considerations; the Advance Informed Agreement Procedure (AIA) and identification of LMOs). This section also analyzes how these key regulations may overlap with the WTO Agreements.

Use of terms - Living Modified Organisms

Modern biotechnology was defined in the Cartagena Protocol in accordance with its *Article 1,* which states the objective of the Protocol:

> In accordance with the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements.

Genetic engineering or genetic modification means a technology in which genetic elements are deleted, added or substituted to the genetic make up of an organism, either by recombinant nucleic acid techniques or by direct injection of nucleic acids into cells of organelles.[494] For the resulting organisms synonymous terms are used, such as LMOs, GMOs[495] and genetically engineered organisms[496]. In the scientific discussion, the following are regarded as the main differences between modern biotechnology and conventional breeding on the other hand:

- The broader possibility for the transfer of genes: beyond taxonomic boundaries of the species and/or family;

[492] The CBD, The Cartagena Protocol on Biosafety: About the Protocol, Available online [http://www.biodiv.org/biosafety/background2.aspx] viewed 20 December 2005.
[493] Ibid. viewed 20 December 2005.
[494] The FAO, FAO Glossary of Biotechnology for Food and Agriculture, Available online [http://www.fao.org/biotech/index_glossary.asp] viewed 20 December 2005.
[495] The common terminology for example in the EU.
[496] The common terminology for example in the US.

- This sometimes coincides with a higher precision of the genetic modification. At the same time, however, it can also lead to acceleration of evolutionary relevant changes with more unpredictable effects; and
- The technology is rather new and therefore there is limited experience.[497]

Modern biotechnology also appears in Agenda 21, the global action plan for environment and development, which was adopted at the UNCED in 1992. In particular, *Chapter 16: Environmentally Sound Management of Biotechnology* considers seeking:

- to foster internationally agreed principles to be applied to ensure the environmentally sound management of biotechnology,
- to engender public trust and confidence, and
- to promote the development of sustainable applications of biotechnology and to establish appropriate enabling mechanisms, especially within developing countries.[498]

through the following activities:

a) Increasing the availability of food, feed and renewable raw materials;
b) Improving human health;
c) Enhancing protection of the environment;
d) Enhancing safety and developing international mechanisms for cooperation;
e) Establishing enabling mechanisms for the development and the environmentally sound application of biotechnology.[499]

However, according to the Biosafety Protocol *Article 3: Use of Terms*, the Protocol is not relevant to all GMOs that are ultimately classified as a LMO. For example, the content of canned goods made by the producer (they are not raw grain shipped to a food producer) is not covered by the Protocol.[500] The Protocol defines modern biotechnology in accordance with *Article 3*:

(g) "Living modified organism" means any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology;
(h) "Living organism" means any biological entity capable of transferring or replicating genetic material, including sterile organisms, viruses and viroids;
(i) "Modern biotechnology" means the application of:
a. In vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or
b. Fusion of cells beyond the taxonomic family,
that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection.

[497] The FAO, World Agriculture: Towards 2015/2030 - An FAO perspective, 11.4 Agricultural biotechnology.
[498] UN Department of Economic and Social Affairs, Division for Sustainable Development, Agenda 21: Chapter 16.1.
[499] Ibid. Biotechnology, A. Increasing the availability of food, feed and renewable raw materials, Activities.
[500] Thus, derivative products, such as oil, flour, tomato sauce, eggs from hens fed with transgenic corn that cannot reproduce or transfer genetic material should be excluded. Those are expected to be covered by Codex Aliementarius.

The Protocol distinguishes between the modern biotechnology and the traditional techniques that are used in natural breeding and selection.[501] Thus, agriculture, which utilizes the amount of pesticides, steroids, or hormones but uses the traditional techniques, is not under the Protocol.[502]

Most importantly, the Biosafety Protocol states that LMOs, which are used as a pharmaceutical purpose and are covered by other international regulations or organizations, are not applied by the Protocol in accordance with *Article 4:*

> This Protocol shall apply to the transboundary movement, transit, handling and use of all living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health.

The Protocol does not also cover processed products, which even contain the GMO-ingredients in the products in accordance with *Article 6.2:*

> Notwithstanding Article 4 and without prejudice to any right of a Party to subject all living modified organisms to risk assessment prior to decisions on import and to set standards for contained use within its jurisdiction, the provisions of this Protocol with respect to the advance informed agreement procedure shall not apply to the transboundary movement of living modified organisms destined for contained use undertaken in accordance with the standards of the Party of import.

This issue is also covered by *Articles 17*[503], *18* and *20*[504].

The Biosafety Protocol only deals with LMOs to protect human health and the environment; hence trade in LMOs but not GMOs, which are covered by the WTO. However, there are still overlapping areas between GMOs and LMOs; and if the Biosafety Protocol extends its coverage, there will continue to be more overlaps between these objects. The problems are that these overlaps are covered by a different principle of agreements. The Biosafety Protocol regulates transboundary movement of LMOs to protect the environment, whereas the WTO uses trade measures on GMOs to maintain free trade, which is not to be abused by protectionism.

Risk assessment, risk management and the precautionary approach

Decision-making based on risk assessment and precaution is the central element of the Biosafety Protocol. On the other hand, how scientific uncertainties are handled by these measures is most distant from the WTO Agreements' norms. Some of these issues have been extended to take into account the UN Declaration. Nevertheless, there have been debates about

[501] The traditional techniques are generally understood as a modification by directly injecting foreign DNA into a cell or by direct manipulation of the DNA. Lewis, Stephen Kelly, "Attack of the Killer Tomatoes? Corporate Liability for the International Propagation of Genetically Altered Agricultural Products", *Transnational Lawyer*, Vol.10, Spring, 1997.

[502] The Cartagena Protocol on Biosafety, *Article 3 (i*).

[503] see Appendix 12

[504] see Appendix 14

the extent of precautionary rules, which aim to promote appropriate decision-making procedures toward GMO-related regulations.

Article 15, *16* and *Annex III* in the Biosafety Protocol introduce the concepts of risk assessment and risk management. The Protocol explicitly recognizes the difference between the concepts of risk assessment and risk management in its separate Articles: *Article 15* and *16*. It unequivocally gives Parties the right to decide how to confront the results of the assessment of risks.[505]

Article 15 and *Annex III* of the Cartagena Protocol on Biosafety state that risk assessment "shall be carried out in a scientifically sound manner" by the Party of export and such risk assessments "shall be based, at a minimum, on information provided" to the Party of import.[506] Consideration of mechanisms for risk assessment and risk management began at BSWG-1, where several delegations stressed the importance of scientific data, or proposed the inclusion of a reference to risks in human health and welfare; others recommended the UNEP International Technical Guidelines for Safety in Biotechnology as a valuable source of guidance.[507]

The safety issue also reflected the different stance of each state's system. For example, in the US, Australia and Canada, the responsibility for risk assessment is placed on the competent authorities, which would use information provided by the applicants.[508] Thus, these countries tried to minimize the reference that covers indirect adverse effects on human health caused by adverse effects on biological diversity.[509] In contrast, responsibility is placed on the applicant in the EU; hence the competent authorities in the EU evaluate the risk assessment. The EU argued that risk assessment should cover aspects of human health arising from the use of LMOs, in particular consumers' safety and their right to know.[510]

To reflect divergent views, the Chairman's summary of draft elements at the end of BSWG-2 divided risk assessment and risk management into two separate provisions.[511] Several proposals advocated the reduction of risks to acceptable levels during the negotiations. For example, the African Group and several developing countries suggested including a minimum level of risk, and also proposed including examples of risk management.[512] On the other hand, Norway called for cooperation in the development and harmonization of risk management procedures.[513] *Article 16* was finalized to control and manage risks identified in *Article 15*;

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[505] The Cartagena on Biosafety Protocol *Article* 26*.1*.
[506] Ibid. *Article 15.1*.
[507] The BSWG-1 Report, UNEP/CBD/BSWG/1/4, paragraph 57-63.
[508] Nuffield Council on Bioethics, "Genetically modified crops: the ethical and social issues," London, May 1999, pp. 37-56.
[509] International Institute for Sustainable Development, Earth Negotiations Bulletin, The BSWG-1 Report, July 1996, Available online [www.iisd.ca/vol09/enb09168e.html] viewed 20 December 2005
[510] Nuffield Council on Bioethics, op.cit., 1999, pp. 81-94
[511] The BSWG-2 Report, UNEP/CBD/BSWG/2/6/, pp.24-28.
[512] Mayr, Juan, "Doing the impossible: The final negotiations of the Cartagena Protocol," CBD News Special edition, The Cartagena Protocol on Biosafety: From negotiation to implementation, pp.10-12.
[513] International Institute for Sustainable Development, Earth Negotiations Bulletin, The BSWG-2 Report, May 1997, Available online [http://www.iisd.ca/vol09/0967000e.html] viewed 20 December 2005

however the development of its annex was deleted. Thus, *Article 16.5* was added Parties to cooperate with a view to:

(a) Identifying living modified organisms or specific traits of living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health; and
(b) Taking appropriate measures regarding the treatment of such living modified organisms or specific traits.

The paragraph also encourages Parties to share information about producing or growing organisms with the other countries, which have similar geographical or climatological characteristics.

However, the rights of States to set their own level of protection are not mentioned in the Biosafety Protocol. The objective of the Protocol states an adequate level of protection is necessary but it does not define a level.[514] In particular, *Article 16.1* calls on Parties to take appropriate measures to regulate, manage and control risks identified in the risk assessment provisions of the Protocol. However, the Protocol does not require that Parties have to establish their decisions on international standards. The only limitation in the Protocol is that risk management decisions as based on the risk assessment are to be imposed to the extent necessary to prevent adverse effects in accordance with *Article 16.2*.

The Biosafety Protocol emphasizes that risk assessment should be informed decisions, transparent, and with a case-by-case analysis.[515] The negotiation of *Annex III* was to achieve the definitions, information requirement, principles of risk assessment and methodology of the Protocol, which could be one of the most important negotiations in order to effectively implement the Protocol. The negotiation was subjected to concentrated technical discussion under the observer of Contact Group 1 who represented both sides of the GMOs debate.[516] Thus, the atmosphere of the negotiations was sometimes very different from the regular negotiations because its membership consisted mainly of scientists who would put aside non-scientific considerations.[517]

The final Protocol's rule in determining the acceptability of risks ended up less clear. An adequate level of protection is also noted in *Annex III,* its *paragraph 4* indicates that scientific uncertainty should not necessarily be interpreted as indicating an acceptable level of risk, which is strongly reflected in the precautionary approach. A strong argument could be made to support a state's right to set a high level of protection unencumbered by the standards of other states or international organizations, or by trade considerations. On the other hand, if risk assessment is a characterization of information, which is used for decision-making procedures, "scientific uncertainty" should be fully categorized.

[514] The Cartagena on Biosafety Protocol *Article 1*.
[515] The Cartagena on Biosafety Protocol *Annex III.6.*
[516] The BSWG-5 Report, UNEP/CBD/BSWG/5/1/Add.1, paragraph 9.
[517] Interview with the UNEP officer #6-1, October, 2003

Paragraphs 8(a)-(d) of *Annex III* recommends more systematic discretion, which elaborates the steps that should, as appropriate, be taken to fulfil the objective of risk assessment.[518] The non-committal words of "as appropriate" at the beginning of *paragraph 8* may be interpreted as indicating an intention that this can be the goal of its risk assessment. This interpretation is to recognize the current embryonic stage of LMOs' risk assessment techniques, while acknowledging the potential of future advancement in this area of science. However, *paragraph 8 (e)* clearly requires only a "recommendation" from risk assessors on the acceptability of risks:

> A recommendation as to whether or not the risks are acceptable or manageable, including, where necessary, identification of strategies to manage these risks.

The other important issue relating to the risk assessment discussion was the precautionary approach, which was the whole idea of the Protocol for the management of LMOs. In the case of pesticides, chemicals, alien species introductions or LMOs, the decision-maker would never have complete information available with which to give complete proofs. However, these should be taken into account when assessing the outcome of a LMOs release, and also they are important to be considered in risk assessment. The precautionary approach is defined in *Principle 15* of the Rio Declaration on Environment and Development adopted by Member States at the United Nations Conference on Environment and Development in 1992:

> 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 and irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

This provision is directed at governmental measures and suggests that cost-effective action should not be postponed while awaiting more scientific information. The Biosafety Protocol reflects the concept of precaution in a number of its provisions. First, they are in its *Preamble*:

> Reaffirming the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development.

It refers to the precautionary approach contained in *Principle 15* of the Rio Declaration. *Article 1* and *Annex III (4)* also reflect the precautionary approach in relation to risk assessment. However, during negotiations of the Protocol, some reference to the precautionary rule was widely accepted but it was difficult to clarify how the precautionary measure should be reflected in the Protocol:

- Whether references to precaution should be characterized as the precautionary principle used by the WTO or the precautionary approach conceptualized under the United Nation
- Whether there should be any reference to precautionary measures in the operative part of the Protocol or merely in the Preamble and Objective of the Protocol.[519]

[518] The Cartagena on Biosafety Protocol *Annex III.8.*
[519] International Institute for Sustainable Development, Earth Negotiations Bulletin, Vol.9, No.117, 1999.

The precautionary principle was not deliberately addressed at the highest level until the ExCOP because the negotiation procedure was too early, being on one of the most complex and controversial issues.[520] The precaution was in essence taken from a proposal by the African Group. *Article 8.6* in the Chairman's text as proposed in Cartagena was the basis for final discussion:

> The Party shall cooperate with a view to deciding, as soon as possible, to what extent in relation to the procedures, and in which cases, to be specified in an annex, a transboundary movement cannot proceed without an explicit consent.[521]

However, it was deleted and the Compromise Group suggested that the issue of the precautionary approach in decision procedures should be considered in the thematic cluster of trade-related issues.[522] Finally, they reached the final compromise language that is in *Article 10.6*:

> Lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity in the Party of import, taking also into account risks to human health, shall not prevent that Party from taking a decision, as appropriate, with regard to the import of the living modified organism in question as referred to in paragraph 3 above, in order to avoid or minimize such potential adverse effects;

and also in *Article 11.8:*

> Lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity in the Party of import, taking also into account risks to human health, shall not prevent that Party from taking a decision, as appropriate, with regard to the import of that living modified organism intended for direct use as food or feed, or for processing, in order to avoid or minimize such potential adverse effects.

The general principle language acknowledged the precautionary approach as a guiding principle of the assessment, the uncertainty concerning the level of risk when there is lack of scientific knowledge or consensus, and risk associated with transboundary movements of LMOs or products thereof.[523] Thus, uncertainty arises in the Protocol by applying the precautionary approach in making a decision, either to refuse a transboundary movement or to apply restrictions in use until more information is available about specific concerns or uncertainties.[524] Risk assessment plays a key role in characterizing the potential adverse effects of LMOs, while precaution could be described as an attitude in decision-making, which reflects a particular

[520] The EXCOP-1 Report, UNEP/CBD/ExCOP/1/INF/3, p.5.
[521] The EXCOP-1 Report, UNEP/CBD/ExCOP/1/L2/REV1, p.31.
[522] Johanson, David S. & Stewart, Terence P., "A nexus of trade and environment: The relationship between the Cartagena Protocol on Biosafety and the SPS Agreement of the World Trade Organization," *Colorado Journal of International Law and Policy*, Winter 2003.
[523] The BSWG-5 Report,UNEP/CBD/BSWG/5/3/ Annex.
[524] Hill, Ryan, et al, "Risk assessment and precaution in the Biosafety Protocol," *RECIEL*, 13. 3 2004, pp. 263-269.

preference to risk in the face of uncertainty.[525] Therefore, it is possible for a Party to deal with potential adverse effects of LMOs despite insufficient information or scientific uncertainties.

Since the danger of the LMOs has not yet been proved with absolute evidence, it is difficult to draw conclusions about potential conflicts with the trade regime. However, according to the nature of the Biosafety Protocol, it is obvious that risk assessment based on precaution is much stronger and detailed than in the trade regime. Thus, some countries' regulations are closer to the strong precaution of risk assessment by the Biosafety Protocol; on the other hand, some countries' regulations reflect weak precaution of risk assessment by the trade regime. These different preferences may cause conflicts between the Biosafety Protocol and the WTO rules. Risk assessment of the Biosafety Protocol is also followed up not only by scientific evidence but also by social factors as in risk management, which has not been interpreted by WTO Agreements.

Socio-economic considerations

Scientific research indicating the cause and effect of particular LMOs seems to take a lot more time to reach an acceptable result than other scientific research. Thus, the social conditions prevailing in a country have become important when the government makes decisions about importing LMOs. Thus, regard for socio-economic considerations was noticed from the beginning of the Biosafety negotiations. However, there have been different arguments between developed and developing countries caused by these social gaps. These arguments are also motivated by their diverse trade concerns and interests.

Most developed countries were against the inclusion of an article on socio-economic considerations in the binding part of the Protocol, such as labeling requirements, risk management and AIA because they are concerned that unnecessary impediments on this issue would adversely affect their biotechnology industries.[526] On the other hand, developing countries, especially the African Group, which are potential importers of LMOs or products based on LMOs, had a fundamentally different perception from developed countries because the majority of their rural communities depend on traditional crop varieties.[527] Initially the African Group proposed an extensive list of socio-economic consideration to be included in a risk assessment:

(a) Anticipated changes in the existing social and economic patterns resulting from the introduction of the living modified organism or product thereof;

(b) Possible threats to biological diversity, traditional crops or other products and, in particular, farmers' varieties and sustainable agriculture;

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[525] Hill, Ryan & Sendashonga, Cyrie, "General principles for risk assessment of Living Modified Organisms: Lessons from chemical risk assessment," *Environmental Biosafety Research*, Vol.2.2, 2003.
[526] The BSWG-2 Report, UNEP/CBD/BSWG/2/2.
[527] Li, Lin Lim, "The core issues in the Biosafety Protocol: An analysis," Third World Resurgence, 10 Articles on the Biosafety Protocol, No. 114/115, 2000, pp. 13-28.

(c) Impacts likely to be posed by the possibility of substituting traditional crops, products and indigenous technologies through modern biotechnology outside of their agro-climatic zones;

(d) Anticipated social and economic costs due to loss of genetic diversity, employment, market opportunities and, in general, means of livelihood of the communities likely to be affected by the introduction of the living modified organisms or products thereof;

(e) Possible countries and/or communities to be affected in terms of disruptions to their social and economic welfare;

(f) Possible effects which are contrary to the social, cultural, ethical and religious values of communities arising from the use or release of the living modified organism or the product thereof.[528]

The developing countries feared that ethical, moral and cultural dimensions relating to the alteration, manipulation, patenting and ownership of life would be formed by advanced biotechnology industries in developed countries. Traditional farmers cannot survive if the aggressive marketing of multinational corporations introduce transgenic crops in a package program including the use of pesticides, insecticides and fertilizers, which significantly increase production costs.[529] More importantly, the developing countries were concerned with possible ecological hazards, which could have a direct adverse socio-economic impact on rural populations when these crops are released into the alien environment.[530]

At the negotiation of ExCOP, socio-economic considerations and the precautionary approach were accepted, although developing countries were not totally happy about the amendments because the reference to risks in human health and socio-economic considerations in *Annex III: Risk assessment* were deleted;[531] *Article 26. 1*:

> The Parties, in reaching a decision on import under this Protocol or under its domestic measures implementing the Protocol, may take into account, consistent with their international obligations, socio-economic considerations arising from the impact of living modified organisms on the conservation and sustainable use of biological diversity, especially with regard to the value of biological diversity to indigenous and local communities.

However, developed countries were deeply concerned that developing countries could use socio-economic consideration as potential trade barriers for restricting imports; these concerns were allayed by the inclusion in *Article 26. 2*:

> The Parties are encouraged to cooperate on research and information exchange on any socio-economic impacts of living modified organisms, especially on indigenous and local communities.

[528] The BSWG-2 Report, UNEP/CBD/BSWG/2/2, pp. 84-85.
[529] TWN Joint Press Conference, "Third World Resurgence, 10 Articles on the Biosafety Protocol," No. 114/115, 2000, pp. 50-53.
[530] Töpfer, Klaus, "Biosafety, Biotechnology and the Environment," CBD News Special edition, Cartagena Protocol on Biosafety: From negotiation to implementation, pp.4-5.
[531] The EXCOP-1 Report, UNEP/CBD/ExCOP/1/L2/REV1, p.41.

Decision-making based not only on scientific information but also on value judgments and other considerations is the central principle of environmental regimes. Sufficient flexibility to allow differences is also a nature in the provisions of the Biosafety Protocol. However, this flexibility does not exist in WTO norms. To standardize non-economic decisions as a multilateral agreement among widely varied countries is a difficult task for future negotiations of the Biosafety Protocol.

The Advance Informed Agreement Procedure; Procedure for Living Modified Organisms intended for direct use as Food or Feed, or for Processing; and Handling, Transport, Packaging and Identification

Since developing countries have become the dumping ground for toxic wastes and dangerous chemicals that originate in the North, and inspired by other MEAs' efforts to deal with toxic trade issues, the advance information system is centred on the prior informed consent principle. The negotiation of the Biosafety Protocol is due to a hypothesized link between the potential risks of LMOs and the known hazards posed by chemical producers. The principle of "right to know" in advance has become important during the concepts of exporter notification and risk assessment in the Biosafety Protocol.[532]

Initially, developing countries preferred "safe transfer, handling and use of LMOs"; on the other hand, developed countries favoured "transboundary transfer of any LMO".[533] However, both preferences should involve transboundary movement of LMOs with some regulations, which States can make informed decisions on the import of LMOs.

At the final negotiation on the CBD, the central component of a possible protocol on LMOs was already identified as an advanced informed agreement, which is in *Article 19.3* of the CBD:

> The Parties shall consider the need for and modalities of a protocol setting out appropriate procedures, including, in particular, advance informed agreement, in the field of the safe transfer, handling and use of any living modified organism resulting from biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity.

The Biosafety Protocol established further the Advanced Informed Agreement (AIA), which aims to ensure that the Party of import is informed the potential risks of LMOs, before the Party takes decisions on the import of LMOs.

However, the AIA negotiation was difficult to conclude as a single issue in isolation because it would have connected different Articles, such as exporter-driven versus importer-driven with the exporter's clear obligation to ensure notification of accurate information; an implicit or explicit consent; the application of the precautionary approach; and fixed timeframes. The main argument was that developing countries preferred the AIA to embrace all handling and

[532] Egziabher, Tewolde Berhan Gebre, "Balancing biosafety, trade and economic development interests in the implementation of the Cartagena Protocol: A developing country perspective," CBD News Special edition, The Cartagena Protocol on Biosafety: From negotiation to implementation, pp.33-34.
[533] The BSWG-2 Report, UNEP/CBD/BSWG/2/6, paragraph 23-72.

uses of LMOs including research, contained use, transit and transfer, and potentially even cover all products derived from LMOs.[534] This is because many developing countries have lacked appropriate national biosafety frameworks; hence they have considered that the Protocol's AIA procedure would be the model for their national procedures to decide on consents for all uses of LMO. On the other hand, many developed countries viewed that the AIA should be as a separate procedure to be added to their existing national instruments.[535] This position also reflected exporter-driven approach, which was favoured by the Like-Minded Group and importer-driven approach proposed by Canada. The former is the position that the Party of export is itself used as the competent authority; and the latter is the position that importers of LMOs in the Party of import notify its own national authorities.[536]

One of the important technical issues related to the AIA negotiation was that of implicit or explicit consent. Implicit consent, preferred by the Miami Group, would signify that a lack of response at the end of the timeframe implies consent for import.[537] On the other hand, explicit consent for the AIA, supported by the majority of groups, was that only an explicit answer should indicate consent to import including the case of a delay in answering.[538] Countries that have defended implicit consent preferred that importers require no obligation on exporting Parties; while those supporting explicit consent sought obligations on exporters that would be prior to transboundary movement.[539] The objective of the proposal for explicit consent was clearly that the transboundary movement of an LMO coming within the scope of the AIA could not proceed from the Party of export unless the importing country had given consent to the import of that LMO.[540] The explicit issue for the AIA was taken into account by the final text of *Article 9.4, 10.5* and *11.7,* which states that a transboundary movement cannot proceed without explicit consent.

The text of *Article 7: Application of the Advance Informed Agreement Procedure* was finalised in parallel with *Article 11: Procedure for Living Modified Organisms Intended for Direct Use as Food or Feed, Or For Processing*. According to the final text of the Protocol, the AIA does not apply to LMOs that are "not likely to have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health".[541] However, language of "not likely" in *Article 7* is not clearly stated; hence the Party of import possibly rejects LMO shipments by forcing the precautionary approach. On the other hand, the Party of export could also use this clause to refuse the AIA requirement if the Party of export claims that its LMOs are "not likely to have adverse effects".

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[534] The BSWG-3 Report, UNEP/CBD/BSWG/3/6/, paragraph 85.
[535] International Institute for Sustainable Development, Earth Negotiations Bulletin, The BSWG-4 Report, February 1998, Available online [http://www.iisd.ca/biodiv/bswg4.html]
[536] The BSWG-6 Report, UNEP/CBD/BSWG/6/L.2.
[537] The BSWG-3 Report, UNEP/CBD/BSWG/3/6/, p.51.
[538] Ibid.
[539] The BSWG-4 Report, UNEP/CBD/BSWG/4/Inf.1, pp.2-11.
[540] Mackenzie, Ruth et al., "An explanatory guide to the Cartagena Protocol on Biosafety," IUCN Environmental Policy and Law Paper, No. 46, pp. 15-18.
[541] The Cartagena on Biosafety Protocol *Article 7.4.*

North-South divided issues remained in the application of the AIA procedure to LMOs intended for direct use as Food or Feed, or for Processing (FFPs), which was a core focus of discussion in the ExCOPs. Most countries in the Miami Group, the major agricultural exporters,[542] did not prefer the separation of LMOs from conventionally produced varieties of grain in the handling of agricultural commodities throughout the production chain.[543] On the other hand, the Like-Minded Group supported the inclusion of commodities in the scope of the AIA by referring to their domestic situation, in which grains imported for food were often used as seeds by farmers, but allowing Parties of import not to apply AIA to LMO-FFPs.[544]

The revised Chair's text stated that "the AIA procedure shall apply prior to the first international transboundary movement of LMOs for international introduction into the environment of the Party of import";[545] hence the possibility for Parties to require procedures consistent with the AIA for other LMOs remained. The development of an annex on information requirements for LMO-FFPs resulted from the agreement to develop an alternative procedure for LMO-FFPs, given their exclusion from the AIA procedure. However, it has not been clarified that the Party to the Protocol simply has the right to ban the import of a product. LMO-FFPs are especially less likely to create adverse effects on the environment and human health than any other LMOs due to their use directly as food and feed; hence the LMO-FFPs' advance information procedure though the Biosafety Clearing-House[546] may be limited. In this context, the question arises as to whether other international agreements could restrict this right more efficiently. This issue also became important because the economic value of the movements under *Article 7.4*, particularly the scope of these LMO-FFPs could be much higher than that for other LMOs covered by the AIA producer. Thus, the future COP-MOPs may be expected to identify all LMOs, which would be neither subject to the condition in accordance with *Article 7.4*, nor subject to AIA. In fact, how the AIA procedure should apply to LMO-FFPs was left to decide at the first meeting of the Conference of the Parties to the Protocol (COP-MOP 1).[547]

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[542] These countries have already been using genetically modified seeds in agricultural production for several major crops, such as oilseed rape, maize and soy. According to FAO, more than 50 different transgenic crops had been approved for cultivation, and 7 were grown commercially in 12 countries by 1999. The Food and Agriculture Organization, Available inline [http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/006/Y5160E/y5160e08.htm] viewed 20 December 2005.

[543] Ballhorn, Richard Douglas, "Balancing biosafety, trade and economic development interests in the implementation of the Cartagena Protocol: A developed country perspective," CBD News Special edition, The Cartagena Protocol on Biosafety: From negotiation to implementation, pp.35-37.

[544] The EXCOP-1 Report, UNEP/CBD/ExCOP/1/3/ Annex IV.

[545] The BSWG-6 Report, UNEP/CBD/BSWG/6/L.2/Rev.1.

[546] All Parties to the Protocol are responsible to contribute to an Internet-Based Biosafety Clearing House. Countries are required to publish all decisions regarding whether or not they are willing to accept imports of specific LMOs. The common internet site is also function to facilitate the exchange of scientific, technical, environmental, and legal information. The Cartagena on Biosafety Protocol, Clearing-House Mechanism, Available online [http://www.biodiv.org/chm/default.aspx] viewed 20 December 2005.

[547] International Institute for Sustainable Development, Earth Negotiations Bulletin, January 2000, The ExCOP Report, Available online [http://www.iisd.ca/biodiv/excop/] viewed 20 December 2005. However, at the COP-MOP 1 February 2004 in Malaysia, the negotiation still could not complete to work out the detailed requirements or identifying shipments of LMOs for direct use as food, feed or for processing.

The issue of identification and documentation requirements for LMOs to transboundary movement is the heart of the functioning of the Protocol; but its negotiation of handling, transport, packaging and identification of LMO-FFPs was the last issue to be resolved in the negotiations in the early morning of the final day. Some resolutions of the LMO-FFPs issues were postponed after the adoption of the Protocol. The negotiation of *Article 18.2 (a)* even divided positions within the Miami Group because if, for international introduction into the environment, LMOs are subject to the AIA procedure, they would require full documentation.[548] The difficulty was having three different requirements for LMOs, which depends on their intended use: contained use, international introduction into the environment, or direct use as FFPs. In practice, distinguishing between the three intentions is an extremely complex issue for importers and for exporters. For example, grain can be interchanged between as a seed, food or feed, or for processing. However, the trade in agricultural commodities is a complex system, which involves major industrial sectors and millions of farmers and consumers.[549]

Disagreement remained about the specific element and language for identification of LMO-FFPs. In final level consultations, a compromise was reached as the documentation accompanying LMO-FFPs that "identifies that they "may contain" living modified organisms and are not intended for intentional introduction into the environment".[550] Reflecting the dissatisfaction of many delegations, the second sentence of *Article 18.2 (a)* provides that the future COP-MOPs will take a decision on detailed requirements within two years of the entry into force:

> Living modified organisms that are intended for direct use as food or feed, or for processing, clearly identifies that they "may contain" living modified organisms and are not intended for intentional introduction into the environment, as well as a contact point for further information. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall take a decision on the detailed requirements for this purpose, including specification of their identity and any unique identification, no later than two years after the date of entry into force of this Protocol.

However, two major considerations remained: how should the "may contain" requirement be implemented pending the adoption of the decision on more detailed requirements; and what process should be adopted for the elaboration of the more detailed requirements.[551] In addition, in the case of risk assessment for LMO-FFPs, it is only required that the Party of export forwards a risk assessment, which is consistent with *Annex III*, but it is not necessarily in accordance with *Article 15*. Thus, this contrast may give Parties of export more technical discretion in preparing risk assessment than non-LMO-FFPs.

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[548] International Institute for Sustainable Development, Earth Negotiations Bulletin, January 2000, Available online [http://www.iisd.ca/biodiv/excop/] viewed 20 December 2005

[549] Saigo, Holly, "Agricultural biotechnology and the negotiation of the biosafety protocol," *Georgetown International Environmental Law Review*, Vol. 12: 3, 2000, pp. 779-817

[550] The Cartagena on Biosafety Protocol *Article 18.2 (a).*

[551] MacKenzie, Ruth, "The Cartagena Protocol after the First Meeting of the Parties," *RECIEL*, Vol.13: 3, 2004, pp. 270-278.

The negotiation to regulate LMOs for processing is a controversial issue because it will stretch the Biosafety Protocol not only on LMOs but also process products, which contains LMOs. Labeling regulations on LMOs for these products would increase an overlapping area between Agreements of the WTO and the Biosafety Protocol, and make the relationship between them more problematic.

Moreover, labeling LMO-FFPs seem to involve commercial motives rather than environmental protection. Thailand has brought to the SPS Committee's attention Egypt's restrictions on its canned tuna, which concerned that the tuna was canned in GM-soy oil. In September 2000, Thailand requested official consultations with Egypt. However, the two countries have settled this matter outside of the WTO because the SPS Committee has not discussed GMOs in any detail yet.[552] Since GMOs and non-GMOs have not been clearly classified in the trade regime, LMO-FFPs notification and labeling systems potentially conflict with the WTO's principle of non-discrimination.

Table 3. Provisions of the Cartagena Protocol on Biosafety related to transboundary movements (TBM) of living modified organisms (LMOs)

Article	Content
5	Exemption from the Protocol of TBM of certain pharmaceuticals for human use
6	Exemption from AIA procedure of transit TBM and of TBM of LMOs destined for contained use
7	Application of the AIA procedure
8	Notification
9	Acknowledgement of receipt
10	Decision procedure
11(4)–(9)	Procedure for LMOs intended for use as food/feed for processing
12	Review of decisions
13	Simplified procedure
14	Bilateral/regional/multilateral agreements/arrangements on TBM
15(2),(3)	Risk assessment for TBM
17	Unintentional TBM
18(1),(2)	Handling, transport, packaging and identification
21(1),(2),(4)–(6)	Confidential information
24 (1)	TBM with non-Parties
25	Illegal TBM

Source: Mackenzie, Ruth, et al, "An explanatory guide to the Cartagena Protocol on Biosafety," IUCN Environmental Policy and Law Paper, No.46, Gland, Switzerland, 2003.

[552] The WTO, SPS Agreement Training Module: Chapter 8, Available online [http://www.wto.org/english/tratop_e/sps_e/sps_agreement_cbt_e/c8s1p1_e.htm] viewed 20 December 2005.

Conclusion

Since Articles of the Biosafety Protocol are not finalized, it may be too early to say that they conflict with the WTO Agreements. However, different motives between trade and environmental regimes can be noticed. These are reflected by the position of the Biosafety Protocol's importer-driven approach and the trade regime's exporter-driven approach. There have also emerged divided positions: exporter-driven favoured by most developing countries, and importer-driven preferred by GMOs producer countries. Moreover, if the two overlapping Agreements exist in parallel to justify exporting LMOs, it may cause a confusing situation. For example, a Member of the WTO, which is also a Party of the Biosafety Protocol, could reject LMO shipments by using the precautionary approach; however, a WTO Member of exporting country, which is not a Party of the Protocol, would claim this rejection based on the different guidelines. Thus, countries might not inform or be informed about non-discriminatory decisions and provide or be provided with adequate protections for their environment and public health. Moreover, labeling regulations on LMOs for processing is likely to make this situation more complicated and increase an overlapping area within the WTO coverage, which may create more influence from the WTO.

6-4. The relationship with other international agreements

Due to the nature of scientific uncertainty and the economic drive of GMOs, one of the most divided issues during negotiations was the relationship with other international agreements especially the WTO. This section analyzes and clarifies the relationship of the Biosafety Protocol and other international agreements within the Biosafety Articles.

There were three general positions on the relationship with other international agreements. First, some countries firmly held that the Protocol should clearly state that it did not alter a Party's existing international rights and obligations.[553] The second position was that the Protocol should remain silent on this issue and could rely on *Article 30* of the Vienna Convention on the Law of Treaties.[554] The remaining countries supported what might be characterized as a middle position, namely the "saving clause", as in the language of *Article 22. 1* of the CBD, which intends to address the problem of conflict between the Convention and pre-existing agreements[555]:

> The provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity.

The US, a main supporter of the first position, was concerned that the Protocol may intentionally or unintentionally modify other agreements. The US also feared that Parties of the Protocol

[553] The BSWG-5 Report, UNEP/BSWG/5/2, pp.110-111.
[554] Ibid.
[555] Wang, Xueman (Programme Officer for Legal and Policy Affairs, Cartagena Protocol on Biosafety), et al., "International biodiversity and the World Trade Organization: Relationship and potential for mutual supportiveness," *Environmental Policy and Law*, Vol. 33:3-4 2003, pp. 117-132.

would use the saving clause to protect their interests in a manner inconsistent with their obligations under other agreements.[556] The Protocol especially contains *Article 27: Liability and Redress*, which states that the Protocol became strengthened as a legal binding agreement within four years from the first COP-MOP.

The EU supported the second position, which was concerned about the gap between the Protocol and the WTO's trade provisions over GMOs because some Parties might discriminate against LMO imports in order to protect their domestic industries from the competition.[557] Most importantly, the EU wished neither the Protocol nor the WTO to be isolated from international customary law.[558] Thus, the EU sought to avoid confusing and compromise language in the Protocol like *Article 22. 2* of the CBD,[559] and it sought to make permanent the final version of the drafts of *Article 22: Non-discrimination*:

> 1. The Parties shall ensure that measures taken to implement this Protocol, including risk assessment, do not discriminate unjustifiably between or among imported and domestically produced living modified organisms
> 2. The Parties shall also ensure that measures taken to implement this Protocol do not create unnecessary obstacles to international trade[560]

and *Article 31:Relationship with other international agreements*:

> The provisions of this Protocol shall not affect the rights and obligations of any Party to the Protocol deriving from any existing international agreement to which it is also a Party, except where the exercise of those rights and obligations would cause serious damage or threat to biological diversity[561]

Many developing countries also supported the EU position, but for different reasons. Their less developed domestic biotech industries could use a trade protection period to catch up with industry leaders or their non-biotech industries could escape the competition caused by advanced biotech countries.[562] However, based on the President's non-official paper, the Contact Group proposed *Article 31* and *22* to be deleted[563]:

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[556] Downes, David, R., "Integrating Implementation of the Convention on Biological Diversity and the Rules of the World Trade Organization," IUCN, Gland, Switzerland, 1999, pp. 27-29.
[557] Afonso, Margarida, "The relationship with other international agreements: an EU perspective," in Bail, Christoph, et al. (eds), op cit., pp.423-437.
[558] Burgiel, Stas & Cosbey, Aaron, "The Cartagena Protocol on Biosafety: An analysis of results," An IISD Briefing Note, 2000.
[559] The CBD, *Article 22. 2:* Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea.
[560] The EXCOP-1 Report, UNEP/CBD/ExCOP/1/2.
[561] Ibid.
[562] Zarrilli, Simonetta, "United Nations Conference on Trade and Development: International trade in genetically modified organisms and multilateral negotiations-A new dilemma for developing countries," *International Bar Association*, Issue 3, 2001, pp. 330-369.
[563] The EXCOP-1Report, UNEP/CBD/ExCOP/1/INF/3, p.4.

> Article 31 – To delete the entire article in the current text and reflect its contents in the Preamble[ ] as follows: Add in the Preamble: *Recognizing* that there are other international agreements relevant to sustainable development with rights and obligations; *Recognizing* further that trade and environment agreements and policies should be mutually supportive; E*mphasizing* that this protocol and other international agreements are of equal status. [ ] Consequential changes: Delete Article 22 (Non-Discrimination) of the current text in view of the new preamblar paragraphs [ ]. [564]

The Groups sought to reach an agreement on these preambular paragraphs, and following further discussions, the final text of the Protocol was submitted by the Legal Drafting Group to the plenary and was adopted.[565] Although the *preamble* to the Biosafety Protocol still states a broad "saving clause", it became more ambiguous as to what the legal effect of these paragraphs of the *preamble* might be in the case of a conflict with the trade regime:

> Recognizing that trade and environment agreements should be mutually supportive with a view to achieving sustainable development,
> Emphasizing that this Protocol shall not be interpreted as implying a change in the rights and obligations of a Party under any existing international agreements,
> Understanding that the above recital is not intended to subordinate this Protocol to other international agreements.

Regarding to the relationship with other international agreements, *Article 32: Relationship with the CBD* states that:

> Except as otherwise provided in this Protocol, the provisions of the Convention relating to its protocols shall apply to this Protocol.

And the *Preamble* of the Biosafety Protocol states that:

> Recalling Article 19, paragraphs 3 and 4, and Articles 8 (g) and 17 of the Convention.

There may be fundamental question about the obligations of countries, which are a Party to the CBD but are a non-Party to the Protocol, namely the US. For example, *Article 8 (g): In-situ Conservation* of the CBD requires Parties to take domestic measures to regulate and manage risks associated with LMOs. In particular, the proposal that under domestic law, Parties could require procedures consistent with the AIA procedure for other LMOs, which was deleted from *Article 7: AIA procedure* of Protocol during the negotiation.[566] Thus, there is still the undefined gap with its "parent" Convention.

> In addition, the Biosafety Protocol states that:
> The United Nations, its specialized agencies and the International Atomic Energy Agency officially have an observer status to the Protocol; any body or agency, whether national or international, and governmental or non-governmental, which is qualified in matters covered by this Protocol can also be eligible as an observer….[567]

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[564] Ibid.
[565] The EXCOP-1Report, UNEP/CBD/ExCOP/1/3/, p.30.
[566] The CBD, *The Cartagena Protocol on Biosafety: A record of the negotiations*, pp.29-31.
[567] The Cartagena on Biosafety Protocol *Article 29.8.*

However, the Protocol does not mention any international organizations as a recognizable international standard in its Articles.

Relating the negotiation of relationships with other international agreements, the Party-non-Party issue was discussed from the early stages of negotiation. Many biodiversity-rich developing countries wished to ratify the Protocol; on the other hand, the major GMO exporting states such as the US were likely to remain non-Parties. Many developing countries expressed support for a provision prohibiting transboundary movement between Parties and non-Parties, especially the African Group, which proposed that to use bilateral or multilateral agreements would develop the capacity to implement obligations under the protocol; or it could facilitate transboundary movements between the Parties to those agreements.[568] On the other hand, many developed countries opposed a provision prohibiting trade with non-Parties, which would be vulnerable to challenge under the WTO.[569] Japan was concerned that Parties could go into bilateral, multilateral or regional trade agreements with other Parties or non-Parties as regards agreements with the transboundary transfer of LMOs. These agreements may fall under the scope of the Protocol when such agreements did not conform to the necessary risk management required by the CBD.[570]

Finally, an alternative approach supported by the EU would require trade with non-Parties to take place in conformity with the standards set by the Protocol, which reflected the final draft of *Article 24.1: Non-parties.*[571] Also, the proposal of the African Group was reflected in *Article 22. 1: Capacity Building*; and Japan's concerns were taken into account in *Article 14.1: Bilateral, Regional and Multilateral Agreements and Arrangements*. However, the question of the appropriate level of involvement of non-Parties remains. Non-Parties may be faced with the "lose-lose" choice of joining the Protocol: to ratify with some unsatisfied aspect of the Protocol but to have a direct influence; or to remain outside until the Protocol is completely finalized with an indirect influence. Until the Biosafety Protocol finalizes all agreements and clarifies the relationship with trade agreements, some Parties think that it is better just to grant the WTO membership.

Conclusion

Environmental issues are transboundary, hence the creation of new MEA negotiations have had to deal with national sovereignty to make a common ground. The negotiations of the Biosafety Protocol faced the dilemma of creating early conditions that make strong rules possible; otherwise states would wait until there is enough concern or scientific understanding of a new environmental issue: transboundary movement of LMOs. However, as a result of increasing interconnectedness in trade and the environment, there have been divergent views among negotiation groups motivated by trade perspectives during environmental negotiations. Although

[568] The BSWG-5 Report, UNEP/CBD/BSWG/5/3, Annex.
[569] Ibid.
[570] The BSWG-2 Report, UNEP/CBD/BSWG/2/2, paragraph 67.
[571] The EXCOP-1Report, UNEP/CBD/ExCOP/1/3/, Annex II.

some negotiation issues of the Biosafety Protocol have been left for further COP-MOPs, norms of the Protocol was reflected in the final draft. In return, the negotiation Parties had to compromise other important issues, which resulted in uncertainties about the relationship with the trade regime, namely the WTO.

6-5. Conclusion

Chapter 6 demonstrated that MEAs' trade measures have been negotiated by different motivation and purposes from the WTO's environment-related regulations. Once the Biosafety Protocol has been ratified, all Parties should follow appropriate procedures decided by Parties of LMO importers. However, most issues overlap with the WTO Agreements: notification and identification, which are at the heart of the Protocol, are left for future negotiations. Without standardized criteria regarding risk assessment and advanced notification, all uses of LMOs and the functioning of the Biosafety Protocol will not be appropriate.

This chapter also illustrated how MEAs' different norms may affect interaction between overlapping trade and environmental agreements. It particularly showed how the trade regime's norms have influenced negotiations of new MEAs such as trade measures, involved risk assessment and the precautionary rule, and articles about the relationship with international agreements. Moreover, the relationship between trade and environmental regimes has become highly jurisdictional. The theoretical framework supports a judicial view to analyze the relationship between trade and environmental regimes. To diminish influence of the WTO on MEAs' negotiations, one of ideas is that the Biosafety Protocol builds on the required multidisciplinary scientific and technical capacities for the assessment and management of the LMOs' risk. Thus, the trade regime's influence on further negotiations of the Biosafety may be less. The next chapter focuses on the WTO s' environment-related Agreements and analyzes how they likely deal with domestic GMO import regulations. And chapter 8 examines the Biosafety Protocols' latest developments of its procedural Articles. These analyses give more ideas about the problematic relationship between the WTO and the Biosafety Protocol.

Chapter 7

Agreements of the World Trade Organization and sanitary and phytosanitary issues

7-1. Introduction

There have been allegations of judicial conflicts in the overlap area between multilateral trade and environmental agreements. Chapter 7 focuses on three World Trade Organization's environment-related Agreements (the Agreement on Technical Barriers to Trade (TBT), the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) and the General Agreement on Tariffs and Trade (GATT) 1994) to illustrate the trade regime's legal norms toward sanitary and phytosanitary issues.

The WTO perceives trade restrictions in one of three ways: an import restriction, an export restriction, or a means of economic discrimination. The WTO maintains three core objectives:

- GATT *Article I:* The most favoured nation principle;
- GATT *Article III:* The national treatment principle; and
- GATT *Article XI:* Prohibition on quantitative restrictions on imports and exports

On the other hand, environmental regimes facilitate trade measures for different purposes:

- to control trade which causes environmental harm;
- to protect states from substances harmful to the domestic environment; and
- to support agreements to protect the global commons.

Some environmental law specialists have considered that these trade measures are inconsistent with the WTO's trade rules.[572] According to environment-related dispute cases in the WTO, which have been discussed in chapter 4,[573] the WTO does not seem to share the same norm with multilateral environmental agreements (MEAs) to protect the environment by trade measures. Thus, trade and environmental regimes' different legal norms may cause conflicts of laws between agreements of the WTO and MEAs.

[572] See chapter 1 such as Charnovitz, Esty and Thomas.

[573] For example, *United States — Standards for Reformulated and Conventional Gasoline*, *Thailand — Restrictions on the Importation of and Internal Taxes on Cigarettes* and *United States — Prohibition of Imports of Tuna and Tuna Products from Canada.* The WTO did not find these measures to be justified under environmental exception in the GATT.

Chapter 6 analyzed how negotiations of the Cartagena Protocol on Biosafety's Articles have been influenced by the trade regime, namely the WTO. The theoretical framework supports that trade and environmental regimes' different jurisdictions affect clarification of the relationship of overlapping Agreements between them. Chapter 7 concentrates the WTO's sanitary and phytosanitary rules to analyze how norms of the WTO jurisdiction will be likely to affect domestic genetically modified organism (GMO) import regulations. The aim of chapter 7 is to investigate the judicial relationship between the WTO and domestic GMO import regulations, which provides the background of chapter 8's analyses of consistency between the WTO case law and the Biosafety Protocol.

Firstly, **7-2** introduces relevant WTO rules toward sanitary and phytosanitary issues: the Agreement on Technical Barriers to Trade (TBT), the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) and the General Agreement on Tariffs and Trade (GATT) 1994. Secondly, **7-3** closely studies relationships between these WTO Agreements to conceptualize the WTO legal norm. Lastly, **7-4** analyzes the judicial relationship between the WTO and domestic genetically modified organisms' (GMOs) import regulations. **7-4** also examines possible causes of the WTO and MEAs' jurisdictional conflicts.

7-2. The WTO Agreement on Technical Barriers to Trade, the Agreement on the Application of Sanitary and Phytosanitary Measures and the General Agreement on Tariffs and Trade 1994

Most of the WTO Agreements are the result of the Uruguay Round negotiations, signed at the Marrakesh Ministerial Meeting in 1994. The Marrakesh Agreement defined the general scope of the GATT activity, which made the WTO as a legal entity. One of the major stimuli of the Uruguay Round was the international harmonization of various practices and technical matters relating to trade and the environment. The Round proposed the global harmonization of standards through the TBT Agreement and the SPS Agreement.

There are about 60 agreements and decisions totalling 550 pages.[574] Thus, it is complex to identify which WTO provisions of the SPS or TBT or GATT Agreement are applicable to a specific set of facts and circumstances. This section introduces scopes and overviews of these three Agreements as well as key rights and obligations.

The General Agreement on Tariffs and Trade 1994

The GATT rules, *Articles I, III, XI* and *XX*, were created for the right balance between disciplining protectionist measures and allowing Member States to maintain regulatory autonomy.[575] The paradoxical relationship between free trade and protecting the environment is often difficult to reconcile. The non-discrimination principle encourages the free flow of trade

[574] The WTO Legal Texts.

[575] The WTO, The Preamble of the Uruguay Round Ministerial Declaration: "Determined to halt and reverse protectionism and to remove distortions on trade," Ministerial Declaration on the Uruguay Round, 20 September 1986, BISD 33S/19.

while potentially compromising a nation's high environmental standards. Since GATT came into effect in 1948, national regulations on animal and plant health, and food safety involved trade measures have been subject to international agreements. This section particularly focuses on GATT *Article XI: General Elimination of Quantitative Restrictions* and GATT *Article*: *General Exceptions XX*, which are seen to be inconsistent with some MEAs.

The threshold violation issue revolves around *GATT Article XI. Article XI* bans Members to impose quantitative restrictions on imports, such as quotas. The text of GATT *Article XI:1* reads:

> No prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licences or other measures, shall be instituted or maintained by any contracting party on the importation of any product of the territory of any other contracting party or on the exportation or sale for export of any product destined for the territory of any other contracting party.

On the other hand, the prohibition appears as the national treatment principle in GATT *Articles III*.[576] *Articles III: 2* requests non-discrimination by taxation and *Articles III: 4* applies non-discrimination by regulation, which enforce within territories of WTO Members:

> 2. The products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products. Moreover, no contracting party shall otherwise apply internal taxes or other internal charges to imported or domestic products in a manner contrary to the principles set forth in paragraph; and
> 4. The products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use. The provisions of this paragraph shall not prevent the application of differential internal transportation charges which are based exclusively on the economic operation of the means of transport and not on the nationality of the product.

The GATT does not specifically require the use of international standards. However, the least trade restrictive alternative requirement under *Article XX* may include an attempt to create an international standard before applying a unilateral measure. Provisions of the general exception of the GATT, *Article XX*, constitute conditional exceptions to GATT obligations, even those implied in *Articles I, III* and *XI*.[577] Although the word "environment" is not used, *Article XX* can be applied to justify environmentally inspired rules that collide with trade, which are also relevant to sanitary and phytosanitary issues.[578] The most significant measures of *Articles XX* for sanitary and phytosanitary issues are:

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[576] Schoenbaum, Thomas, J., " International trade and protection of the environment: The continuing search for reconciliation," *American Journal of International Law*, Vol. 91, 1997, pp.268-313.
[577] Appellate Body Report, *The US - Shrimp case*, WT/DS58/AB/R, paragraph 150.
[578] Lane, Katie A., " Protectionism or environmental activism? The WTO as a means of reconciling the conflict between global free trade and the environment," *The University of Miami Inter-American Law Review*, Vol. 32, Winter-Spring 2001, pp. 103-136.

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:
>
> (b) necessary to protect human, animal or plant life or health;
> (d) necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trade marks and copyrights, and the prevention of deceptive practices;
> (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.

An aspect of *Article XX(a) - necessary to protect public morals* - may also become important to protect sanitary and phytosanitary issues from the point of view of public morality.[579]

Article XX can permit WTO Members to take unilateral action, when their rights to determine the level of protection are prudent, in minority cases.[580] For example, the *EC-Asbestos* Panel recognized that Members could adopt health measures concerning a risk to public health.[581] However, the WTO case law does not often consider trade measures as necessary to achieve the aim of *Article XX* of protecting human animal or plant life.[582] The WTO jurisdiction focuses on the issue, which impacts on trade; hence environmental effectiveness is not a main concern for the WTO.[583] Thus, the burden of *Article XX* has been carried rarely, as the WTO case law does not easily create an environment-related standard, because of this strictness.

The Agreement on Technical Barriers to Trade

The TBT Agreement replaced a voluntary code negotiated in the Tokyo Round negotiations: the TBT Agreement's Code of Good Practice for the Preparation, Adoption and Application of Standards. The TBT Agreement seeks to harmonize internationally a wide range of technical regulations such as product standards, packaging provisions, marking or labeling requirements, and assessment procedures, which should help to increase transparency of import goods. It is recalled the TBT Committee's Decision of the Principles for the Development of International Standards, which includes useful guidance that "the development of standards, including environmental labeling standards, transparency, inclusiveness or openness, impartiality and consensus, effectiveness and relevance, coherence, and wherever possible responsiveness to the needs and interests of developing countries".[584]

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[579] Wolff, Christiane, "Biosafety, biotechnology and the WTO the SPS and TBT Agreements and GATT," Available online [www.standardsfacility.org/files/MappingConnections.pdf] viewed 20 December 2005

[580] Appellate Body Report, *Korea - Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, WT/DS169/AB/R, paragraph 178, 11 December 2000.

[581] Panel Report, *The EC- Asbestos case*, WT/DS135/R, paragraph. 8.221.

[582] Interview with the UNEP officer #7-1, October, 2003.

[583] Canadian Administration of the Foreign Investment Review Act. Note 34.

[584] The TBT document, G/TBT/9, Annex 4, November 2000.

The TBT Agreement specifies GATT principles of Most-Favoured-Nation and National Treatment with respect to technical regulations. *Article 2.1* requires:

> Members shall ensure that in respect of technical regulations, products imported from the territory of any Member shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country.

Paragraph D in the TBT Agreement, *Annex 3*: *The Code of Good Practice for the Preparation, Adoption and Application of Standards* also requires Most-Favoured-Nation and National Treatment:

> In respect of standards, the standardizing body shall accord treatment to products originating in the territory of any other Member of the WTO no less favourable than that accorded to like products of national origin and to like products originating in any other country.

The TBT Agreement also stipulates the GATT principle of non-discrimination that Members are prohibited from favouring their own domestic products; hence domestic producers must give imported products the same treatment as "like" products.[585] *Article 2.1* restates the non-discrimination set forward in GATT *Article I* and *III*, as long as imported products and domestic products are considered as "like" products in relation to non-protectionist policy goals.

According to the TBT Agreement, the difference between a standard and a technical regulation rests on compliance and enforcement. However, conformity with standards is voluntary; technical regulations are mandatory. If an imported product does not fulfil the requirements of a technical regulation, it is not to be traded. In the case of standards, non-complying imports are allowed but they may not be acceptable to consumers. *The TBT Article 2.2* acknowledges legitimate divergences and provides flexibility of national technical regulations, but these should not create unnecessary obstacles to trade:

> Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade. For this purpose, technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create. Such legitimate objectives are, *inter alia:* national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. In assessing such risks, relevant elements of consideration are, *inter alia:* available scientific and technical information, related processing technology or intended end-uses of products.

Annex 3: *The Code of Good Practice for the Preparation, Adoption and Application of Standards, paragraph E* also restates similar, but less detailed requirements for standards:

> The standardizing body shall ensure that standards are not prepared, adopted or applied with a view to, or with the effect of, creating unnecessary obstacles to international trade.

[585] Appellate Body Report, *Japan - Taxes on Alcoholic Beverages*, WT/DS8/AB/R, paragraph 23, 4 October 1996.

The TBT Agreement does not clearly regulate risk assessments or require scientific bases for measures not based on international standards. Conversely, proportionality or other international standards applicable under the TBT Agreement may require some explicitly scientific basis. However, unlike the SPS Agreement, the TBT Agreement does not recommend any applicable standards in its articles. Moreover, under the TBT Agreement, there is no requirement for any form of specific evidence and no provision for situations where scientific evidence would be insufficient or not available to justify the WTO norm. *Article 2.2* merely requires that measures "not be more trade-restrictive than necessary"; hence situations which requires precautionary action would be analyzed only on case-by-case bases.[586]

> On the other hand, *Article 2.9* states that:
> Whenever a relevant international standard does not exist or the technical content of a proposed technical regulation is not in accordance with the technical content of relevant international standards, and if the technical regulation may have a significant effect on trade of other Members, Members shall:
> without discrimination, allow reasonable time for other Members to make comments in writing, discuss these comments upon request, and take these written comments and the results of these discussions into account.

For example, if each country designs and adopts its own criteria of environmental management, and eco-labels are not developed in consultation and agreement with producing countries, trade friction should be expected to occur.

Article 2.11 and *2.12* support the action related to *Article 2.9*. They promote transparency by requiring all technical regulations to be published and Members to allow a reasonable interval between publications:

> 11. Members shall ensure that all technical regulations which have been adopted are published promptly or otherwise made available in such a manner as to enable interested parties in other Members to become acquainted with them; and
> 12. Except in those urgent circumstances referred to in paragraph 10, Members shall allow a reasonable interval between the publication of technical regulations and their entry into force in order to allow time for producers in exporting Members, and particularly in developing country Members, to adapt their products or methods of production to the requirements of the importing Member.

The 1996 text of the TBT Agreement further defined technical regulations and product characteristics and their related production methods, and its transparency requirements were emphasized to reduce the risk of trade disputes.[587] Although a labeling requirement is voluntary, there are increasing pressures from consumers to be provided with additional information to make choices according to their own self-interest. Developed countries were expected to provide technical and financial assistance to exporting Member countries, so that the developing countries could meet these standards. However, problems have arisen between standards, based

[586] Interview with the WTO officer #7-2, September, 2004.
[587] The WTO, WTO Analytical Index-Guide to WTO Law and Practice, 2004.

on product characteristics and standards based on process and production methods. But to clarify them within the WTO norms is difficult in practice as this issue would then infringe on sovereignty by exporting the values of the standards setter to exporting countries.[588] It may also cause overlaps between different standards, namely between the WTO and MEAs. For example, the TBT Agreement may cover some national technical regulations, which are also under the Montreal Protocol obligations that are to reduce production of chemicals that harm the ozone layer.

However, the TBT Agreement may cover matters such as quarantine measures and food standards, including pesticide residue levels.[589] Thus, the TBT Agreement may prevent action against environmentally damaging production processes because each of the Member States can set its own standards for protection of human, animal and plant life, and those differing standards are accepted to meet domestic requirements adequately.[590] According to the TBT *Article 2.4*, countries can only maintain standards above the harmonized international norm "when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems".[591] *Article 2.4* may help to preserve indigenous technology and to recognize indigenous production methods especially in developing countries.[592]

The TBT Agreement possibly allows countries to set a standard according to their developmental needs rather than their needs for environmental protection. According to the TBT Agreement *Article 2.7*, the needs for environment-related objectives may not be considered as important as the needs for other objectives such as protecting own citizens:

> Members shall give positive consideration to accepting as equivalent technical regulations of other Members, even if these regulations differ from their own, provided they are satisfied that these regulations adequately fulfil the objectives of their own regulations.

However, the TBT Committee emphasized the obligation under *Article 2.7*:

> ….[t]he possible use of this approach must not hinder the process of development of international standards, guides and recommendations.[593]

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[588] The International Centre for Trade and Sustainable Development, *Bridges*, No.1-3, January-April 2001.
[589] Interview with the WTO officer #7-3, September, 2004.
[590] The TBT Agreement, *Preambles.*
[591] In *the EC-Sardines case*, the Appellate Body found "no general rule-exception relationship between the first and second parts of *Article 2.4*". "This burden includes establishing that Codex Stan 94 has not been used "as a basis for" the EC Regulation, as well as establishing that Codex Stan 94 is effective and appropriate to fulfil the 'legitimate objectives' pursued by the European Communities through the EC Regulation" in Appellate Body Report, *The EC-Sardines case*,WT/DS231/AB/R, paragraph 275.
[592] However, the Appellate Body has not recognized those cases such as *the Japan - Tariff Quotas and Subsidies Affecting Leather case*, WT/DS147/1, 8 October 1998. Subsidies and Countervailing Measures concern the management of the three tariff quotas for leather, which would benefit the leather industry in indigenous 'Dowa' regions in Japan.
[593] TBT Triennial Review, G/TBT/9, paragraph 23.

The Agreement on the Application of Sanitary and Phytosanitary Measures

During the 1980s, most developed countries' governments tried to establish minimum standards that products, plants or animals should meet, applying equally to foreign and domestically produced goods, plants or animals. Until the Agreement on Application of Sanitary and Phytosanitary Measures (SPS) was created, a domestic health standard impeding an import was held only against GATT *Article III*: *National treatment*. These helped to motivate negotiators in the Uruguay Round to seek an agreement on sanitary and phytosanitary measures.[594]

The SPS Agreement includes all measures to protect sanitary (human and animal health) and phytosanitary (plant health) in accordance with *Article 2.1*:

> Members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such measures are not inconsistent with the provisions of this Agreement.

However, the SPS Agreement only pertains to health standards applied to trade in accordance with *Article 1.1*:

> This Agreement applies to all sanitary and phytosanitary measures, which may, directly or indirectly, affect international trade. Such measures shall be developed and applied in accordance with the provisions of this Agreement.

Annex A.1 of a Definition of the SPS Agreement refers to measures designed "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".[595] Theoretically, the measure aims at the protection of a beneficial insect from the negative effect of a crop modified to produce its own pesticide, which would likely fall under the *Annex A.1*'s definition on the protection of animal or plant life or health.[596] Moreover, if a country imposes a domestic ban, such as on a pesticide residue, which does not apply to imports, it would not violate the SPS Agreement.[597] However, this retained autonomy is unlikely to cause trade conflict. This is because Members would not usually impose a health standard on domestic production while legally permitting imports which do not meet that standard.

Like the TBT Agreement, the SBS Agreement measures should not be disguised restrictions to trade. They must respect the GATT principles of National Treatment and Most

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[594] Wolff, Christiane, Former WTO Secretariat, Agriculture and Commodities Division, "The role of science in the SPS Agreements," The Australian Government Department of Agriculture, Fisheries and Forestry, August 2002.
[595] The SPS Agreement, *Annex A.1.1 (a).*
[596] Bernasconi-Osterwalder, Nathalie, "The Cartagena Protocol on Biosafety: A Multilateral Approach to Regulate GMOs," in Jackson, John Howard & Weiss, Edith Brown (eds), *Reconciling Environment and Trade,* Transnational Pub Ardsley, 2001, pp. 689-729.
[597] Charnovitz, Steve, "The Supervision of Health and Biosafety Regulation by World Trade Rules," *Tulane Environmental Law Journal,* Summer 2000.

Favoured Nation treatment.[598] The other main purpose of the Agreement is to reduce the possible arbitrariness of governments' decisions in the field of sanitary and phytosanitary protection. *Article 2.3* states that where "like" conditions prevail, measures must respect the non-discrimination principle between Members:

> Members shall ensure that their sanitary and phytosanitary measures do not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail, including between their own territory and that of other Members.

This principle corresponds to *the* C*hapeau* of *Article XX*.[599] *Article 5.5* also states that:

> With the objective of achieving consistency in the application of the concept of appropriate level of sanitary or phytosanitary protection against risks to human life or health, or to animal and plant life or health, each Member shall avoid arbitrary or unjustifiable distinctions in the levels it considers to be appropriate in different situations, if such distinctions result in discrimination or a disguised restriction on international trade. Members shall cooperate in the Committee, in accordance with paragraphs 1, 2 and 3 of Article 12, to develop guidelines to further the practical implementation of this provision. In developing the guidelines, the Committee shall take into account all relevant factors, including the exceptional character of human health risks to which people voluntarily expose themselves.

However, *Article 5.5* establishes "the concept of an appropriate level of sanitary and phytosanitary protection" which is parallel requirements with the non-discrimination principle.[600]

The SPS Agreement aims to promote harmonization and the adoption of international standards. *Article 3.2* states that:

> Sanitary or phytosanitary measures which conform to international standards, guidelines or recommendations shall be deemed to be necessary to protect human, animal or plant life or health, and presumed to be consistent with the relevant provisions of this Agreement and of GATT 1994.

For example, if a country bases its GMO-import measures on applicable international standards, those measures are presumed to be in compliance with the SPS Agreement. However, *Article 3.3* restates that:

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[598] Panels in *the EC-Hormones case* stated that "since the SPS Agreement adds to Articles III, XI and XX of GATT, there is no obligation to prove a violation of Articles III or XI before the SPS Agreement can be invoked" in Panel Report, *European Communities-Measures Concerning Meat and Meat Products (Hormones),* WT/DS26/R/USA, 18 August 1997.

[599] Marceau, Gabrielle & Trachtman, Joel P., "A Map of the World Trade Organization Law of Domestic Regulation of Goods*:* The Technical Barriers to Trade Agreement, the Sanitary and Phytosanitary Measures Agreement, and the General Agreement on Tariffs and Trade," *Journal of World Trade,* Vol. 36: 5, 2002, pp.81-132.

[600] The SPS Agreement *Article 5.5.*

> Members may introduce or maintain sanitary or phytosanitary measures which result in a higher level of sanitary or phytosanitary protection than would be achieved by measures based on the relevant international standards, guidelines or recommendations, if there is a scientific justification, or as a consequence of the level of sanitary or phytosanitary protection a Member determines to be appropriate in accordance with the relevant provisions of paragraphs 1 through 8 of Article 5.[601] Notwithstanding the above, all measures which result in a level of sanitary or phytosanitary protection different from that which would be achieved by measures based on international standards, guidelines or recommendations shall not be inconsistent with any other provision of this Agreement.

Thus, *Article 3.3* possibly allows Members to enjoy substantial discretion in setting the goals of protection and the import of valuational, societal and political considerations, because this level setting cannot be reviewed by the Appellate Body.[602] However, the SPS flexibility is unlikely to allow countries to increase their standards to protect their markets or to lower their standards to survive in a competitive globalizing world.

Table 4: The SPS Agreement and GMOs

to protect:	from:
Human or animal life	risks arising from additives, contaminants, toxins or disease-causing organisms in their food, beverages, feedstuffs;
Human life	plant- or animal-carried diseases (zoonoses);
animal or plant life	pests, diseases, or disease-causing organisms;
a country	damage caused by the entry, establishment or spread of pests.

Source: The WTO, SPS Agreement Training Module, 8.1 Genetically Modified Organisms (GMOs), Available online [http://www.wto.org/english/tratop_e/sps_e/sps_agreement_cbt_e/c8s1p1_e.htm] viewed 20 December 2005

Currently, there are no international standards that specifically govern a new biotechnology such as GMOs. The WTO case law has not also recognized any of international standards in the SPS Agreement-related dispute cases, although *Article 5.1* states that:

> Members shall ensure that their sanitary or phytosanitary measures are based on an assessment, as appropriate to the circumstances, of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organizations.

And *Article 3.4* recommends three relevant international standard organizations:

> Members shall play a full part, within the limits of their resources, in the relevant international organizations and their subsidiary bodies, in particular the Codex

[601] Footnote for the SPS Agreement *Article 3.3*. For the purposes of *paragraph 3 of Article 3*, there is a scientific justification if, on the basis of an examination and evaluation of available scientific information in conformity with the relevant provisions of this Agreement, a Member determines that the relevant international standards, guidelines or recommendations are not sufficient to achieve its appropriate level of sanitary or phytosanitary protection.

[602] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 172, 18 August 1997.

> Alimentarius Commission, the International Office of Epizootics, and the international and regional organizations operating within the framework of the International Plant Protection Convention, to promote within these organizations the development and periodic review of standards, guidelines and recommendations with respect to all aspects of sanitary and phytosanitary measures.

The SPS Agreement established the SPS Committee in 1995 to monitor and review quarantine measures. The Committee examines compliance issues and ensures orderly implementation of the Agreement, and it organizes meetings three times a year, which are open to all WTO Members. Representatives of relevant intergovernmental organizations, such as these three organizations and the Food and Agriculture Organization of the United Nations (FAO), the International Organization for Standardization (ISO) and the World Health Organization (WHO), are invited to attend meetings, and also provide expert advice to WTO dispute settlement panels.[603] At the 2000 G-8 Summit Meeting in Japan, its Final Communiqué urged the Codex Ad Hoc Intergovernmental Task Force on Foods Derived from Biotechnology to make a substantial interim report before the completion of a mandate of the Summit in 2003.[604] The Codex Alimentarius Commission is a subsidiary of FAO and WHO with 169 Member States.[605] With respect to food standards, the Codex Alimentarius is likely to be referenced as a biosafety standard for the WTO dispute cases.[606] However, the Codex Alimentarius reflects industry favoritism, and the development of international rules toward GMOs may undermine the *laissez-faire* elements of the Biosafety Protocol *vis-a-vis* the SPS Agreement.

Moreover, according to *Article 3.3*, "if there is a scientific justification, or as a consequence of the level of sanitary or phytosanitary protection a Member determines to be appropriate in accordance with the relevant provisions of paragraphs 1 through 8 of Article 5". The level of the risk assessment has to account for "available scientific evidence" and "relevant economic factors" in accordance with *Article 5.2* and *5.3*:

> 2. In the assessment of risks, Members shall take into account available scientific evidence; relevant processes and production methods; relevant inspection, sampling and testing methods; prevalence of specific diseases or pests; existence of pest — or disease — free areas; relevant ecological and environmental conditions; and quarantine or other treatment.

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[603] The WTO has been running joint training activities and regional workshops, which provide a useful way to bring together trade and non-trade officials to explain trade facilities. The WTO also specialized divisions have provided specific working shops such as *the WTO biotechnological working group*. For example, the WTO has participated information exchange programs by the web site base, such as *International Portal on Food Safety, Plant and Animal Health* with Codex, the CBD, FAO, IPPC,OIE and WHO. However, those experts only speak at the dispute cases as a representative of their own organizations; hence they cannot give further information outside of their organizations' general functions. Interview with the WTO officer #7-4, October, 2003.

[604] Watkins, Shirley, et al, "Food for the New Millennium: Innovation in Nutrition, Safety and Biotechnology," Lecture at the Director-General on the occasion of the International Food and Nutrition Conference, Alabama, 9 October 2000.

[605] The Codex Alimentarius Commission, July 2003.

[606] Kaferstein, Fritz & Miyagishima, Kazuaki (Secretary of the Codex Alimentarius Commission), "Food Safety in International Trade," *World Health Forum*, Vol. 19, 1998, pp. 407 -411.

> 3. In assessing the risk to animal or plant life or health and determining the measure to be applied for achieving the appropriate level of sanitary or phytosanitary protection from such risk, Members shall take into account as relevant economic factors: the potential damage in terms of loss of production or sales in the event of the entry, establishment or spread of a pest or disease; the costs of control or eradication in the territory of the importing Member; and the relative cost-effectiveness of alternative approaches to limiting risks.

However, *Article 5.6* states that "Members shall ensure that such measures are not more trade-restrictive than required". Moreover, if less trade restrictive measures exist, but a country is technically or economically unable to implement it, this in itself does not violet the SPS Agreement in which less trade restrictive alternative were not economically or technically feasible.[607] Lastly, *Article 5.8* states that if there is not a relevant international standard or the WTO Member decides not to adopt an existing international standard, its sanitary and phytosanitary measure must be established on a risk assessment, which may be based on that developed by that another country, regional or international body.[608]

Importantly, the precautionary principle is stated in a very specific and limited form in *Article 5.7*. If scientific evidence would be insufficient or not available, Members can only adopt provisional measures and SPS measures on a provisional basis in accordance with *Article 5.7*:

> In cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information, including that from the relevant international organizations as well as from sanitary or phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time.

However, unlike the TBT Agreement, which judges the type of measure to be covered, the SPS Agreement determines whether the intention of the measure is relevant to the subject.[609] In particular, according to *Article 2.2*, measures should be based on accurate scientific evidences:

> Members shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence, except as provided for in paragraph 7 of Article 5.

In *Article 2.2*, precautionary rules may not be applied without "sufficient scientific evidence", except as permitted under *Article 5.7*. For example, although a government could violate the SPS Agreement by using poor science to impose a food safety regulation, a government cannot violate the Agreement by neglecting science in failing to impose adequate food safety regulation. *Article 5.6* balances those necessity tests under the SPS Agreement:

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[607] The SPS Agreement, *Article 5.7*.
[608] The SPS Agreement, *Article 5.8*.
[609] The WTO, "Understanding the WTO Agreement on Sanitary and Phytosanitary Measures," Available online [http://www.wto.org/english/tratop_e/sps_e/spsund_e.htm] viewed 20 December 2005.

> Without prejudice to paragraph 2 of Article 3, when establishing or maintaining sanitary or phytosanitary measures to achieve the appropriate level of sanitary or phytosanitary protection, Members shall ensure that such measures are not more trade-restrictive than required to achieve their appropriate level of sanitary or phytosanitary protection, taking into account technical and economic feasibility.[610]

However, *Article 5.6* contains no minimum standard for food safety or for applying science to the food production process.

Lastly, like the TBT Agreement, the SPS Agreement encourages consistent and transparent decision-making in setting up the appropriate level of protection in its *Annex B: Transparency of Sanitary and Phytosanitary Regulations*. *Annex B.2* requires that "Members shall allow a reasonable interval between the publication of a sanitary or phytosanitary regulation and its entry into force in order to allow time for producers in exporting Members". The other similarity is that *Article 4.1* encourages importing Members to "accept the sanitary or phytosanitary measures of other Members as equivalent, even if these measures differ from their own or from those used by other Members trading in the same product".

Conclusion

A major difference between the TBT Agreement, the SPS Agreement and the GATT is the way in which each interprets science. The GATT makes no reference to scientific evidence and the TBT Agreement refers to science only vaguely in its *Article 2.2*. In contrast, *Article 3.3* of the SPS Agreement requires that trade restrictive measures are based on its scientific rules. The *Article* states that the WTO Members must develop their sanitary and phytosanitary measures on an assessment of risks in accordance with *Article 5* of the SPS Agreement. [611]

The SPS and TBT Agreements impose slightly different requirements for recognition of international standard or guidelines, although both the SPS and TBT Agreements state that the Members have the right to decide what level of health risk is considered acceptable, while "not being more trade-restrictive than necessary". [612] The SPS Agreement recommends three international organizations for the relevant international standards, guideline or recommendations,[613] and if matters are not covered by these three, the SPS may be identified by the other organizations.[614] On the other hand, the TBT Agreement does not reference any particular international standard organization. However, the only case in which WTO case law

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[610] Footnote for the SPS Agreement *Article 5.6*. For purposes of *paragraph 6 of Article 5*, a measure is not more trade-restrictive than required unless there is another measure, reasonably available taking into account technical and economic feasibility, that achieves the appropriate level of sanitary or phytosanitary protection and is significantly less restrictive to trade.

[611] However, purchasing specifications prepared by governmental bodies for production or consumption requirements are not subject to the provisions of the SPS Agreement but are addressed in the Agreement on Government Procurement. Government procurement: The plurilateral agreement, Available online [http://www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm] viewed 20 December 2005.

[612] The SPS Agreement, *Article 5.6* & the TBT Agreement, *Article 2.2.*

[613] The SPS Agreement, *Article 3.4.*

[614] The SPS Agreement, *Article 5.7.*

recognized an international standard was *the EC-Sardines case*. The Appellate Body recognised the Codex Alimentarius for the Sardines products as a relevant international standard but this case was under the TBT Agreement.[615]

The SPS Agreement contains a provision for a risk assessment if there is no relevant international standard or a WTO Member decides not to adopt an existing international standard, which can be based on another country, regional or one international body.[616] On the other hand, the TBT Agreement recognizes several relevant circumstances, including previous economic and social structures; different national ecosystems, and natural resources and endowments; the degree of reliance of different types of production regarding world trade, environmental economic policies; and the development of production techniques and technologies.[617] However, the TBT Agreement emphasizes that scientific and technical information are relevant elements to be considered when a Member is assessing the risks involved.[618]

In the case of the relationship between the WTO rules and domestic GMO-import regulations, some health concerns fall under the SPS Agreement, while some other GMO-related issues are likely to be covered by the TBT Agreement. Sanitary and phytosanitary measures aim to protect against risks or damages to food safety caused by pests. Any regulations concerned with toxic substances that might be present in GMO-foods, beverages or feedstuffs, would be covered by the definition of an SPS measure contained in its *Annex A.1*. On the other hand, other health concerns may be addressed by the TBT Agreement. For example, measures related to changes in nutritional value of those GMOs but not related to food safety, would fall under the TBT Agreement. However, measures addressing the possible risks of using antibiotic resistance marker genes might be covered by both Agreements.

Table 5: Specific health issues and most relevant WTO Agreements

WTO Agreements	***SPS***	***TBT***	***GATT Article XX (b)***
Health Issues			
- Infectious Disease Control	**X**	**X**	**X**
- Food Safety	**X**		
- Tobacco Control		**X**	**X**
- Environment	**X**	**X**	**X**

[615] It was the marketing of preserved sardines in the territory of the European Committee. The dispute arose when the EC prohibited the use of the term "Peruvian sardines" on cans containing sardine-like-fish caught off the Peruvian coast. Peru contended that the EC regulation was inconsistent with *Article 2 and 12* of the TBT Agreement and the Appellate Body decided in favour of Peru. Appellate Body Report, *European Communities-Trade Description of Sardines*, WT/DS231/AB/R, 26 September 2002.
[616] The SPS Agreement, *Article 5.8.*
[617] The TBT Agreement, *Article 2.7.*
[618] The TBT Agreement, *Article 2.9.*

- Access to Drugs				
- Health Services				
- Food Security	**X**		**X**	
Emerging Issues				
- Biotechnology	**X**	**X**		
- Information Technology				
- Traditional Knowledge				
** Indicates the **most** relevant agreements to the specific health issue.*				

Source: The World Trade Organization, WTO Agreements and public health, Geneva, 2002.

For the environment, it is clear that environment-related measures, which address pest risks, would fall under the SPS Agreement.[619] On the other hand, non-pest environmental concerns would be covered by the TBT Agreement such as adverse effects of pest resistant GMO-crops on non-target species. However, it is uncertain which Agreement would cover the use of GMO-crops, which can lead to pesticide herbicide resistant becoming weeds and invariably transferred to wild relatives.

Most importantly, the WTO Agreement regulates domestic measures but it cannot restrict international movements, which are unrelated to trade. Although the *Preamble* to the SPS Agreement states that governments should improve human, animal and plant life, the SPS measures target only the overuse of national health regulation.[620] For example, if a Member State ignores all health regulations or allows the export of unsafe GM-products to foreign consumers, it will not be in violation of the SPS Agreement.

7-3. The relationships between the TBT Agreement, the SPS Agreement and the GATT 1994

To clarify relationships between the TBT Agreement, the SPS Agreement and the GATT 1994 is a complicated process. Theoretically, the TBT Agreement deals with all technical regulations and aims to harmonize voluntary standards, while the SPS Agreement regulates measures to protect human, animal and plant life and health. Thus, the TBT Agreement explicitly excludes SPS measures, so that at least there can be no overlap in coverage. However, applications of those two Agreements have not been crystallized from which arises an arbitrary division between these two Agreements and GATT. Moreover, since the Appellate Body state that:

We agree with the statement of the Panel that:

[619] The SPS Agreement, *Annex A.1 (d).*
[620] The SPS Agreement, *the first paragraph of Preamble.*

> It is now well established that the WTO Agreement is a "Single Undertaking" and therefore all WTO obligations are generally cumulative and Members must comply with all of them simultaneously & .3[6]…[621]

Thus, if the case violates one of these two Agreements but is consistent with GATT, it is important to analyze application of the WTO law on case-by-case bases.

The relationship between the TBT Agreement and the SPS Agreement

Governments sometimes adopt a regulation that contains elements covered by the TBT Agreement and other aspects that may fall under the SPS Agreement. Coverage shared between the TBT Agreement and the SPS Agreement is theoretically clear. The TBT Agreement states its provisions in *Annex 1: Terms and their definitions for the purpose of the Agreement,* which appears to defer to the SPS Agreement. Also its *Article 1.5* states:

> The provisions of this Agreement do not apply to sanitary and phytosanitary measures as defined in Annex A of the Agreement on the Application of Sanitary and Phytosanitary Measures.

Thus, if the case refers to health concerns covered by the SPS Agreement, it is largely provided for sanitary and phytosanitary rules. On the other hand, the SPS Agreement *Article 1.4* says:

> Nothing in this Agreement shall affect the rights of Members under the Agreement on Technical Barriers to Trade with respect to measures not within the scope of this Agreement.

For example, regulations on pesticides might contain quality requirements and safe handling instructions, which would be covered by the TBT Agreement, whereas maximum residue levels for pesticides in food could be covered by the SPS Agreement.[622]

However, the coverage involves some extraterritorial measures and is not clear-cut. For example, one measure concerns the labelling of shipments containing GMOs, which are aimed not only at the protection of biodiversity within the territory of the importing party but also abroad. The TBT Agreement might exclusively cover this case, if technical regulations include measures intended to protect extraterritorial human, animal or plant life that specify related PPMs.[623] On the other hand, if such labels are directly related to food or its object is the protection of biodiversity, the label may be covered by the SPS Agreement.[624] Although their Articles say that the Agreements do not overlap, some cases have possibly fallen into the scope of both Agreements. Thus, a case depends on how the measure is defined and interpreted.

The relationship between the TBT Agreement and the GATT

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[621] Appellate Body Report, *Korea - Definitive Safeguard Measure on Imports of Certain Dairy Products*, WT/DS98/AB/R, paragraph 74, 14 December 1999.
[622] Goh, Gavin & Morgan, David, "Genetically modified food labeling and the WTO Agreements," *RECIEL*, Vol. 13:3, 2004, pp. 306-319.
[623] The TBT Agreement, *the fifth paragraph of Preamble.*
[624] The SPS Agreement, *the first paragraph of Preamble.*

The TBT Agreement does not incorporate *Article XX* nor include an equivalent provision, although *the Preamble* of the TBT Agreement states its aim to further the objective of the GATT 1994.[625] There is no presumption of consistency with the GATT for measures that comply with the TBT Agreement.[626] Thus, it is not clear that environmental protections established under *Article XX* incorporate the TBT Agreement.

Since the TBT Agreement adds different obligations to those of the GATT, a single measure may be in violation of the TBT while possibly compatible with the GATT. For example, if a definition of "like products" under the TBT Agreement recognizes that non-compliance with the characteristic mentioned in a TBT regulation made GMOs products "unlike", the GMOs case should fall under the TBT Agreement.[627] On the other hand, if a measure complies with *Article 2.1* and *2.2*: *Preparation, Adoption and Application of Technical Regulations by Central Government Bodies* of the TBT Agreement, it is rarely incompatible with *Article III*: *National Treatment on Internal Taxation and Regulation* and *Article XX*: *General Exceptions* of the GATT. This is because *Articles 2.1* and *2.2* of the TBT Agreement call for the consideration required in cases of *de facto* discrimination under *Articles III*.

Moreover, *Article 2.2* of the TBT Agreement should be analyzed before *Articles XX* of the GATT whether the degree of trade restrictiveness is indeed necessary to accomplish the regulatory objective.[628] In the case of *EC-Asbestos*, the Panel firstly found that an import ban did not constitute a technical regulation; hence it was not covered by the TBT Agreement. The Appellate Body also added that "the TBT Agreement was a specialized legal regime for a limited class of measures that imposed obligations which are different from and additional to the obligations imposed on WTO Members under the GATT".[629]

The relationship between the SPS Agreement and the GATT

Application between the SPS Agreement and the GATT seems to be clearer. *The Preamble* of the SPS Agreement states that:

> *Desiring* therefore to elaborate rules for the application of the provisions of GATT 1994 which relate to the use of sanitary or phytosanitary measures, in particular the provisions of Article XX(b).

[625] The TBT Agreement, *the first paragraph of Preamble.*
[626] Howse, Robert & Mavroidis, Petros C., "Europe's evolving regulatory strategy for GMOs - The issue of consistency with WTO LAW: of kine and brine," *Fordham International Law Journal*, November / December, 2000.
[627] Baumuller, Heike, "Domestic Import Regulations for Genetically Modified Organisms and their Compatibility with WTO Rules," IISD, Trade Knowledge Network, 2003.
[628] The World Trade Organization, Economic Research and Statistics Division, "National environmental policies and multilateral trade rules," Staff Working Paper ERSD-2004-01, January, 2004,
[629] Appellate Body Report, *the EC- Asbestos case,* WT/DS135/AB/R, paragraph 80 (*emphases added).*

If it has compliance with the SPS Agreement, it would conform to the GATT although a presumption in some cases is understood as being "rebuttable".[630] *Article 2.4* also provides that SPS measures shall be presumed consistent with GATT:

> Sanitary or phytosanitary measures which conform to the relevant provisions of this Agreement shall be presumed to be in accordance with the obligations of the Members under the provisions of GATT 1994 which relate to the use of sanitary or phytosanitary measures, in particular the provisions of Article XX(b).

The SPS Agreement would apply to GMO regulations that are intended to safeguard health in the importing State, which would also conform to the GATT. However, if a measure is found to be inconsistent with the SPS Agreement, it is not necessarily a non-compliance with the GATT.[631] According to *Article 2.4*, non-compliance with the SPS Agreement cannot serve as a basis for a presumption of non-compliance with the GATT. In *the EU-Asbestos case*, the Panel found that "it is appropriate to examine the SPS Agreement first, and the GATT subsequently, because if it had decided to examine the GATT first, it would still have had to examine the SPS Agreement whether or not a violation of the GATT had been found".[632] This is because the SPS Agreement is more specific, and due to its *Article 3.2*, it might not be necessary to examine the GATT if the measure were found to fulfill the SPS Agreement.

In the case of a dispute, the compatibility of domestic measures seems to be examined first under the SPS Agreement and by the TBT Agreement then the GATT. However, this does not necessarily mean that the GATT is the least stringent, because each Agreement has different meanings and applications, and gives the necessity tests. The result of a dispute case sometimes also depends on which measure a compliance body wants to apply and how a panel find a case before it is sent to the Appellate Body.

7-4. Analysis - WTO Agreements and domestic GMO import regulations

This section analyzes how WTO Agreements (the TBT Agreement, the SPS Agreement and the GATT) access sanitary and phytosanitary issues. In particular, the analysis examines how these Agreements interpret the case of GMO import regulations, which contribute to contrasting different jurisdictional norms between the WTO and MEAs.

PPM-based measures are propounded within the framework of multilaterally agreed rules, because the measures do not recognize unilateral actions. According to *the US-Shrimp case*, the WTO Appellate Body recognized the distinction between unilateral and multilateral environmental trade measures. The Appellate Body decision held that the nation imposing a trade measure should have attempted bilateral or multilateral negotiations before enforcing its unilateral trade measure.[633] *Article XX* does not clearly distinguish between measures taken to

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[630] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 170.
[631] Ibid. paragraph 101.
[632] Panel Report, *Australia - Measures Affecting Importation of Salmon*, WT/DS18/R, 12 June 1998. Panel Report, *the EC-Hormones case*, WT/DS48/R/CAN, WT/DS26/R/USA, 18 August 1997.
[633] Appellate Body Report, *the US - Shrimp case*, WT/DS58/AB/RW, paragraph 153.

address sanitary and phytosanitary issues (particularly GMO risks or impacts) within the territory of WTO Members and those outside the WTO Members' territory.[634] Under what circumstances WTO Members can restrict trade measures on the basis of products of GMOs outside the WTO Members' territory remains undecided. *The* C*hapeau* of *Article XX* only establishes that "subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade".[635] In other words, *Article XX* allows discrimination between countries as long as it is not arbitrary or unjustifiable, which include all countries, both importing and exporting.

There still has been an argument that trade restrictive measures imposed for environmental purposes should be permitted by *Article XX (b)* and *(g).* According to the result of dispute cases, GATT jurisdiction has limited the application of *Article XX* to areas under the jurisdiction of each contracting party.[636] This is a controversial circumstance because if a dispute case falls under *Article XX*, the WTO allows general exceptions to the disciplines of the GATT, including non-discrimination.

Thus, unilateral trade measures, which have been seen in WTO dispute cases, may fall into one of two categories under the GATT:

- They may be direct restrictions on trade. In this case they run counter to GATT *Article XI* unless they meet the terms of *the Article XX* exemptions.
- They may relate to a characteristic of the product, such as its packaging, which is termed a product standard. If the restrictions discriminate against other producers, they violate *Article III*. Even where they are not discriminatory, the WTO Agreements, such as the TBT Agreement may make them to be inconsistent with the WTO case law.[637]

In the case of the TBT Agreement, if a GMO-product sufficiently resembled a standard product in superficial characteristics, it would seem initially to be considered substantially equivalent to the standard product in WTO law.[638] The TBT Agreement could apply its many measures taken pursuant to the GMO-import regulation. However, it is a very complicated and costly process at the border of importing countries to distinguish between GMOs and non-GMOs' physical differences, and law has not yet conceptualized the legal term, GMO-product "likeness". The process by which the product produced may generally be used under the WTO jurisprudence is still under study.[639]

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[634] Ibid. WT/DS58/AB/R, paragraph 149.
[635] GATT, *Article XX. the* C*hapeau.*
[636] Kohona, Palitha T. B., "The WTO and trade and environment issues- Future directions," *World Competition Law and Economic Review*, Vol. 20, June 1997, pp.87-112.
[637] Wolff, Christiane, Former WTO Secretariat, Agriculture and Commodities Division, "Resolving Possible Conflicts between Domestic and International Biotechnology Regulations and WTO Rules," ICTSD, July 2001.
[638] The WTO, WTO Analytical Index -Guide to WTO Law and Practice, 2004.
[639] There has not been an environment-related dispute case, which is tested under the TBT Agreement.

Many health or environmental risks usually do not come within the terms of the SPS Agreement, such as a law regulating the entry of drugs or cigarettes.[640] In the same argument, protection against human health risks from bioengineered-processed products is apparently not covered by the Agreement because GMOs are not listed in the above categories.[641]

However, some measures taken on the basis of GMO import regulation may not fall under the scope of the SPS Agreement. The SPS Agreement should be relevant to the WTO laws which protect against exposure to pests, such as insects and weeds, disease-carrying organisms, disease-causing organisms, disease-carrying animals or plants; and appropriate to the laws which restrict additives, contaminants, and toxins in foods and feedstuffs.[642] *Annex A* to the SPS Agreement also contains a definition of sanitary and a phytosanitary measures that includes only measures that protect health within the territory of the regulating WTO Members. This neglects importing countries that seek to regulate PPMs in exporting countries. However, the SPS Agreement would include measures of the Members of import to regulate PPMs outside their territory, where the goal is to protect animal or plant life or health within the Members' territory. For example, the SPS Agreement does cover protection against the entry of exotic species if the species cause disease or are pests, and protection against pesticide residues in animals or plants. In the same argument, if the risk occurs because bioengineered seeds spread pests, such residues should be seen as contaminants in the Members of import.[643] The SPS Agreement would also apply to an import restriction on GM pesticide producing seeds, which could result in crops destined for human consumption containing pesticide residue.[644]

In addition, the Codex Alimentarius Commission is currently working on standards for risk assessment, labeling, and several other food safety aspects of GMO-foods.[645] However, the Codex Alimentarius only deals with food standards; hence the Codex Alimentarius and the Cartagena Protocol on Biosafety do not exactly cover the same GMOs. It has made a link between the WTO, the Codex Alimentarius and the Biosafety Protocol forming a triangular relationship.

Lastly, in the case of the WTO legal system, the WTO jurisdiction applies sanitary and phytosanitary measures as identified in the TBT Agreement, the SPS Agreement and the GATT. Under the WTO, the rationale for these Agreements' harmonization should be uniform global standards, domestically and internationally, which maximize trade, efficiency and economic welfare. It is still under development how these Agreements would provide adequate room and an appropriate methodology for special dispute settlement cases, particularly for the new age of

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[640] The WTO, WTO Agreements and public health, A joint study by the WHO and the WTO Secretariat, Geneva, 2002.

[641] The applicability of the SPS to GM products is complex. The SPS applies to "organisms", but this key term is not defined in the Agreement. Cereal in a carton is not an organism, but the cut grain used to make the cereal is an organism, also seeds are organisms. Interview with the WTO officer #7-5, September, 2004.

[642] The SPS Agreement, *Annex A : Definitions 1(a)(b)*

[643] The SPS Agreement, *Annex A : Definitions 1(b)*

[644] The SPS Agreement, *Annex A : Definitions 1(c)*

[645] Stanton, Gretchen H., Secretary of the SPS Committee, WTO Secretariat, "Codex and international trade," The Australian Government Department of Agriculture, Fisheries and Forestry, August 2002.

biotechnology. However, the WTO jurisdiction is unlikely to establish a framework to mandate a new issue with non-trade considerations.

7-5. Conclusion

Chapter 7 focused on the WTO's sanitary and phytosanitary rules to analyze the judicial relationship between the WTO and domestic GMO import regulation, which likely overlaps with the Biosafety Protocol. The theoretical framework argues that trade and environmental regimes' different jurisdictions affect clarification of the relationship between the WTO and MEAs. Chapter 6 and chapter 7 demonstrated the contrast between the WTO and the Cartagena Protocol on Biosafety's different jurisdictional norms.

Chapter 7 argued that WTO's sanitary and phytosanitary-related measures have been developed by different legal norms from MEAs' trade regulations. However, WTO's rules have been increasingly required not to limit the ability of national governments to enact labeling requirements and risk assessments toward biosafety. These demands encourage consumers' right to choose products in accordance with their dietary, environmental, ethical, religious and social preferences, and justify their rights to know about food safety. The more these rights are demanded in rules of international trade, the more likely it is that biosafety of GMOs will be recognized consistently in international law. Therefore, the WTO may no longer ignore these trends in the international community. However, non-discriminatory obligations are the core of the WTO. This WTO principle aims to restrict protectionist action and to promote a better multilateral trading system; thus, its priority is not protecting the environment. Legal norms of the WTO contradict environmental regimes' norms, which are based on discriminatory regulations between Parties of MEAs for environmental purposes.

According to the analyses, the WTO's sanitary and phytosanitary rules towards domestic GMOs import regulations are on case-by-case bases; hence it is unpredictable how the WTO would justify its case law by referring to MEAs provisions, including notification and labeling requirements, and import bans for biosafety. The most problematic question still remains how the relationship between the WTO's environment-related measures and MEAs trade restrictions for environmental purposes will be, when allegations of jurisdictional conflicts between trade and environmental agreements arise. Thus, Chapter 8 closely investigates the WTO environment-related dispute cases to analyse the relationship between the WTO case law and the Cartagena Protocol on Biosafety.

Chapter 8

Legal frameworks of the World Trade Organization and the Cartagena Protocol on Biosafety

8-1. Introduction

The aim of chapter 8 is to highlight the contrast between the World Trade Organization (WTO) and the Cartagena Protocol on Biosafety's different jurisdictions. The chapter examines how the WTO case law deals with domestic genetically modified organisms (GMO) import regulations and how procedural issues of the Biosafety Protocol have been developed at the First meeting of the Conference of the Parties (COP) / the Meeting of the Parties to the Cartagena Protocol on Biosafety (MOP). Then, these findings are extended to analyze potential overlaps and contradictions between the WTO and the Biosafety Protocol Agreements.

In the case of biosafety, the centre of the question is how trade and environmental regimes have taken scientific uncertainty of biotech products into their legal norms. The core concern of most scientists is the unpredictability of GMOs, which have not only had altered functioning, but also may interact within complex ecosystems.[646] The introduction of GMOs into the environment has raised fears of ecological disaster; on a far-reaching scale, greater than the more traditional problem of non-native species introduction.[647] On the other hand, proponents of modern biotechnology counter that GMOs would enhance global food security by increasing crop yields, which would also help protect biological diversity by decreasing world demand for available land.[648] However, due to the scientific uncertainty about the effects of GMOs, discussions of environmental and human health risks are unsettling, and polarized arguments are put forward as to whether GMOs should be encouraged, or reduced. These arguments are extended to compatibility between trade and environmental regimes' biosafety principles.

Chapter 6 and chapter 7 demonstrated the contrast in WTO and the Cartagena Protocol on Biosafety's different legal norms. Chapter 8 aims to evaluate different jurisdictions between the WTO and the Biosafety Protocol by analyzing case-by-case issues. The chapter focuses on the WTO dispute cases to examine how the WTO case law conforms to the Cartage Protocol Biosafety. In particular, the chapter concentrates three outstanding trade and environment issues toward biosafety.

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[646] Chevre, A. M., et al, "Gene flow from transgenic crops," *Nature*,1997.
[647] Tabashnik, B. E, "Evolution of resistance to Bacillus thuringiensis," *Annual Review of Entomology*, 1994; and The Independent Science Panel, June 2003, Available online [www.indsp.org] viewed 20 December 2005.
[648] Royal Society of Canada, Expert Panel Report on the Future of Food Biotechnology, "Elements of Precaution: Recommendations for the regulation of Food Biotechnology in Canada," 2001.

1. ***"Like" products and documentation requirement***
2. ***Risk assessment and risk management with socio-economic factors***
3. ***The precautionary "principle" and the precautionary "approach"***

Firstly, **8-2** looks at examples of the classic WTO-MEAs conflict of "like" products and documentation requirement. Secondly, **8-3** illustrates the similarity and incompatibility of their risk assessments, especially by analyzing the WTO's sanitary and phytosanitary provisions towards GMOs. Thirdly, **8-4** closely studies the relationship between the WTO's rule of the precautionary principle and the Biosafety Protocol's precautionary approach by focusing WTO's sanitary and phytosanitary-related dispute cases. Fourthly, **8-5** shows the direct relationship between two Agreements. Lastly, **8-6** analyzes these empirical studies.

8-2. "Like" products and documentation requirements

One of the contentious arguments of environmental justification on trade is restriction in processes or products. The concept of "like" products is central to the application of the WTO and the Biosafety Protocol; however, the two Agreements seem to interpret "likeness" differently. Products have generally been considered in WTO jurisprudence to be "like" based on their physical characteristics, end-use, consumers' preferences and tariff classification. However, the WTO principles of the Most Favoured Nation and National Treatment are interpreted as important implications for the flexibility of governments in formulating domestic policies in areas that are critical for environmental protection.[649] This flexibility overlaps and may contradict with the Biosafety Protocol. Thus, to clarify "likeness" between GMOs and non-GMOs may be the initial issue for the analysis of the relationship between the WTO and the Biosafety Protocol Agreements. Firstly, ***8-2-1*** analyzes the Cartagena Protocol on Biosafety's regulations of handling, transport, packaging and identification of living modified organisms. Then, ***8-2-2*** examines how WTO case law deals with "likeness" on grounds of production and process.

8-2-1. The WTO - The grounds of production and process

In the WTO Agreement, there is no explicit reference to process or production method (PPMs). However, eco-labeling was one of the controversial issues discussed in the first WTO Ministerial Conference in 1996. Eco-labelling schemes are concerned with a product's entire life-cycle analysis: the sourcing of raw materials, production, consumption and disposal, which involves PPMs, to harmonize and internationalize standards by developing a set of multilateral guidelines.[650] On the basis of equivalencies and mutual recognition, the WTO permits each country to set its own standards guided by its scientific principles.[651] In the case of GMOs, legal interpretation of "likeness" between GMOs and non-GMOs is still not clear. This uncertainty

[649] Regan, Donald H., "Regulatory purpose and "like products" in Article III:4 of the GATT (with the additional remarks on Article III:2)," *Journal of World Trade*, Vol. 36: 3, 2002, pp. 443-478.
[650] Global Eco-Labelling Network Discussion Paper, "On Enhanced Co-operation," April 1999.
[651] The SPS Agreement *Article 3.3.*

allows Member States to formulate domestic policies, which may be seen as protectionist measures.

The WTO is connected to the London Guidelines[652] in two areas. The first is an Agreement on Technical Barriers to Trade, whose aim is to prevent unnecessary obstacles to trade that may result when a government or other entity adopts standards for protection of its own safety, health, or environment.[653] The second is the working group established in 1989 to examine cases in which a contracting Party, having banned the sale of a product domestically on health or safety grounds, seeks to sell it abroad.[654] The 2000 decision by the Technical Barriers to Trade (TBT) Committee on *Principles for the Development of International Standards Guides and Recommendations* with relation to *Articles 2, 5* and *Annex 3* of the TBT Agreement is to identify whether international standards can be used for compliance purposes of technical barriers to trade. This criterion includes coherence, effectiveness and relevance, impartiality and consensus, openness, transparency and the concerns of developing countries.[655]

Moreover, the WTO first notified *Directive 2001/18*[656] of the European Parliament and of the Council on the deliberate release into the environment of genetically modified organisms under the TBT Agreement in 2001 and it was raised at both the TBT and the Application of Sanitary and Phytosanitary Measures (SPS) Committee meetings.[657] However, if the European Union justifies its regulations as a legitimate objective under the TBT Agreement, the TBT and the SPS Committees would be required to show that the measures do not run counter to the non-discrimination provision for "like" products.

The 1997 GMO-related laws adopted by the EC, the EU Novel Foods and Novel Food Ingredients *Regulation 258/97,* states that "food must be approved and labeled before it is released into the market; the EU law applies equally to all GMO-food and it does not

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[652] "The growth in world trade in chemicals during the 1960's and 1970's has led to increasing concerns about the risks of using hazardous chemicals. These concerns led to the adoption of the London Guidelines for the Exchange of Information on Chemicals in International Trade in 1987 by the UNEP Governing Council. The London Guidelines include several provisions aimed at making existing information about hazardous chemicals more freely available, thus permitting competent authorities in countries to assess the risks associated with use of chemicals in their own country. The first provision concerns information exchange on chemicals in international trade. The second provision, known as Prior Informed Consent (PIC) was added in 1989 to help control imports of unwanted chemicals that have been banned or severely restricted in order to protect human health or the environment." UNEP, *London Guidelines for the Exchange of Information on Chemicals in international trade*, 1989.

[653] Tolba, Mostafa K. & Rummel-Bulska, Iwona, *Global Environmental Diplomacy: Negotiating Environmental Agreements for the World, 1973-1992,* The MIT Press, Massachusetts, 1998, pp.23-34.

[654] Ibid.

[655] "Second Triennial Review of the Operation and Implementation of the Agreement on Technical Barriers to Trade", G/TBT/9, November 2000.

[656] The release and marketing of GMOs was controlled in the EU under Council Directive 90/220/EEC. On 14 February 2001, Directive 2001/18/EC was adopted and has replaced Directive 90/220/EEC on 17 October 2002. Official Journal of the European Communities, L 106/1, 7 April 2001.

[657] For the TBT Agreement, G/TBT/9, and for the SPS Agreement, "SPS Committee completes draft on risk consistency," Available online [http://www.health.fgov.be/WHI3/krant/krantarch2000/kranttek stmar/000320m08wto.htm] viewed 20 December 2005.

discriminate on the basis of origin".[658] *Directive 2001/18* came entered into force in 2001 and contains compulsory GMO-labeling laws, which require all foods and feeds to be subject to the full authorization procedure as well as traceability and labeling requirements, including those that are substantially equivalent to GMO-food.[659]

Directive 2001/18 mentions the explicit incorporation of the precautionary principle and harmonized criteria for risk assessment in its *Annex II*. With the scope of GMOs being so controversial, the EC has proposed a simple and straightforward "threshold" regulation for food labelling in 2002. This EC *Regulation 1829/2003* requests to lower the threshold regulation level for food labeling to 0.9% of GMOs endorsed by the Agriculture Council.[660] A one percent threshold would be almost impossible for some food products to guarantee. For example, honey produced in Manitoba, Canada, would be faced with significant logistical obstacles in trying to meet this threshold because there is a high concentration of canola fields located in the province grown through genetically modified processes, and bees simply cannot be confined.[661] The EC *Regulation 1830/2003* contains an exemption of traceability for adventitious or technically unavoidable traces of GMOs;[662] however, exactly how this applies is not yet clear.[663]

In contrast, the WTO case law has not identified "likeness" in a scientific manner. The Appellate Body has first tried to clarify the meaning of "likeness" by contrasting it with "dictionary definitions". Then, the Body has proposed three definitions of "like", which should be recognized under *Article III: 4* of the General Agreement on Tariffs and Trade (GATT) 1994 (characteristics or qualities, the degree or extent of characteristics or qualities and whose perspectives of "likeness").[664]

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[658] The EC Regulation, 258/97.

[659] *Directive 2001/18* on deliberate release, two new regulations came into force in April 2002: *Regulation 1829/2003* on GM-food and feed, which amended *Regulation 258/97*, and *Regulation 1830/2003* on traceability and labelling, which amended *Directive 2001/18.* The former is a regulation that provides a harmonised procedure for the scientific assessment and authorization of GMOs and GM-food and feed. *Regulation 1829/2003* removed GM-foods from the scope of the Novel Foods Regulation subjects GM-animal feed to specific authorization procedures and safety assessments, and abandoned the concept of substantial equivalence. The EC, Regulation 1829/200, *Preamble Paragraph 6.*

[660] The EC, Regulation 1829/200, *Article 12.* For example, "if a biscuit has been made from flour that contains less than one percent of GM maize flour, it should not be labelled; if it contains more than one percent, it should be labelled."

[661] Discussion in the COP/MOP-1 took place in the context of the development of arrangements between some states on a regional basis, which set out documentation requirements to apply to certain shipments of LMOs-FFP between them. A trilateral arrangement between Canada, the US and Mexico decided the five percent threshold level for presence of LMOs in a shipment before the "may contain" LMOs identification requirement would be triggered. Food Security and Ag-Biotech News, Available online [www.merid.org/fs-agbiotech/displaydate.php?month=2&year=2004 - 122k] viewed 20 December 2005.

[662] The EC, Regulation 1830/200, *Article 4.C.*

[663] Although Monsanto claimed the possibility of coexistence GMOs and organic farming, there have been arguments how far the guideline of GM-free zones should be established in the EU. In fact, the Commission was concerned with the adventitious presence of GM seeds in conventional seed lots and suggested (in a draft proposal for a Commission Decision July 2004) a 0.3 % threshold for rapeseed oil and maize, and a 0.5 % threshold for sugar beet, fodder beet, potato and cotton.

[664] Appellate Body Report, *the EC - Asbestos case*, WT/DS11/AB/R, paragraph 92.

(i) most products may have many qualities and characteristics, ranging from physical properties such as composition, size, shape, texture, and possibly taste and smell, to the end-uses and applications of the product,
(ii) products may share only very few characteristics or qualities, or they may share many; thus, the term "like" can encompass a spectrum of differing degrees of "likeness" or "similarity", and
(iii) ultimate consumers may have a view about the "likeness" of two products that is very different from that of the inventors or producers of those products.[665]

Moreover, the Appellate Body stated that "an unavoidable element of individual, discretionary judgement has to be made on a case-by-case basis".[666] The Working Party on Border Tax Adjustments[667] has been cited with approval by the Appellate Body in the case of "likeness" criteria such as in *the Japan-Alcohol case* and *the Canada-Periodicals case*[668].[669] The Report of the Working Party on Border Tax Adjustments has outlined the approach for analyzing "likeness", which employs four general criteria.

(i) the properties, nature and quality of the products,
(ii) the end-uses of the products,
(iii) consumers' tastes and habits - more comprehensively termed consumers' perceptions and behaviour - in respect of the products, and
(iv) the tariff classification of the products.[670]

Then, "likeness" is determined on a case-by-case basis according to four categories.

(i) the physical properties of the products,
(ii) the extent to which the products are capable of serving the same or similar end-uses,
(iii) the extent to which consumers perceive and treat the products as alternative means of performing particular functions in order to satisfy a particular want or demand, and
(iv) the international classification of the products for tariff purposes.[671]

Given the strong physical similarity between traditional foods and substantially equivalent GMO-foods, a GMOs case is likely to be viewed as "likeness" under (i), (ii) and (iv) categories.

For the first category, some scientists argue that GMO- and non-GMO-products should be physically categorized differently because only GMO-products contain the amount of genetic

[665] Ibid.
[666] Appellate Body Report, *the EC - Asbestos case*, WT/DS11/AB/R, paragraph 101.
[667] GATT Working Party on Border Tax Adjustment, adopted on 2 December 1970, BISD 18S/97, 102. There is a discussion that the 1970 GATT Working Party on Border Tax Adjustment would be no longer valid because of the importance of environmental considerations in the policies of many countries. Further work on border tax adjustment of taxes should be important to relate PPMs.
[668] Appellate Body Report, *Canada - Certain Measures Concerning Periodicals*, WT/DS31/AB/R, 30 June 1997.
[669] Working Party Report on Border Tax Adjustments, adopted 2 December 1970, L/3464, BISD 18S/97, 102, paragraph 18.
[670] Appellate Body Report, *the EC - Asbestos case*, WT/DS11/AB/R, paragraph 101.
[671] Ibid.

information which does not exist naturally in the environment.[672] On the other hand, in legal provision, both of them often are seen as the same product. This is one of the reasons why GMO-products have become deeply mixed in our consumption: it is almost impossible to declare a product GM-free, such as processed products which contain canola oil.[673] However, in *the EC–Asbestos case*, the Appellate Body has requested proof of additional tests under the first category before shifting to the second and third categories.

(i) the extent to which products are capable of performing the same or similar functions (end-uses), and
(ii) the extent to which consumers are willing to use the products to perform these functions (consumers' tastes and habits).[674]

If these requirements of the Appellate Body are applied to a GMO-related case, the physical characteristic of "likeness" between non-GMOs and GMOs may depend on which GMO-product or what function of GMOs will be tested.[675] However, it is also difficult to judge which scientific evidence of "likeness" of end-use and which substitutability of GMO-products from the consumer perspective is more relevant.

For the second category, the full extent to which GMO-products are "capable of serving the same or similar end-uses" of non-GMO-products has not yet been scientifically established. For example, whether GMOs cause organisms to be destructive or invasive in the natural ecosystem, and initiate side effects, such as carrying allergens and toxins into products.[676] However, if a GMO-related case is tested under the statements of the Appellate Body in *the EC–Asbestos case*, the evidence relating to the health risks associated with GMOs is likely to be evaluated under the first and third categories (physical properties, and consumers' tastes and habits).[677] For the fourth category, under the WTO case law, the Appellate Body does not consider the criterion of tariff classification if differences between the two products are not clear.[678] In other words, the

[672] A beginner's guide to genetic engineering, Available online [www.ifgene.org/beginner.htm] viewed 20 December 2005.
[673] Interview with the UNEP officer #8-1, July, 2004. For example, if the threshold is less than 0,9%, the EC see a product as GM-free.
[674] Appellate Body Report, *the EC - Asbestos case*, WT/DS11/AB/R, paragraph 117.
[675] Ibid. paragraph 111. "We believe that physical properties deserve a separate examination that should not be confused with the examination of end-uses. Although not decisive, the extent to which products share common physical properties may be a useful indicator of "likeness". Furthermore, the physical properties of a product may also influence how the product can be used, consumer attitudes about the product, and tariff classification. It is, therefore, important for a panel to examine fully the physical character of a produc[t].…"
[676] New Scientist Special Report on GM Organisms, New Scientist, Available online [www.newscientis t.com/channel/opinion/gm-food/] viewed 20 December 2005. GM Crops and Food, Gene Watch, Available online [http://www.genewatch.org/CropsAndFood/default.htm] viewed 20 December 2005.
[677] Appellate Body Report, *the EC - Asbestos case*, WT/DS11/AB/R, paragraph 113. "….[h]owever, consider that the evidence relating to the health risks associated with chrysotile asbestos fibres need be examined under a *separate* criterion, because we believe that this evidence can be evaluated under the existing criteria of physical properties, and of consumers' tastes and habits, to which we will come below."
[678] Appellate Body Report, *Japan - Taxes on Alcoholic Beverages*, WT/DS8/AB/R, WT/DS10/AB/R WT/DS11/AB/R, p. 21, 4 October 1996. "No one approach to exercising judgement will be appropriate for all cases. The criteria in *Border Tax Adjustments* should be examined, but there can be no one precise and absolute

Appellate Body would recognize tariff classification to reflect the physical properties of products and may be influenced by consumer perceptions as well.[679]

In violation of the WTO case law, the third category can be the key issue. The Appellate Body stated in *the EC–Asbestos case*, "in a case, where the products are physically very different, a panel *cannot* conclude that they are "like products" if it *does not examine* evidence relating to consumers' tastes and habits"[680]. A complainant needs to show that consumers' perceptions and behaviour affect the degree of substitutability and competitiveness in the market place. It would also need to be shown that imported "like" products are treated less favourably than lay domestic products. However, consumer behaviour towards GMOs strongly reflects political, cultural and economic factors. For example, consumers in health conscious countries like Switzerland and Japan are allergic to GMO-foods; and many developing countries have followed this trend because they seek to prove that they are a GMO-free country so that they can gain market access to these GMOs conscious countries.[681] Thus, consumers' choices are sometimes beyond just health and the environment matters and it is unclear how far those facts could be included as a consumer's tastes and habits.

The Appellate Body admitted that it is not simple to clear all "likeness" categories in the WTO case law because the four categories often conflict with each other.[682] For example, although the physical properties completely differ, there may be "strong evidence of similar end-uses" or "a high degree of substitutability of the products from the consumer perspectives".[683] It is also difficult to judge which evidence is more relevant than others. The Appellate Body also emphasized that when all the relevant evidence is examined under the four categories, the term of "likeness" should have legal provision of the issue under *Article III: 4* of the GATT.[684] It implies that this legal process should maintain rational relationships with economic factors.

In addition, some a GMO-producing country may argue that GMO- and non-GMO-products are "like" products by using the principle of substantial equivalence. The principle evaluates only selected characteristics of GMO-foods to corresponding non-GMO-foods. For example, if some GMO-foods are equivalent to non-GMO-foods in particular characteristics such as consumers' perceptions, the principle may not concern food safety of these GMO-

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definition of what is "like". The concept of "likeness" is a relative one that evokes the image of an accordion. The accordion of "likeness" stretches and squeezes in different places as different provisions of the *WTO Agreement* are applied. The width of the accordion in any one of those places must be determined by the particular provision in which the term "like" is encountered as well as by the context and the circumstances that prevail in any given case to which that provision may appl[y].…"

[679] Appellate Body Report, *the EC - Asbestos case*, WT/DS11/AB/R, paragraph 102.

[680] Ibid. paragraph 121.

[681] Interview with the UNEP officer #8-2, July, 2004.

[682] Appellate Body Report, *the EC - Asbestos case*, WT/DS11/AB/R, paragraph 120.

[683] Ibid.

[684] Ibid. paragraph 103. "The kind of evidence to be examined in assessing the "likeness" of products will, necessarily, depend upon the particular products and the legal provision at issue. When all the relevant evidence has been examined, panels must determine whether that evidence, as a whole, indicates that the products in question are "like" in terms of the legal provision at issue. We have noted that, under Article III:4 of the GATT 1994, the term "like products" is concerned with competitive relationships between and among product[s]…."

foods.[685] Thus, the tests of substantial equivalence may set a lower threshold for determining GMO-products than the tests established by the WTO case law. However, although the concept of substantial equivalence was introduced by the Organisation for Economic Co-operation and Development (OECD) in 1993[686] and the Food and Agriculture Organization of the United Nations (FAO)/World Health Organization (WHO) Joint Expert Consultation in 1996[687], the tests of substantial equivalence have not yet been recognized as an international standard. Many trade experts agreed on the general usefulness of the principle as a starting point for risk assessment, but also stressed the need for a more structured approach to assessing substantial equivalence.[688]

8-2-2. The Cartagena Protocol on Biosafety - Handling, transport, packaging and identification of living modified organisms

Although the Cartagena Protocol on Biosafety was adopted, several issues have remained unresolved and have been left to the COP-MOPs to finalize. Thus, PPM-related analyses may still be difficult to crystallize under the Cartagena Protocol on Biosafety.

The Biosafety Protocol includes provisions regarding the necessary documentation needed for the transboundary movement of living modified organisms (LMOs). When LMOs are intentionally introduced into the environment or destined for contained use, they are to be clearly identified.[689] *Article 18.2* requires Parties to take "necessary measures to require that living modified organisms that are subject to intentional transboundary movement within the scope of this Protocol are handled, packaged and transported under conditions of safety, taking into consideration relevant international rules and standards".[690] In particular, *Article 18.2 (a)* addresses the documentation requirements for LMOs intended for direct use as food or feed, or for processing (FFP):

> Living modified organisms that are intended for direct use as food or feed, or for processing, clearly identifies that they "may contain" living modified organisms and are not intended for intentional introduction into the environment, as well as a contact point for further information. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall take a decision

[685] Ho, M.W. & Steinbrecher, R., "Fatal flaws in food safety assessment: critique of the joint FAO/WHO biotechnology and food safety report," *Environmental & Nutritional Interactions* 2, 1998, pp. 51-84.
[686] Safety evaluation of foods derived by modern biotechnology: Concepts and principles, OECD, 1993, Modern biotechnology broadens the scope of the genetic changes that can be made to food organisms, as well as the range of possible sources of food. This concept elaborates scientific principles to be considered in making evaluations of new foods or food components based on a comparison with foods that have a safe history of use.
[687] In 1990 and 1996 FAO and WHO organized joint expert consultations to consider the safety and nutritional aspects of genetically modified foods. The 1996 Consultation recommended that "*substantial equivalence* be an important component in the safety assessment of foods and food ingredients derived from genetically modified plants intended for human consumption". FAO, 1996.
[688] Stilwell, Matthew & Van Dyke, Brennan, "Codex, Substantial Equivalence and WTO Threats to National GMO Labeling Schemes," Center for International Environmental Law, Spring 1999.
[689] The Cartagena Protocol on Biosafety, *Article 18.2.*
[690] Ibid. *Article 18.1.*

> on the detailed requirements for this purpose, including specification of their identity and any unique identification, no later than two years after the date of entry into force of this Protocol.

In the COP/MOP 1 in 2004, delegates discussed the type of documentation accompanying LMOs-FFP with divergent views over whether stand-alone documentation should be required or existing documentation such as commercial invoices should be used to incorporate the Protocol's documentation requirements.[691] The COP/MOP 1 rules agreed upon with reference to LMOs-FFP seemed to go further than the requirements originally stated in *Article 18* of the Protocol. The decision regarding *Article 18.2 (a)* of documentation for LMOs-FFP in the COP/MOP 1 is that:

> *Requests* Parties to the Protocol and *urges* other Governments to take measures to require the use of a commercial invoice or other document required or utilized by existing documentation systems, as documentation that should accompany living modified organisms that are intended for direct use as food or feed, or for processing, for the purpose of identification by incorporating the information requirements of the first sentence of paragraph 2 (a) of Article 18, and the requirements established under paragraph 4 below, pending a decision on detailed requirements for this purpose by the Conference of the Parties serving as the meeting of the Parties to the Protocol, which could include the use of a stand-alone document.[692]

Compliance with new requirements is much more complex than the final draft of the Biosafety Protocol; on the other hand, the new requirements aim to establish clear systems of identification and segregation, in particular language of "may contain" in *Article 18.2 (a)*.[693] The second decision followed this decision, and relates to *Article 18.2 (a)* of documentation for LMOs-FFP in the COP/MOP 1:

> *Requests* Parties to the Protocol and *urges* other Governments to take measures ensuring that documentation accompanying living modified organisms that are intended for direct use as food or feed, or for processing clearly identifies that the shipment may contain living modified organisms intended for direct use as food or feed, or for processing, and states that they are not intended for intentional introduction into the environment.[694]

One of the significant steps achieved in relation to *Article 18.2 (a)* of documentation for LMOs-FFP at the COP/MOP 1 is the recognition of unique identifiers, which give credibility to the documentation system of the Protocol. The decision states that:

> *Further urges* Parties to the Protocol and other Governments to require that the documentation referred to in paragraph 1 above includes: (i) the common, scientific and, where available, commercial names, and (ii) the transformation event code of the living modified organisms or, where available, as a key to accessing information in the Biosafety Clearing-House, its unique identifier code.[695]

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[691] International Institute for Sustainable Development, Earth Negotiations Bulletin, Vol.9, No.289, March 2004.
[692] COP-MOP 1 Decisions, MOP BS-I/6, Paragraph 1.
[693] The Cartagena on Biosafety Protocol, *Article 18.2(a)*
[694] COP-MOP 1 Decisions, MOP BS-I/6, paragraph 2.
[695] Ibid. Paragraph 4.

This decision can help access much LMO information needed under the Protocol, and to assist importers and exporters in accessing information through the Biosafety Clearing-House.

The COP/MOP 1 mentioned the unique identifier code particularly developed by the OECD Unique Identifiers for Transgenic Plants.[696] The COP/MOP 1 proposed that Parties and other governments take measures to apply this without prejudice in the possible development and applicability of other systems to identify LMOs under the Protocol.[697] Participants at the Meeting requested the Executive Secretary develop or maintain a register of unique identifier codes to ensure harmonization in the Biosafety Clearing-House, and encourage the OECD and other relevant organizations to initiate or enhance their activities towards developing a harmonized system of unique identifiers.[698] The Executive Secretary was requested to synthesize:

- information on Parties' experience in implementing the requirements of Article 18.2(a);
- views of Parties regarding the detailed requirements referred to in the second sentence of Article 18.2(a); and
- experiences of Parties with using existing unique identification systems under the Protocol.[699]

Moreover, the COP/MOP 1 decided to establish an open-ended technical expert group on identification requirements of LMO-FFPs. Terms of Reference for Open-ended Technical Expert Group on identification requirements of Living Modified Organisms intended for direct use as food or feed or for processing are annexed to the decision. *Terms of Reference* contain issues which the technical expert "shall" examine, related to specifying the identity of LMO-FFPs:

- The documentation to accompany living modified organisms that are intended for direct use as food or feed, or for processing for the purpose of Article 18, paragraph 2 (a);
- The information provided in the accompanying documentation;
- The extent and modality of using unique identifiers; and, if possible,
- Thresholds for adventitious or unintentional presence of LMOs that may be needed to trigger identification requirements;
- Review available sampling and detection techniques, with a view to harmonization.[700]

The Expert group shall also prepare a draft decision on these matters for the next COP/MOP. The expert group will have to interpret the "may contain" language and determine the extent to which additional information should be included.

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[696] In February 2002, the OECD published "the Guidance for the Designation of a Unique Identifier for Transgenic Plants". A Unique Identifier is a nine-digit alphanumeric code that is given to each transgenic (or genetically engineered) plant that is approved for commercial use, including planting and food/feed use. ENV/JM/MONO(2002)7.
[697] COP-MOP 1 Decisions, MOP BS-I/6.
[698] UNEP/CBD/BS/COP-MOP/1/7.
[699] IISD, Earth Negotiations Bulletin, Vol.9, No.289, March 2004.
[700] COP-MOP 1 Decisions MOP BS-I/6, *Annex*.

Lastly, the COP/MOP 1 still left some issues, due to the provisional nature of the present documentation requirements, being subject to a decision on detailed requirements, to be taken by the COP/MOP 2.[701] Although the Protocol is the only international instrument dealing exclusively with LMOs, it runs in parallel with various international instruments and standard-setting bodies, including the International Plant Protection Convention, the Codex Alimentarius, the OECD and a number of Agreements under the WTO. In the COP/MOP 1, delegates were not only faced with a full process-focused agenda, but also they had to be aware of other international processes dealing with biotechnology-related issues.

8-2-3. Conclusion

Some international law specialists are concerned that "establishing ecological labeling standards may create an opening for "over-stretching" to non-trade-related goals, such as labour standards, human rights, goods governance".[702] The TBT Agreement potentially applies the measures taken pursuant to the Biosafety Protocol. The Protocol requires that the transboundary transfer of LMOs, which are subject to the AIA Procedure notified in advance, are accompanied by specified information, and approved in writing by the Party of import.[703] The TBT Agreement possibly covers non-food-safety-related factors of GMO-labeling because it more widely focuses on science than the other WTO Agreements. In particular, *Annex 1.1*: *Technical regulation* of the TBT Agreement states regulations of packaging, marking or labeling requirements as it applies to PPMs:

> Document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.

The TBT Agreement and the Biosafety Protocol may be compatible in the case of PPMs. However, the WTO and the Protocol's different jurisdictional norms may create contradictions between the two Agreements. The norm of the WTO case law seems to interpret "likeness" based on an economic explanation. In other words, it is possible that the degree of "riskiness" of GMOs and non-GMOs may not be equivalent in the WTO case.[704] Thus, differences between standards based on product characteristics and standards based on PPMs are interpreted in an export-oriented manner under the WTO case law. On the other hand, the Biosafety Protocol incorporates the principle that Parties have sovereign rights to control the transfer, handling and use of LMOs, including the right to refuse the import of LMOs. Under the Advanced Informed

[701] COP-MOP 1 Decisions MOP BS-I/6.
[702] Interview with the WTO officer #8-1, July, 2004
[703] The Cartagena Protocol on Biosafety, *Article 7.1*.
[704] Wong, Julian, "Are Biotech Crops and Conventional Crops like Products? An Analysis under GATT," *Duke Law and Technology Review*, October 2003. Moreover, it is useful that Christoforou proposed two key elements procedural and material to illustrate that GMO products are not 'like' non-GMO products. Christoforou, T., "The regulation of genetically modified organisms in the European Union: The interplay of science, law and politics," *Common Market Law Review*, 2004, pp. 651-655

Agreement (AIA) procedures, Parties must take measures to ensure that LMOs are "handled, packaged and transported under conditions of safety" and are locally identified.[705]

8-3. Risk assessment and non-economic considerations

Science-based decision-making procedures through decisions and measures based primarily on risk assessments are characterized both in the SPS Agreement and the Cartagena Protocol on Biosafety. A risk assessment under the SPS Agreement must be based on its scientific principle, which must take into account the relevant provisions of its *Article 5*: *Assessment of Risk and Determination of the Appropriate Level of Sanitary or Phytosanitary Protection.*[706] The Biosafety Protocol has also established that the risk assessment should be carried out in a scientifically sound manner, take into account recognized techniques in accordance with its *Annex III*: *Risk Assessment*.[707] In the case of GMOs/LMOs, the objective of risk assessments is to identify and evaluate the risks of the proposed introduction of GMOs/LMOs and their related products on human, animal or plant life or health in the SPS Agreement; and on the conservation and sustainable use of biological diversity as well as on human health in the Biosafety Protocol.[708] In both cases, risk assessments are also aimed at the adoption of impartial and objective rules to guide transboundary movement of GMOs/LMOs.

A divergence between the two instruments seems to emerge in the area of risk management. Risk assessment is often described as a strictly scientific process with the objective of quantifying the probability of damage that might occur, while risk management is often seen as a subsequent and distinct process from risk assessment.[709] The WTO notes that the international organizations recognize risk assessment to be part of a wider process called "risk analysis":

> **Risk Assessment** takes into account the probability (the actual likelihood and not just the possibility) of the hazard occurring, the consequences of that hazard occurring, and the degree of uncertainty involved.
> **Risk Management** involves identifying and implementing the best option for reducing or eliminating the likelihood of the hazard occurring.[710]

However, the WTO states that this description of risk assessment differs from the definition contained in the SPS Agreement. In contrast, UNEP International Technical Guidelines for Safety in Biotechnology states:

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[705] Ibid. *Article 18.1.*
[706] The SPS Agreement *Article* 3.*3.*
[707] The Cartagena on Biosafety Protocol, *Article 15.1.*
[708] The SPS Agreement *Article 2.2*, The Cartagena on Biosafety Protocol *Article 1.*
[709] Zakri, A.H., "International Standards for Risk Assessment and Risk Management of Biotechnology," ICTSD Workshop on Biotechnology, Biosafety and Trade: Issues for Developing Countries, Bellevue, Switzerland 18 - 20 July 2001.
[710] The WTO, SPS Agreement Training Moudule, 2.5 Risk analysis, Available online [http://www.wto.org/english/tratop_e/sps_e/sps_agreement_cbt_e/c2s5p1_e.htm#riskanaly] Viewed 20 December 2005.

> **Risk Assessment:** The measures to estimate what harm might be caused, how likely it would be to occur and that scale of the estimated damage.
> **Risk Management:** The measures to ensure that the production and handling of an organism are safe.[711]

Firstly, this section compares the different concepts of risk assessment between the WTO and the Cartagena Protocol on Biosafety by using four sanitary and phytosanitary-related WTO dispute cases[712]:

- *European Communities — Measures Concerning Meat and Meat Products,*[713]
- *Australia — Measures Affecting the Importation of Salmon,*[714]
- *Japan — Measures Affecting Agricultural Products,*[715] and
- *Japan — Measures Affecting the Importation of Apples.*[716]

Secondly, ***8-3-2*** analyzes how the WTO case law recognises socio-economic issues. Then, ***8-3-3*** examines conformity of the WTO with international standards to analyze the relationship between the WTO and the Biosafety Protocol.

8-3-1. Risk assessment in the WTO dispute cases

Until the entry into force of the Biosafety Protocol in September 2003, WTO was the only applicable law to consider international trade in GMOs.[717] Thus, it is important to analyze how the WTO applies risk assessment, which differs from the Biosafety Protocol's methods. The WTO sanitary and phytosanitary-related dispute cases may also give some reflection on where the SPS Agreement stands and whether it is appropriate and compatible with the Biosafety Protocol. This section extends analyses of the SPS Agreement discussed in chapter 7 in the following order:

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[711] UNEP International Technical Guidelines for Safety in Biotechnology.

[712] Since 1 January 1995, several complaints involving sanitary and phytosanitary measures have been formally raised in the WTO. These include: inspection procedures for fresh fruits; shelf-life regulations for processed meat products; bottled water requirements; a ban on imported salmon; a ban on the use of growth-enhancing hormones in meat production; and restrictions on poultry processing methods. The WTO, Available online [http://www.wto.org/English/thewto_e/whatis_e/eol/e/wto03/wto3_32.htm# note4] Viewed 20 December 2005.

[713] Appellate Body Report, *European Communities - Measures Concerning Meat and Meat Products*, WT/DS26/AB/R, WT/DS48/AB/R, 16 January 1998. However, this case continues as *United States — Continued Suspension of Obligations in the EC-Hormones Dispute*, DS.320 & *Canada — Continued Suspension of Obligations in the EC - Hormones Dispute*, DS321. The WTO opened panel proceeding to public for the first time in September 2005.

[714] Appellate Body Report, *Australia - Measures Affecting the Importation of Salmon*, WT/DS18/AB/R, 20 October 1998.

[715] Appellate Body Report, *Japan - Measures Affecting Agricultural Products*, WT/DS245, 22 February 1999.

[716] Appellate Body Report, *Japan - Measures Affecting the Importation of Apples*, WT/DS76, 26 November 2003.

[717] The first complaint dealing with trade in GMOs was commenced at the WTO in 2000. The request concerned the prohibition imposed by Egypt on the import of canned tuna form Thailand that might be packed with GM-soybean oil. However, the case was resolved through consultations between the two countries. *Egypt-Import Prohibition on Canned Tuna with Soybean Oil, Request for Consultations, Thailand*, WT/DS205/1.

- what the definition of risk assessment in the WTO case law is;
- what circumstances the SPS Agreement recognizes based on risk assessment; and
- how Members are free to set their own acceptable level of risk.

Firstly, the WTO case law has identified the definition of risk assessment in the four sanitary and phytosanitary-related WTO dispute cases. In the WTO Agreement, sanitary and phytosanitary-related measures need to protect against either:

- food-borne risks for human or animal life or health, or
- pest- or disease-related risks for human, animal or plant life or health.[718]

The Appellate Body also agreed on a definition of two types of risks:

> [T]he evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences.[719]

In *the EC-Hormones case*, the alleged risk was a food-borne risk for human life and health. The EC claimed the risk related to contaminants in foods by using growth-promoting hormones in livestock. However, the United States and Canada argued that there was no evidence of adverse effects of growth-promoting hormones on human health.[720] The last three cases were alleged pest- or disease-related risks for human, animal or plant life or health. In *the Australia- Salmon case*, Australia intended to protect its animal life against the introduction of some twenty-four exotic fish diseases. However, Canada appealed that their salmon exported for human consumption was unlikely to introduce these diseases.[721] In *the Japan-Agricultural Products II case*, Japan conditionally banned certain fruit imports from the US including apples, cherries, peaches, walnuts, apricots, pears, plums and quinces to avoid the introduction of the codling moth considered to be a pest. In *the Japan- Apples case*, Japan also wanted to regulate the import of US apples to stop the introduction of fire blight or the fire blight disease-causing organism. However, the US argued against Japan's frequent testing requirements of each variety of fruits. The US claimed that Japan's requirements were not effective treatment and were **"**unnecessarily burdensome".[722]

In these four cases, a fundamental distinction was established between risk assessment required for food-borne risks and for pest- or disease-related risks in accordance with the

[718] The SPS Agreement *Annex A.1*.
[719] Appellate Body Report, *the Australia - Salmon case*, WT/DS18/AB/R, Paragraph 120.
[720] Canada and the US requested consultations with the EC regarding the importation of livestock and meat from livestock that have been treated with certain substances having a hormonal action under GATT, the SPS, TBT and Agriculture Agreements. Panel Report, *the EC-Hormones case*, WT/DS26//R/USA.
[721] Panel Report, *the Australia - Salmon case*, WT/DS18/RW.
[722] Appellate Body Report, *the Japan - Agricultural Products II case*, WT/DS76. Appellate Body Report, *the Japan - Apples case*, WT/DS245.

Appellate Body. The Appellate Body has examined risk assessment based on *paragraph 4* of the SPS Agreement, *Annex A*: *Definitions*:

> 4. Risk assessment — The evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences; or the evaluation of the potential for adverse effects on human or animal health arising from the presence of additives, contaminants, toxins or disease-causing organisms in food, beverages or feedstuffs.

The Appellate Body did not seek to diminish the substantial differences between the two types of risk assessments which the Body proposed in *the Australia - Salmon case*.[723] In *the Japan-Apples case*, which is the most recent SPS measure-related case, the Appellate Body paid particular attention to the word "might be applied" in *paragraph 4* of *Annex A* to the SPS Agreement.

> [T]he phrase "which might be applied" is used in the conditional tense. In this sense, "might" means: "were or would be or have been able to, were or would be or have been allowed to, were or would perhap[s]". (footnote is omitted)….[724]

The Appellate Body explained that risk assessment should not be limited to an examination of the measures already in place or favoured by an importing Member.[725] The Appellate Body also elaborated extensively on the relationship between the measures and risk assessment that "must exist between risk assessment and the measures taken to protect human health".[726] A more provisional approach has been implied in *the Japan- Agricultural Products II case*. Firstly, when there is not sufficient scientific evidence, the SPS measures should not be maintained. Then, the relationship between the SPS measures and scientific evidences must be rational or objective, which should take into account the characteristics of the measures at issue and the quality and quantity of scientific evidence.[727] The Appellate Body determines the relationship between the SPS measures and scientific evidences on a case-by-case basis, which depends on the particular circumstances of the cases.

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[723] Appellate Body Report, *Australia - Salmon case*, WT/DS18/AB/R, footnote 69 to paragraph 123. "We note that the first type of risk assessment in paragraph 4 of Annex A is substantially different from the second type of risk assessment contained in the same paragraph. While the second requires only the evaluation of the potential for adverse effects on human or animal health, the first type of risk assessment demands an evaluation of the likelihood of entry, establishment or spread of a disease, and of the associated potential biological and economic consequences. In view of the very different language used in paragraph 4 of Annex A for the two types of risk assessment, we do not believe that it is correct to diminish the substantial differences between these two types of risk assessment[s]…."

[724] Appellate Body Report, *the Japan - Apples case*, WT/DS245/AB/R, paragraph 208.

[725] Ibid.

[726] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 193. "…. [t]he results of the risk assessment must sufficiently warrant -- that is to say, reasonably support -- the SPS measure at stake. The requirement that an SPS measure be "based on" a risk assessment is a substantive requirement that there be a rational relationship between the measure and the risk assessment. "

[727] Appellate Body Report, *the Japan - Agricultural Products II case*, *WT*/DS76/AB/R, paragraph 84.

Secondly, to identify the circumstances recognized by the SPS Agreement, risk assessment needs to address the specific kind of risk.[728] The Panel in *the EC-Hormones case* suggested that this entailed a two-step process of identification of adverse effects and evaluation of the "potential" or "probability" of the occurrence of these effects.[729] Then, the Appellate Body clarified that "probability" is a higher degree of "potential".

> [T]he ordinary meaning of "potential" relates to "possibility" and is different from the ordinary meaning of "probability".(footnote is omitted) "probability" implies a higher degree or a threshold of potentiality or possibilit[y]….[730]

The Appellate Body found that the scientific studies relied on by the EC did not rationally support the import prohibition of North American beef, since they were not specific to the cause and did not effect a rational relationship under consideration in this case. To comply with the SPS Agreement, risk assessment must examine the health risk in a specific relationship to the activity allegedly giving rise to the risk, and from there, a rational relationship must exist between risk assessment and the measures adopted.

However, the risk assessment required by the SPS Agreement for the "likelihood" and the "probability" has been developed mostly through *the EC-Hormones case*.[731] There is no requirement to make a quantitative evaluation; hence a risk assessment can either be quantitative or qualitative. The Panel suggested that a proper risk assessment under the WTO case law requires establishing minimum magnitude or threshold level of risk, and the risk should be evaluated under *Article 5.1* of the SPS Agreement. However, the Appellate Body stated that the SPS Agreement does not impose a quantitative requirement; hence the Panel can only determine "whether the SPS measures are sufficiently supported or reasonably warranted by risk assessment".[732]

In *the Australia-Salmon case*, as distinguished from food risks, the question is to examine the likelihood of risk which is likely to be inconsistent with the SPS Agreement, "in addition to an evaluation of possible consequences".[733] This three-step approach is obviously a more focused and demanding standard of inquiry under *Article 5.1* of the SPS Agreement.

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[728] The Appellate Body rejected submission of the EC studies because they are relevant but are not sufficiently specific enough. Appellate Body Report, *the EC-Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 200.
[729] Panel Report, *the EC-Hormones case*, WT/DS26//R/USA, paragraph 8.98.
[730] Appellate Body Report, *the EC-Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 184.
[731] Appellate Body Report, *the Australia - Salmon case*, WT/DS18/AB/R, paragraph 124. "[W]e do not agree with the Panel that a risk assessment of this type needs only *some* evaluation of the likelihood or probability. The definition of this type of risk assessment in paragraph 4 of Annex A refers to "the evaluation of the likelihood" and not to *some* evaluation of the likelihood. We agree, however, …. that the *SPS Agreement* does not require that the evaluation of the likelihood needs to be done quantitatively. The likelihood may be expressed either quantitatively or qualitatively. Furthermore, we recall, as does the Panel (footnote is omitted), that we stated in European Communities - Hormones that there is no requirement for a risk assessment to establish a certain magnitude or threshold level of degree of risk. (footnote is omitted)"
[732] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 186.
[733] Appellate Body Report, *the Australia - Salmon case*, WT/DS18/AB/R, paragraph 121.

(1) identify the diseases whose entry, establishment or spread a Member wants to prevent within its territory, as well as the potential biological and economic consequences associated with the entry, establishment or spread of these diseases,
(2) evaluate the likelihood of entry, establishment or spread of these diseases, as well as the associated potential biological and economic consequences, and
(3) evaluate the likelihood of entry, establishment or spread of these diseases according to the SPS measures which might be applied.[734]

The Appellate Body found that Australia's risk assessment did not meet the second and third of these requirements.[735] The Appellate Body observed "a violation of the more specific *Article 5.1* or *5.2* of the SPS Agreement … such finding can be presumed to imply a violation of the more general provisions of *paragraph 2* of *Article 2*: *Basic Rights and Obligations* of the SPS Agreement",[736] which requests sufficient scientific evidence. This went on to explain that "the existence of unknown and uncertain elements does not justify a departure from the requirements of *Articles 5.1, 5.2* and *5.3* of the SPS Agreement, read together with *paragraph 4* of *Annex A* to the SPS Agreement".[737] Thus, Australia's 1996 Final Report did not satisfy the second requirement. The Appellate Body also noted that *Article 2.2* and *5.1* must be read together, as they impart meaning to each other.[738]

With respect to the third requirement, risk assessment must evaluate the "likelihood" of risk in relation to the SPS measures that might be applied. The Appellate Body recalled its finding in *the EC-Hormones case*, which distinguished between the "potential" and the "probability" of the occurrence of these risks.[739] The Appellate Body stated that Australia did not evaluate a "possibility of entry" of the likelihood.[740] Thus, *the Australia-Salmon case* did not fall under *Article 5.1* and the first definition in *paragraph 4* of *Annex A* to the SPS Agreement. A more restrictive approach is implied in *the Japan-Apples case* where it was stated that the particular circumstances and specifics of the risk should be identified.[741] The Appellate

[734] Ibid.
[735] Ibid. paragraph 135.
[736] Panel Report, *the EC- Hormones case,* WT/DS26//R/USA, paragraph 8.52.
[737] Appellate Body Report, *the Australia - Salmon case*, WT/DS18/AB/R, paragraph 130.
[738] Ibid.
[739] Appellate Body Report, *the EC- Hormones case,* WT/DS26/AB/R, WT/DS48/AB/R, paragraph 184.
[740] Appellate Body Report, *the Australia - Salmon case*, WT/DS18/AB/R, paragraph 123. "….[w]e maintain that for a risk assessment to fall within the meaning of Article 5.1 and the first definition in paragraph 4 of Annex A, it is not sufficient that a risk assessment conclude that there is a possibility of entry, establishment or spread of diseases and associated biological and economic consequences. A proper risk assessment of this type must evaluate the "likelihood", i.e., the "probability", of entry, establishment or spread of diseases and associated biological and economic consequences as well as the "likelihood", i.e., "probability", of entry, establishment or spread of diseases according to the SPS measures which might be applied."
[741] Appellate Body Report, *the Japan - Apples case*, WT/DS245/AB/R, paragraph 203. In this case, the Panel found that the conclusion of the 1999 PRA with respect to fire blight was "based on an overall assessment of possible modes of contamination, where apple fruit is only one of the possible hosts/vectors considered."(footnote is omitted) The Panel further found, on the basis of the scientific evidence, that the risk of entry, establishment or spread of the disease varies significantly depending on the vector, or specific host plant, being evaluated.(footnote is omitted) Given that the measure at issue relates to the risk of transmission of fire blight through apple fruit, in an evaluation of whether the risk assessment is "sufficiently specific to the case at hand",(footnote is omitted) the nature of the risk addressed by the measure at issue is a factor to be taken into accoun[t]….

Body determined on the Report on Pest Risk Analysis concerning Fire Blight Pathogen[742] submitted by Japan. The Body stated that "evaluation of the risks associated with all possible hosts taken together" cited in the Report was not specific enough to qualify as a risk assessment under the SPS Agreement for "the evaluation of the likelihood of entry, establishment or spread of fire blight in Japan through apple fruit".[743]

The WTO case law suggested that the risk to be evaluated must be an ascertainable risk, and that "scientific uncertainty" rather than "scientific insufficiency" is not a kind of risk under the WTO law. Considering the requirements laid out in *the Australia-Salmon case*, it may be difficult in the face of scientific ignorance to establish a qualitative "likelihood" of risk that GMOs possibly harm the environment. In this sense, risk assessment for pests and diseases needs to be set a much higher threshold of action than for food and its related products. The requirement of risk assessment under the SPS Agreement is likely to restrict a Member's ability to impose an import prohibition. The implication seems to be that a more trade-restrictive measure should bear a greater quantitative and a better qualitative burden of scientific evidence. However, a more balanced response should be to demand a less trade-restrictive measure, while a Member aims to set higher levels of standard for protectionist purposes.

Thirdly, although Members are free to set their own acceptable level of risk, a proper risk assessment under the WTO case law has to be conducted only when an ascertainable risk is detected; an appropriate type of protection and an adequate level of risk are accepted. Members may also set the social value judgement for itself under *Article 5.5* of the SPS Agreement, but it also has to be recognized as the appropriate level of protection or acceptable level of risk. The Appellate Body proposed three distinct elements, which should exist in the application of the level of protection.

(i) the Member imposing the measure complained of has adopted its own appropriate levels of sanitary protection against risks to human life or health in several different situations,
(ii) these *levels of protection* exhibit arbitrary or unjustifiable differences ("distinctions" in the language of Article 5.5) in their treatment of different situations, and
(iii) the arbitrary or unjustifiable differences result in discrimination or a disguised restriction of international trade.[744]

The Appellate Body added that these three elements of *Article 5.5* should be cumulative in the nature; and particularly the third element should be proved independently of the second

[742] The Report on Pest Risk Analysis concerning Fire Blight Pathogen (*Erwinia amylovora*) - Fresh apples produced in the United States of America, *Ministry of Agriculture, Forestry and Fisheries, Plant Protection Division*, August 1999, JPN-32, submitted by Japan to the Panel. This pest risk analysis follows an earlier such analysis deemed by the Panel to be relevant to the entry and spread of fire blight and identified by Japan as the Pest Risk Analysis concerning Fire Blight Pathogen (*Erwinia amylovora*), 1996, JPN-31, submitted by Japan to the Panel.
[743] Appellate Body Report, *the Japan - Apples case*, WT/DS245/AB/R, paragraph 203.
[744] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 214.

element.[745] On the other hand, the Appellate Body recognized the differing level of protection in different situations.[746]

However, the Appellate Body emphasized that "the relationship between the more general *Article 2.3* and the more specific *Article 5.5* of the SPS Agreement are to be read together".[747] Then, in *the Australia-Salmon case,* the Body established three cumulative elements to support the appropriate level of protection.

(1) a measure is reasonably available taking into account technical and economic feasibility,
(2) a measure achieves the Member's appropriate level of sanitary or phytosanitary protection, and
(3) a measure is significantly less restrictive to trade than the SPS measure contested.[748]

These elements emphasize that sanitary and phytosanitary measures should not result in discrimination or a disguised restriction of trade between Members.

Lastly, if there is insufficient scientific evidence or no scientific evidence, Members have to adopt measures on a provisional basis in accordance with *Article 5.7*of the SPS Agreement. In *the Japan-Agricultural Products II case,* the Appellate Body made clear four cumulative requirements to meet the provision of *Article 5.7*.

A Member may provisionally adopt an SPS measure if this measure is
(1) imposed in respect of a situation where relevant scientific information is insufficient, and
(2) adopted on the basis of available pertinent information.
Such a provisional measure may not be maintained unless the Member which adopted the measure
(3) seeks to obtain the additional information necessary for a more objective assessment of risk, and
(4) reviews accordingly within a reasonable period of time.[749]

In particular, to maintain the third requirement, the Appellate Body held that the additional information must be relevant to conducting such a risk assessment, for example, the evaluation of the likelihood of entry and the estimation of establishment or spread of a pest.[750] To meet the fourth requirement, the WTO case law establishes "a reasonable period of time" on a case-by-

[745] Ibid. paragraph 215.
[746] Ibid. paragraph 217. "[T]he situations exhibiting differing levels of protection cannot, of course, be compared unless they are comparable, that is, unless they present some common element or elements sufficient to render them comparable. If the situations proposed to be examined are *totally* different from one another, they would not be rationally comparable and the differences in levels of protection cannot be examined for arbitrariness."
[747] Ibid. paragraph 212.
[748] Appellate Body Report, *the Japan - Agricultural Products II case*, WT/DS76/AB/R, paragraph 95. In addition, compared to the Cartagena on Biosafety Protocol *Annex III: Risk Assessment,* the first two requirements of the *Australia-Salmon* case could be reflected in *(a), (b)* and *(c)* of its *paragraph 8*, in particular, the "likelihood" of risk in *paragraph 8. (b)* conforms to the SPS Agreement. However, the third requirement of the *Australia-Salmon* case is effectively absent in the Biosafety Protocol, although its *paragraph 8. (e)* makes permissive reference to recommendations for risk management.
[749] Ibid. paragraph 89.
[750] Ibid. paragraph 92.

case basis,[751] which depends on the difficulty in obtaining the additional information to review the provisional SPS measures.

Conclusion

Most dispute cases in the WTO are resolved prior to dispute settlement procedures commencing, but the difficult cases such as *the EC-Hormones* and *the EC-Asbestos cases*, have highlighted serious differences between expert panels and the Appellate Body.[752] Such cases may be needed to clarify provisions allowing sovereignty over national quarantine policies, which are stricter than international standards, by reviewing of SPS *Article 2: Basic Rights and Obligations*.[753] The other solution can be more frequent use of the TBT Agreement, which recognizes processes closely related to the product characteristics as grounds to impose technical regulation to meet the environmental purpose. However, PPM-based environmental trade measures are not easy to justify within the WTO jurisprudence in accordance with the GATT/WTO dispute cases. According to previous environment-related dispute cases, the Panel has not recognized complaints to restrict products on the basis of how they are made or processed, especially, in the case of the environment, on the impact on the environment of how they are made and processed.[754] Thus, this limited case has not been tested yet and has been at the heart of the long-running trade and the environment debates.

In the case of GMOs, the most difficult issue is finding an appropriate measure of risk assessment to identify the risk posed by a GMO, if it has to be compared with any organization other than the equivalent non-modified or parental organism. For example, non-modified oilseed rape is just as capable of cross-pollination with closely related species and of persisting in the environment in feral populations as is modified oilseed rape.[755] However, the potential depend on environmental conditions and genetic backgrounds, and so the concept of risk varies culturally and individually as well as temporally and spatially.[756]

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[751] Ibid. paragraph 93.

[752] see *Chapter 7. Article 13.2* of The Dispute Settlement Understanding provides that "[p]anels may seek information from any relevant source and may consult experts to obtain their opinion on certain aspects of the matter." However, the WTO case law does not seem to take account of this information from expert panels.

[753] Cottier, T., "Trade and Human Rights: A Relationship to Discover," *Journal of International Economic Law,* Vol. 5, 2002, pp. 111-132.

[754] For example, in *the EC-Asbestos case*, "Evaluating evidence relating to the health risks arising from the physical properties of a product does not prevent a measure which is inconsistent with Article III:4 from being justified under Article XX(b)". Appellate Body Report, *the EC-Asbestos case*, WT/DS135/AB/R, Paragraph 115. However, the Appellate Body also argued that the case should have been looked at under the TBT Agreement rather than under GATT, but the Body cannot itself pursue the analysis under the TBT Agreement since the Body only has a mandate to examine issue of law and cannot itself embark on new analyses. Interview with the WTO officer #8-2, July, 2004.

[755] To focus on the additional risks that may be incurred by the insertion of a novel sequence of genetic material into the genome, on the other hand it is equally important not to focus simply on the inserted sequences as the sole difference between modified and non-modified or parental organism. Interview with the UNEP officer #8-3, July, 2004.

[756] Interview with the UNEP officer #8-4, July, 2004.

In contrast, the Biosafety Protocol analyzed in chapter 6 states that risk assessment should be carried out on a "case-by-case" basis and is not necessary to meet cumulative requirements.[757] However, the Biosafety Protocol recommends specific technical and scientific means of making risk assessments, such as characteristics of donor organisms, inserts/modification and recipient/parental organisms. However, the two regimes may be incompatible in regulating the minimum degree of scientific justification that is required for risk assessment and precautionary rules relating to products of biotechnology.

8-3-2. Socio-economic considerations

Socio-economic considerations are major factors that highlight different principles and legal norms between the WTO and the Biosafety Protocol. WTO Agreements may take account of socio-economic considerations for risk assessment to animal or plant life or health, but Members have to take account of relevant economic factors in accordance with the SPS Agreement *Article 5.3*. The Panel in *the EC-Hormones case* viewed that:

> ….[a]n assessment of risks is, at least for risks to human life or health, a scientific examination of data and factual studies; it is not a policy exercise involving social value judgments made by political bodies.[758]

Thus, non-scientific factors do not apply to the assessment of risk to human life or health under the WTO law, because human life should not be calculated by economic factors.[759] The main issue here is whether the WTO case law recognizes non-scientific factors, such as consumer concerns, cultural or moral preferences and social value judgements.

In *the EC-Hormones case*, the Panel noticed that the European Communities did not successfully provide convincing evidence that the control of the hormones is more difficult than the control of others in accordance with the "relevant inspection, sampling and testing methods" referred to in *Article 5.2* of the SPS Agreement.[760] Moreover, the Panel stated that the risk of this substance or its particular use should be covered by a broad analysis including the economic and social incidence.[761] Thus, the Panel concluded that "these non-scientific factors should, therefore, not be taken into account in risk assessment but in risk management".[762] However, the Appellate Body reversed the Panel finding in the respect of "real" human life. The Body stated that "the risk that is to be evaluated in risk assessment under *Article 5.1* is not only risk ascertainable in a science laboratory operating under strictly controlled conditions, but also risk in human societies as they actually exist".[763] The Appellate Body also disagreed with the Panel's suggestion that the risk resulting from the combination of potential substance and difficulty of the control is justified by distinguishing between "risk assessment" and "risk management"

[757] The CBD, UNEP/CBD/BSWG/5/3/ Annex.
[758] Panel Report, *the EC-Hormones case*, WT/DS48/R/CAN, paragraph 8.97.
[759] Interview with the WTO officer #8-3, September, 2004.
[760] Panel Report, *the EC-Hormones case*, WT/DS48/R/CAN, paragraph 8.149.
[761] Ibid. *Article 5.2* of the SPS Agreement does not mention the general problem of control risks.
[762] Ibid.
[763] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 187.

because the concept of "risk management" is not cited in the SPS Agreement.[764] Thus, the Body stated that this case should not fall under *Article 5.2*, *Article 8*: *Control, Inspection and Approval Procedures*[765] and *Annex C*: *Control, Inspection and Approval Procedures*[766] of the SPS Agreement.[767]

On the other hand, as analyzed in chapter 6, *Article 26* of the Biosafety Protocol allows Parties to take account of socio-economic considerations, when they make a decision under which conditions to permit import of LMOs. The Protocol considers trade measures justified by a loss of traditional knowledge and practice, particularly among indigenous and local communities impacted by import of LMOs.[768] The Biosafety Protocol also recognizes different economic situations among its Parties. Its *Article 11.6*: *Procedure for Living Modified Organisms Intended for Direct Use as Food or Feed, Or For Processing* gives concessions for developing or economy transition countries in the absence of a domestic regulatory framework and in exercise of its domestic jurisdiction. If those countries want to regulate import of LMOs-FFP, *Article 11.6* suggests that they use risk assessment in accordance with *Annex III*: *Risk Assessment* and give a longer time limit for their decision-making procedures.

Conclusion

Socio-economic factors play an important role in governments' decision making-procedures with scientific uncertainty or insufficient scientific evidence of GMOs. The regulation of non-economic factors under the WTO jurisdiction should be analyzed within the context of the WTO case law. However, WTO's legal flexibility has not seemed to establish a clear vision for socio-economic factors. Thus, relevant economic factors have to be demonstrated for assessing a risk in the WTO case law. For example, in *the Japanese measures on imports of leather case*, the Panel rejected Japan's claim that cheap imports would damage traditional knowledge of a certain minority community.[769]

On the other hand, the Biosafety Protocol recognizes socio-economic considerations more clearly in its Articles than do the WTO Agreements. However, the Protocol is still likely to have a problem to harmonise sonic-economic considerations as a universal value. Each country's socio-economic factors are unique. Thus, in the case of GMOs, it is important to clarify how each country should develop appropriate development policies containing socio-economic considerations and which domestic policy is more important than others.

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[764] Ibid. paragraph 206.
[765] The SPS Agreement, Article 8: Members shall observe the provisions of Annex C in the operation of control, inspection and approval procedures, including national systems for approving the use of additives or for establishing tolerances for contaminants in foods, beverages or feedstuffs, and otherwise ensure that their procedures are not inconsistent with the provisions of this Agreement.
[766] See Appendix 6
[767] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 206.
[768] The Cartagena Protocol on Biosafety, *Article 26.1*.
[769] Panel Report, *the Japanese measures on imports of leather case*, L/4789, 26S/320 under Article XXIII:2 Nullification or Impairment, 6 November 1979.

8-3-3. Conformity with international standards

One of the clear aims of the SPS Agreement is to harmonize sanitary and phytosanitary measures internationally; hence it also aims to reduce the possibility of disguised protectionism. WTO Members can enact a sanitary and phytosanitary measure which conforms to international standards in accordance with the SPS Agreement *Article 3.2*: *Harmonization*. Members may also decide to deviate from international standards and to set their own level of protection if there is scientific justification or in accordance with *Article 5* of the SPS Agreement, which allows Members to set a higher level of protection.[770]

The Appellate Body in *the EC-Hormones case* clarified the relationship between *Articles 3.1* and *3.3* of the SPS Agreement, which indicated that *Article 3.1* excludes its scope of application in situations covered by *Article 3.3*.[771] *Article 3.1* establishes harmonization as the goal; however, there is no intention based on a plain reading of the text to support a binding obligation that measures conform to international standards.[772]

> 1. To harmonize sanitary and phytosanitary measures on as wide a basis as possible, Members shall base their sanitary or phytosanitary measures on international standards, guidelines or recommendations, where they exist, except as otherwise provided for in this Agreement, and in particular in paragraph 3.

On the other hand, under *Article 3.3*, Members have autonomous rights to determine their own level of protection, which may be higher than that established by international standards.[773] These rights are also written into *Annex A.5* of the SPS Agreement - "the level of protection deemed appropriate by the Member establishing a sanitary or phytosanitary measure".[774] The Panel stated that "whether the EC measures in dispute *with respect to the five hormones at issue for which international standards exist* are consistent with the requirements imposed by *Article 5*"; [775] hence it was up to the EC to prove that their measure met the conditions linked to that exception. Nevertheless, the Appellate Body reversed the Panel's decision which recognized the EC's higher standard setting. The Body stated that before the burden of proving consistency with a provision of the SPS Agreement, a *prima facie* case should not simply be described as an "exception". The case should not be also justified as a "stricter" or "narrower" interpretation of the provision than the "ordinary meaning of the actual treaty words".[776]

Furthermore, the Appellate Body has appeared to have accorded particular lenience to imminent threats posed to human health. In *the Australia-Salmon case*, the Appellate Body even

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[770] The SPS Agreement *Article 3.3.*
[771] Appellate Body Report, *the EC-Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 104.
[772] Ibid. paragraph 169-172.
[773] Ibid. paragraph 173-177.
[774] Ibid. paragraph 206.
[775] Panel Report, *the EC-Hormones case*, WT/DS26/R/USA, paragraph 8.90.
[776] Appellate Body Report, *the EC-Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 104.

went further as to suggest that Members are not precluded from choosing a "zero risk" level of protection under *Article 5.1* of the SPS Agreement.[777]

Risk assessment under the SPS Agreement may be viewed as a countervailing issue against the sovereign rights of Members to set their own level of protection. It stands to reason that the same rule of scientific justification applies where there are no international standard in place.[778] However, the permissive scope of *Article 5.7* may contract sharply where international standards and guidelines with insufficient scientific evidence are in place. Contradiction within the SPS Agreement may create circumstances where an inadequate risk assessment could be qualified as available relevant information, but this assessment is not based on the relevant international standards.

In addition, in the case of *the U.S.-Shrimp*, there is widespread international consensus that sea turtles are threatened with extinction and all seven sea turtle species inhabiting the world's oceans are listed as endangered under the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES).[779] The United States government has long recognized the plight of the sea turtles, and has listed the six species found in U.S. waters as threatened or endangered under the U.S. Endangered Species Act of 1973.[780] In deciding whether to include sea turtles as an exhaustible natural resource, the Appellate Body held that the term natural resources should not be static and based on its definition of fifty years ago, but that it should be "evolutionary", reflecting modern international conventions and declarations.[781]

The Appellate Body cited many sources, including the 1982 United Nations Convention on the Law of the Sea (UNCLOS), the Convention on Biological Diversity (CBD), and the Convention on the Conservation on Migratory Species of Wild Animals, to show that *Article XX (g)* encompasses both living and non-living resources.[782] As for exhaustible, the Appellate Body relied on the listing of the sea turtles in *Appendix I* of CITES to argue that sea turtles are commonly recognized as endangered, which was different from the case of *U.S.-Tuna* since the dolphin was not listed as an endangered species in CITES.[783] However, the case did not

[777] Appellate Body Report, *the Australia - Salmon case*, WT/DS18/AB/R, paragraph 125.
[778] The SPS Agreement *Article 3.3.*
[779] Convention on International Trade in Endangered Species of Wild Fauna and Flora, *Appendices I* and *II*, Mar. 3, 1973, 1976, 12 International Legal Materials 1085. The seven species are also listed in *Appendices I* and *II* of the Convention on the Conservation of Migratory Species of Wild Animals. The Convention on the Conservation of Migratory Species of Wild Animals, *Appendices I* and *II*, June 23, 1979, 19 International Legal Materials 11, 29.
[780] A 1973 conference in Washington led to the signing of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) later that year, the Endangered Species Act of 1973 was passed. The U.S. Fish and Wildlife Service, Available online [http://www.fws.gov/endangered/] viewed 20 December 2005.
[781] Appellate Body Report, *the US - Shrimp case*, WT/DS58/AB/RW, paragraph 130. The Appellate Body used an example of interpretation by the International Court of Justice. However, according to *Article 32* of the Vienna Convention, preparatory work should be considered if the meaning of an article remains ambiguous or obscure after *Article 31* general rules of interpretation have been exhausted. See Mattoo, Aaditya & Mavroidis, Petros, "Trade, Environment and the WTO: The Dispute Settlement Practice Relating to Article XX of GATT," in Petersmann Ernst-Ulrich (ed), *International Trade Law and the GATT/WTO Dispute Settlement System*, Aspen Publishers, New York, 1997.
[782] Ibid.
[783] Appellate Body Report, *the US - Shrimp case*, WT/DS58/AB/RW, paragraph 130, paragraph 132.

challenge a country's right to set environmental standards. CITES is also not the international standard-making body, hence the Appellate Body would refer to CITES and other MEAs in the future on a case-by-case basis. It contributed to the uncertainty about how future WTO tribunals will rule when actually confronted with a MEA trade measure.

Moreover, since the WTO is deferential to the presence of environmental regimes' standards, part of the question of whether WTO rules conflict with MEAs may become a matter of what these standard-setting processes internalize by way of their different norms. The SPS and TBT Agreements encourage the use of international standards. *Article 3.4* of the SPS Agreement specifically recognizes the standards developed by three relevant organizations (the Codex Alimentarius Commission, the Office international des epizooties (OIE) and the International Plant Protection Convention (IPPC)). These three organizations have started working on GMOs.

In 1999, the Codex established the first Ad-Hoc Intergovernmental Task Force on Foods Derived from Biotechnology with the goal of developing standards and guidelines for safety assessment of biotech foods. The Task Force has been developing general principles for risk analyses for GM foods, and specific guidance on risk assessment.[784] The Codex Committee on Food Labelling has been also working on labelling requirements for foods that are composed of, contain, or are derived from GMOs.[785] However, the labelling negotiation has had problems to reach an agreement because of the gap between the major biotech producer countries and anti-GMO countries. The OIE has had a working group on biotechnology since 1996. The OIE has developed a Manual of Standards for Diagnostic Tests and Vaccines, and some of the tests and vaccines relate to GMOs.[786] The IPPC has formed an open-ended working group on phytosanitary aspects of GMOs, biosafety and invasive species. Three sectors (food safety, plant life and health, and animal life and health) under the IPPC encompass policies and regulatory frameworks of food production in relation to food safety, the introduction of plant pests, animal pests and diseases, and zoonoses, and the introduction and release of GMOs and their products.[787]

These processes are external to both the WTO and MEAs and the relationship between them. However, contradiction between the WTO and MEAs over GMOs has extended to international standards organizations and their negotiation processes. Their developments may also affect the WTO and MEAs relationship since the WTO recognizes these three international standard organizations.

Conclusion

Annex III.3 of the Cartagena Protocol on Biosafety states that guidelines of risk assessment should be developed by relevant international organizations, as discussed in chapter 6. The

[784] The Codex Alimentarius Commission, CAC/GL 30, 1999. Then, the Ad-Hoc Intergovernmental Task Force on Foods Derived from Modern Biotechnology was reestablished in 2004.
[785] The Codex Alimentarius Commission, ALINORM 05/28/22, 2005.
[786] The Office international des epizooties, *The Manual of Standards for Diagnostic Tests and Vaccines*, 2000.
[787] The International Plant Protection Convention, *Biosecurity in Food and Agriculture*, 2001.

controversial guidelines to the Biosafety Protocol have been negotiated within the Codex Alimentarius Commission, which would not have to be adhered to under the Protocol. On the other hand, *Annex A. 3 (a)* of the SPS Agreement recommends "for food safety, the standards, guidelines and recommendations established by the Codex Alimentarius Commission relating to food additives, veterinary drug and pesticide residues, contaminants, methods of analysis and sampling, and codes and guidelines of hygienic practice". However, according to the WTO case law, the WTO may also follow the trend of the relationship between the Codex Alimentarius and the Biosafety Protocol as well.[788]

The status accorded to international standards can be a point of departure for compatibility between the WTO and the Biosafety Protocol Agreements. However, the WTO decision should be theoretically compatible with *Article 12* of the Rio Declarations, which states that "unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided".[789] Trade and environmental regimes agree that environmental measures addressing transboundary problems should be based on international consensus. In practice, the WTO case law and the Biosafety Protocol follow contradictory rules.

8-3-4. Conclusion

The WTO case law in *the EC-Hormones case* clarified that Members may base their measures on risk assessments conducted by other Members or one international standard. Also, if a Member establishes its own standard, its risk assessment techniques should appear to embrace all scientifically plausible accounts of risk in accordance with the SPS Agreement. Conversely, the Biosafety Protocol is most notable in declaring that its measures based on a risk assessment should be imposed to prevent adverse effects on the conservation.[790] This would seem to be consistent with SPS Agreement *Articles 2.2* and *5.1*. However, in permitting national discretion in using trade measures in the absence of scientific certainty, it is uncertain that the Protocol would be consistent with SPS Agreement *Article 5.7*. Moreover, the Biosafety Protocol recognizes the coexistence of "risk assessment" and "risk management". The Protocol acknowledges that governments take into account non-economic factors to make a decision about import risk assessment. Thus, risk assessment parameters under the WTO case law are not as flexible as the Biosafety Protocol.

Regarding the relationship between the WTO and the Biosafety Protocol Agreements, it is doubtful that action taken pursuant to the Biosafety Protocol would become an international standard privileged under SPS Agreement *Article 3.2*, which would give an import ban or a label a presumption of consistency with SPS disciplines. Unlike the Codex Alimentarius, the Biosafety Protocol is not an international standard-making organization.

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[788] Codex Alimentarius, Guideline for the Conduct of Food Safety Assessment of Food Derived from Recombinant-DNA Plants , July 2003.
[789] Appellate Body Report, *the US- Shrimp case*, WT/DS58/AB/RW, paragraph 124.
[790] The Cartagena Protocol on Biosafety, *Article 15.1*.

There seems to be a contradiction between the two regimes in regulating trade in LMOs destined for release into nature when there are greatly different concerns about the environmental consequences among states. Although the WTO case law seems to be more science-oriented than the Biosafety Protocol, some officials have said during interviews that the WTO is not "the world scientific organization".[791] Thus, if the requirements of the Appellate Body are applied to a GMO/LMO-related case, the WTO norms aim to regulate trade-restricting domestic regulations on food products of GMOs which are for protectionist purposes. On the other hand, the Biosafety Protocol aims to control LMOs based on rational public concerns over human, animal or plant health. It is controversial how one international standard should be created on the presumption of acceptability from the two regimes.

8-4. The WTO's precautionary principle and the Cartagena Protocol on Biosafety's precautionary approach

The precautionary rule may be useful where there is scientific uncertainty and an absence of norms and standards to protect the environment. Different agreements often use different versions of the precautionary discipline; there is no exception in the case of the WTO and the Cartagena Protocol on Biosafety. One of the most significant distinctions between the two Agreements is that the former uses the word "precautionary principle" whereas the latter employs the "precautionary approach". The distinction between them can be that language of "principle" seeks a general rule adopted universally, whereas language of "approach" may only describe a way of managing problems.[792]

International treaty laws, which adopt the "precautionary principle", give different conceptions of the level of risk based on the damage considered in different instances. There has been no clear general rule in the level of risk required before the precautionary principle is initiated. For example, one of the earliest international treaty laws adopted the precautionary principle, Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement of Hazardous Wastes within Africa. Its *Article 3 (f)* states that:

> Each Party shall strive to adopt and implement the preventive, precautionary approach to pollution problems which entails, inter-alia, preventing the release into the environment of substances which may cause harm to humans or the environment without waiting for scientific proof regarding such harm. The Parties shall co-operate with each other in taking the appropriate measures to implement the precautionary principle to pollution prevention through the application of clean production methods, rather than the pursuit of a permissible emissions approach based on assimilative capacity assumptions.

The objectives of the Bamako Convention are to protect human health and the environment from dangers posed by hazardous wastes by reducing the exposure of their generation to a minimum in terms of quantity and/or hazard potential, which however calls for the precautionary principle

[791] Interview with the WTO officer #8-4, September, 2004.

[792] Lehmann, Volker, "From Rio to Johannesburg and beyond: Globalizing precaution for Genetically Modified Organisms," The Heinrich-Böll-Foundation, April 2002.

with extremely low thresholds. In contrast, the *Preamble* to the Convention of Biological Diversity (CBD), the parent Convention of the Cartagena Protocol on Biosafety, states that:

> Noting also that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat.

The CBD aims to save environmental destruction and loss of species and ecosystems, which requires a much clearer situation before the precautionary principle is triggered.

Moreover, other interpretations see precautionary rules enriched by some extra non-scientific factors. For example, an extensive conception has been proposed in the International Law Association, *the 2002 New Delhi Declaration on the Principles of International Law related to Sustainable Development.* This definition broadened the scope of precaution, referring to its application in cases involving human health, natural resources and ecosystems.[793] However, to distinguish such discrepancies, there have not been any treaty laws that crystallize precautionary rules and a clear distinction between the definition of the "precautionary principle" and the "precautionary approach".

The purpose of this section is to compare the WTO's "precautionary principle" and the Biosafety Protocol's "precautionary approach". Firstly, ***8-4-1*** analyzes how the WTO case law interprets the precautionary principle. Secondly, ***8-4-2*** examines how the Biosafety Protocol has established the precautionary approach.

8-4-1. The WTO-The precautionary principle

In the WTO Agreement, the concept of the precautionary principle is found in the reflection of *Article 5.7*of the SPS Agreement. However, *Article 5.7* is viewed as insufficient from one aspect because the major problem with incorporating the precautionary principle in the WTO Agreements is that there is no single authoritative statement of the principle.[794]

The WTO case law exercised the concept of the "precautionary principle" under general exceptions to *Article XX* of the GATT 1994, which generally requests traditional scientific examination data and factual studies. The earliest GATT dispute case which clearly involved precautionary issues is *the Thailand-Cigarettes case* in the late 1980s. The US government claimed that Thailand's restriction of tobacco import was inconsistent with the GATT 1994. Thailand argued that its import restriction was justified under *Article XX (b)* because American cigarettes contain chemicals and other additives, which were likely to be more harmful than Thai

[793] There are several notable developments in the 2002 Declaration, such as a threat triggers the principle simply before "significant harm" may occur, but in that case, the burden of proof to the proponent of an activity has to in where "serious long-term or irreversible harm" occurs. *The 2002 New Delhi Declaration on the Principles of International Law related to Sustainable Development.*

[794] *Article 5.7* should be used in emergency situations, such as the Bovine Spongiform Encephalopathy (BSE) case. Thus, the perceptual rule in the WTO is only used for particular situation. Interview with the WTO officer #8-5, September, 2004.

cigarettes.[795] The Appellate Body (in *the EC- Asbestos case*) found in the Panel report of *the Thailand - Cigarettes case* that "Thailand could reasonably be expected to employ to achieve its health policy objectives".[796] However, the measure would be considered to be "necessary" under *Article XX (b)* only if there were no alternative measure consistent with the GATT 1994.[797]

In this context, the Appellate Body also mentioned the importance of the value pursued by the measure within the meaning of *Article XX* in *the Korea - Beef case*[798]. The measure may be considered to be "necessary" under *Article XX (d)* (necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of the GATT 1994), because the measure should take into account a process of weighing and balancing a series of factors.[799] The Appellate Body stated that the importance of the common interests or values should be protected by the law or regulation at issue but the accompanying impact of the law or regulation on imports or exports should be also considered.[800]

WTO case law has not sufficiently and systematically responded to strong social inhibitions granting market access due to strong cultural resistance to a product. In this case, the rights of Members to determine their appropriate level of protection are not necessary to be recognised as an indication or a component of the precautionary principle. However, if Members have the rights to determine their appropriate level of protection, similar expressions of the precautionary principle can be seen to exist in the SPS Agreement and *Article XX* of the GATT 1994. In *the EC-Asbestos case*, the rights of Members to determine the level of protection and to act with prudence on the basis of minority opinion were recognized by the Appellate Body in its interpretation of *Article XX*. The Body concluded that "this case seems to us perfectly legitimate for a Member to seek to halt the spread of a highly risky product while allowing the use of a less risky product in its place".[801]

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[795] Panel Report, *the Thailand - Cigarettes case*, DS10/R, 37S/200.

[796] Appellate Body Report, *the EC- Asbestos case*, WT/DS135/AB/R, paragraph 170. "Looking at this issue now, we believe that, in determining whether a suggested alternative measure is "*reasonably available*", several factors must be taken into account, besides the difficulty of implementation. In Thailand - Restrictions on Importation of and Internal Taxes on Cigarettes, the panel made the following observations on the applicable standard for evaluating whether a measure is "*necessary*" under Article XX(b): …." In WTO case law, dispute cases are cumulative from the GATT to the WTO.

[797] Panel Report, *the Thailand - Cigarettes case*, DS10/R, 37S/200, paragraph 175. adapted 20, February 1990.

[798] Panel Report, *Korea — Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, WT/DS161/R, WT/DS169/R, 31, July 2000.

[799] Appellate Body Report, *the Korea - Beef case*, WT/DS161/AB/R, WT/DS169/AB/R, paragraph 164.

[800] Ibid.

[801] Appellate Body Report, *the EC- Asbestos case*, WT/DS135/AB/R, paragraph 168. "….[w]e note that it is undisputed that WTO Members have the right to determine the level of protection of health that they consider appropriate in a given situation. France has determined, and the Panel accepted (footnote is omitted), that the chosen level of health protection by France is a "halt" to the spread of asbestos-related health risks. By prohibiting all forms of amphibole asbestos, and by severely restricting the use of chrysotile asbestos, the measure at issue is clearly designed and apt to achieve that level of health protection. Our conclusion is not altered by the fact that PCG fibres might pose a risk to health. The scientific evidence before the Panel indicated that the risk posed by the PCG fibres is, in any case, less than the risk posed by chrysotile asbestos fibres (footnote is omitted), although that evidence did not indicate that the risk posed by PCG fibres is non-existen[t]…"

In addition, Canada argued the statement of the Appellate Body in accordance with *Article 11*: *The Dispute Settlement Understanding,*[802] which requires that a Member should constitute a health policy in accordance with a "majority" of scientific opinion at a given time.[803]

> 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, and make such other findings as will assist the Dispute Settlement Body in making the recommendations or in giving the rulings provided for in the covered agreements.

However, the Appellate Body rejected Canada's argument. Under the SPS Agreement, a measure does not have to correspond strictly to conclusive opinions. This is because a measure may have to depend on divergent opinions, where the case is based on a lack of scientific consensus.[804] Therefore, the Body concluded that "a panel need not, necessarily, reach a decision under *Article XX (b)* of the GATT 1994 on the basis of the "preponderant" weight of the evidence".[805]

The precautionary principle is seen more specifically and in a more limited form in *Article 5.7* of the SPS Agreement. The Article states that "in cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information". Nevertheless, in *the EC-Hormones case,* the Appellate Body did not reach any conclusion whether the precautionary principle had indeed crystallized to become a general principle of law. The Body thought that the precautionary principle accepted by Members as a principle of *general* or *customary international law* has not yet appeared clear.[806]

However, *the EC-Hormones case* showed an important aspect of the relationship between the precautionary principle and the SPS Agreement. The Appellate Body noted four points:

1. 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.
2. the precautionary principle finds reflection in *Article 5.7* of the SPS Agreement. It is reflected also in the sixth paragraph of the *preamble* and in *Article 3.3.*

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[802] The Dispute Settlement Understanding, *Article 11*.
[803] The Appellate Body distinguished between a majority scientific opinion and qualified and respected opinion.
[804] Appellate Body Report, *the EC- Asbestos case*, WT/DS135/AB/R, paragraph 178.
[805] Ibid.
[806] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 123. "The status of the precautionary principle in international law continues to be the subject of debate among academics, law practitioners, regulators and judges. The precautionary principle is regarded by some as having crystallized into a general principle of customary international *environmental* law. Whether it has been widely accepted by Members as a principle of *general* or *customary international law* appears less than clear. (footnote is omitted) We consider, however, that it is unnecessary, and probably imprudent, for the Appellate Body in this appeal to take a position on this important, but abstract, question. We note that the Panel itself did not make any defensive finding with regard to the status of the precautionary principle in international law and that the precautionary principle, at least outside the field of international environmental law, still awaits authoritative formulation. (footnote is omitted)"

3. a panel is charged to determine whether "sufficient scientific evidence" exists to warrant the maintenance by a Member of a particular SPS measure.
4. the precautionary principle does not relieve a panel from the duty of applying the normal principle of treaty interpretation in reading the provisions of the SPS Agreement.[807]

Thus, the precautionary principle should not be overruled under *Articles 5.1* and *5.2*, which state that risk assessment should be based on relevant international standards and should account for scientific evidence. The Appellate Body concluded that "We accordingly agree with the finding of the Panel that the precautionary principle does not override the provisions of *Articles 5.1* and *5.2* of the SPS Agreement"[808]. For the WTO case law, various elements, including the rights of Members to determine the level of protection, confirmed that aspects of the precautionary principle may have been already reflected in different provisions of the SPS Agreement.

Lastly, in the most recent SPS measure-related case: *the Japan-Apples case*, the Appellate Body tried to clarify the principle of the balance of probabilities. The Body refined the standard of sufficiency of scientific evidence by explaining a link between the first requirement under *Article 5.7* (relevant scientific evidence is insufficient) and the obligation to perform risk assessment under *Article 5.1*. "Relevant scientific evidence" will be "insufficient" within the meaning of *Article 5.7*, if "the performance of an adequate assessment of risks is not as required under *Article 5.1* and as defined in *Annex A* to the SPS Agreement".[809] Thus, the question is whether the "relevant evidence", not the "sufficient evidence", is a "general" nature of a phytosanitary problem or a "specific" aspect of a phytosanitary problem.[810]

Moreover, the Appellate Body insisted on differences between scientific evidence of "insufficient" and "scientific uncertainty" under *Article 5.7*. The Body stated that "the two concepts are not interchangeable". [811] Also, a "reasonable period of time" to obtain additional information has to be established on a case-by-case basis and depends on the specific circumstances of each case. However, the Panel found that collecting the necessary additional information in *the Japan-Apples case* was supposed to be relatively easy.[812] Thus, the Appellate Body pointed that Japan's more than 200 years of scientific studies of fire blight and practical experience on this issue should be referred to "scientific uncertainty".[813] However, the WTO Agreement does not state a particular time frame to obtain additional information where relevant scientific evidence is insufficient.

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[807] Ibid. paragraph 124.
[808] Ibid. paragraph 125.
[809] Appellate Body Report, *the Japan - Apples case*, WT/DS245/AB/R, paragraph 179.
[810] Ibid.
[811] Ibid. paragraph 184.
[812] Ibid. paragraph 93.
[813] Panel Report, *the Japan - Apples case*, WT/DS245/R, paragraph 8.219. "….[A]lthough the obligation "to review" the varietal testing requirement has only been in existence since 1 January 1995, we agree with the Panel that Japan has not reviewed its varietal testing requirement "within a reasonable period of time"." On the other hand, Japan claimed that it cannot be classified as the same study now and 200 years ago. Interview with the Japanese officer #8-1, September, 2004.

In the case of GMOs, it still takes decades to accumulate appropriate scientific data and few studies of the effects of GM foods on human health have been conducted.[814] Also, the terms of scientific studies in the WTO case law have not been developed precisely enough to deal with risks of GMOs. Thus, it is uncertain whether the GMO studies will fulfil WTO legal norms. It is also unclear how the WTO case law will recognize this time frame in order to obtain additional information for provisional action to be granted by precautionary measures.

In addition, the Appellate Body stated that the precautionary principle has not been a common enough concept to be recognized as international customary law by noticing *the Case Concerning the Gabcíkovo-Nagymaros Project (Hungary/Slovakia)*, under the International Court of Justice (ICJ):

> …new norms and standards have been developed, set forth in a great number of instruments during the last two decade. Such new norms have to be taken into consideration, and such new standards given proper weight…". However, we note that the Court did not identify the precautionary principle as one of those recently developed norm[s]…..[815]

This implies that the WTO case law is unlikely to recognize the present inconclusiveness of scientific evidence related to the potential impact of GMOs on human, animal or plant health to apply the precautionary principle under the SPS Agreement *Article 5.7*.

8-4-2. The Cartagena Protocol on Biosafety-The precautionary approach

The precautionary approach is one of the main principles of the Cartagena Protocol on Biosafety to set up a system to regulate international trade of LMOs. There is still much scientific uncertainty about LMOs, and there has been no internationally agreed definition of scientific uncertainty nor are there internationally agreed rules to assess risks of LMOs. Thus, precautionary action is critical in the context of the Biosafety Protocol. Science is also the Protocol's most significant component. According to the Protocol, lack of scientific certainty shall not prevent its Parties from making an import ban decision in order to avoid or minimize potential adverse effects.[816] This provision gives all Parties the rights to decline imports of LMOs in certain conditions through relationships between cause and effect, even if they have not been fully established. The inclusion of the precautionary approach is not only significant to the Protocol but is also a fundamental measure, since full scientific certainty or consensus of the harmful effects of biotechnology is unlikely.

As analyzed in chapter 6, *Article 10.6* and *Article 11.8* of the Biosafety Protocol may be one of the most explicit operational precautionary measures in MEAs. *Article 10.6* deals with only LMOs, whereas *Article 11.8* covers aspects of import decisions concerning direct use as Food or Feed, or For Processing (FFP) of LMOs.[817] Where the conditions in these Articles are met, the Party of import has the rights to take the precautionary approach. *Article 10.6* and

[814] The Independent Scientific Panel on Genetic Modification, 2003, Available online, [www.indsp.org] viewed 20 December 2005.
[815] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, Footnote 93.
[816] The Cartagena Protocol on Biosafety, *Article 10.6 & 11.8.*
[817] In addition, these two formulations do not necessarily conflict.

Article 11.8 allow the Party of import to take into account risks to human health in making an appropriate decision with regard to the import of the LMOs/LMOs-FFP in question.[818]

The Biosafety Protocol requires the government of the exporting country to give advance notice to the government of the intended importing country in accordance with *Annex I*[819].[820] The Protocol clearly states timeframes of the decision procedure for importers in its *Article 9.1*: *Acknowledgement of Receipt of Notification*:

> The Party of import shall acknowledge receipt of the notification, in writing, to the notifier within ninety days of its receipt.

Then, *Article 10.3*: *Decision Procedure* follows up this notification:

> Within two hundred and seventy days of the date of receipt of notification, the Party of import shall communicate, in writing, to the notifier and to the Biosafety Clearing-House the decision referred to in paragraph 2 (a) above.

For LMOs-FFP, a final decision regarding domestic use should be within fifteen days of informing the Party through the Biosafety Clearing-House.[821] Then, the Party of import may decide to take the precautionary approach against such imports following risk assessment on the basis of *Annex III*[822].[823] The Biosafety Protocol admits that the precautionary approach is likely to be used in the case of a lack of scientific certainty about LMOs; hence the Party of import can be proactive as there is no advance notice procedure for LMOs used for FFP. The Party of import may also make its own decision on the import of the product according to its own domestic regulatory administration for LMOs.

The limitation is considered problematic in the Protocol's precautionary approach. *Paragraph 2* and *3* of *Article 12*: *Review of Decisions* allow the Party of export to request the Party of import to review its decision, when conditions are changed:

> 2. A Party of export or a notifier may request the Party of import to review a decision it has made in respect of it under Article 10 where the Party of export or the notifier considers that:
> (a) A change in circumstances has occurred that may influence the outcome of the risk assessment upon which the decision was based; or
> (b) Additional relevant scientific or technical information has become available.
> 3. The Party of import shall respond in writing to such a request within ninety days and set out the reasons for its decision.

However, the Party of import still can retain the flexibility to confirm its previous decision if it can justify the decision. In other words, these Articles still allow for precautionary action for

[818] The Cartagena Protocol on Biosafety, *Article 10.6 & 11.8.*
[819] see Appendix 15
[820] Ibid. *Article 8.1.*
[821] Ibid. *Article 11.1.*
[822] see Appendix 17
[823] The Cartagena Protocol on Biosafety, *Article 15.1.*

the Party of import as long as the degree of the risk cannot be cleared, which implies some initial information that LMOs pose a risk. Thus, when the burden of proof is on those who wish to show some such adverse impact, such as unjustified harm to human health or ecosystems, the precautionary approach should be established. *Article 12.4* also addresses the situation where after the Party of import takes a decision to allow the first import of a specific LMO, "the Party of import may, at its discretion, require a risk assessment for subsequent imports".[824] For example, after the Party of import decides to accept the first import of a specified LMO, the Party of import still has the right to change its decision for subsequent LMOs if any new circumstances arise and a new risk assessment is required.

8-4-3. Conclusion

Both the WTO Agreement and the Biosafety Protocol's precautionary measures provide where scientific evidence is insufficient, and will allow a government to make its own decision regarding the import of GMOs/LMOs. However, difference versions limit these rights.

Article 5.7 of the SPS Agreement is likely to apply only in the situation where there is insufficient scientific evidence to carry out a risk assessment in accordance with the WTO case law.[825] Also in the SPS Agreement, the limits come from the requirement to ensure a decision based on the precautionary principle, but it is still unclear what the relationship is between the principle and other obligations in the WTO Agreements, which seem to be "case-by-case" decisions. Moreover, when both instruments allow for the review of measures taken on the basis of insufficient scientific evidence, the SPS Agreement has a time constraint, which has been interpreted as within a reasonable period of time on a "case-by-case" basis.[826]

On the other hand, it is justified by the precautionary approach under *Articles 10.6/11.8* of the Biosafety Protocol that the insufficiency of scientific evidence leads scientific uncertainty. The Biosafety Protocol also address the situation where, after the Party of import carries out risk assessment, the Party of export still can request the Party of import to give a justified reply to the new circumstances or the new scientific information within ninety days for LMOs.[827] However, the Protocol gives further flexibility for the Party of import under the precautionary approach to justify its risk assessment.

WTO inconsistent measures in the Biosafety Protocol seem to be affirmative, as far as the treatment of precaution in the SPS Agreement is concerned. Although both the SPS Agreement and the Biosafety Protocol formally provide the rights to resort to precaution in the absence of sufficient scientific evidence, this is not necessarily considered to be a provisional measure in the case of the Biosafety Protocol. On the other hand, insufficient scientific evidence is considered to be provisional under the WTO case law. Moreover, the Biosafety Protocol does not yet have a compliance mechanism. Fundamental questions arise about how WTO legal norms can be

[824] Ibid. *Article 12.4.*
[825] such as *the Japan- Apples case.*
[826] according to *the Japan- Agricultural Products II case.*
[827] The Cartagena Protocol on Biosafety, *Article 12.2.*

relevant to the Biosafety Protocol's precautionary approach when disputes occur between Members of the WTO which are also Parties of the Biosafety Protocol.

8-5. The direct relationship between the WTO and the Cartagena Protocol on Biosafety

When a conflict arises between two Members of the WTO, but one of them is not a Party of the MEA, trade and environmental problems interact between the two Agreements. The provision of the Cartagena Protocol on Biosafety only applies to a country that has ratified or acceded the Protocol. Moreover, the Article of the Biosafety Protocol about the relationship with the WTO has been left ambiguous; as well, the negotiations of the WTO to clarify the relationship with MEAs have been deadlocked. The most problematic question is how an allegation of dispute at the WTO arises if a non-Party of the Protocol challenges domestic GMO-import regulations implemented by a Party of the Protocol.

Under the WTO law, analyses of dispute cases should be case-by-case and the Appellate Body respects different results depend on which Agreement they are under.[828] According to *the United States-Shrimp case*, the Appellate Body recognized environmental multilateral Agreements as a basis for comparison. However, the Body emphasized that these Agreements have to be common ground in the international community or/and international law. Thus, the United States cannot justify its "arbitrary or unjustifiable discrimination" under *Article XX* of the GATT.[829] More importantly, "a multilateral agreement requires the cooperation and commitment of many countries"[830].

On the other hand, Articles of the Biosafety Protocol allow Parties to enter other international agreements with non-Parties on the international transboundary movements of LMOs as long as the transboundary movement does not violate its *Article 24*: *Non-Parties*, which states that:

1. Transboundary movements of living modified organisms between Parties and non-Parties shall be consistent with the objective of this Protocol. The Parties may enter into bilateral, regional and multilateral agreements and arrangements with non-Parties regarding such transboundary movements.
2. The Parties shall encourage non-Parties to adhere to this Protocol and to contribute appropriate information to the Biosafety Clearing-House on living modified organisms released in, or moved into or out of, areas within their national jurisdictions.

However, unlike the other MEAs (such as CITES, the Montreal Protocol and the Basel Convention), the Biosafety Protocol does not contain a provision requiring Parties to ban non-Parties' trade measures themselves.[831] At the COP-MOP 1, where Parties import LMOs from non-Parties, the guideline recommended that Parties apply their domestic regulatory frameworks

[828] Appellate Body Report, *the United States- Shrimp case*, WT/DS58/AB/RW, paragraph 122.
[829] Ibid. paragraph 123.
[830] Ibid.
[831] see *Chapter 6.*

consistent with the Protocol, the AIA procedure or a comparable procedure.[832] However, at the COP-MOP 1, the US and Australia stated that the decision should not necessarily direct obligations for non-Parties.[833] On the other hand, the EU proposed that additional guidance on *Article 24* may need to be clearer, such as the meaning of "consistent" with the objective of the Biosafety Protocol in the future COP-MOPs.[834]

Moreover, the Biosafety Protocol has not finalized its *Article 27*: *Liability and Redress*. Some elements of rules and procedures expected to be elaborated upon in a future COP-MOP, which are "the definition of damage, valuation of damage to biodiversity and human health, threshold of damage, causation, channelling of liability, the role of Parties of import and export, the standard of liability, mechanisms of financial security, and the rights to bring claims".[835] Thus, *Article 34*: *Compliance* states that future COP-MOPs should not prejudice the dispute settlement procedures under *Article 27*.

> The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first meeting, consider and approve cooperative procedures and institutional mechanisms to promote compliance with the provisions of this Protocol and to address cases of non-compliance. These procedures and mechanisms shall include provisions to offer advice or assistance, where appropriate. They shall be separate from, and without prejudice to, the dispute settlement procedures and mechanisms established by Article 27 of the Convention.

The negotiation of *Article 34* failed to agree on further measures to respond to repeated non-compliance at the COP-MOP 1,[836] which made it more difficult for the Protocol to endow itself with strong enforcement and dispute resolution procedures. However, due to the relationship between the CBD and the Biosafety Protocol, provisions of the CBD are not contained by the Protocol.[837] Thus, provisions of the CBD may still apply under the Biosafety Protocol including the CBD *Article 27*: *Settlement of disputes*.

Conclusion

The WTO and the Biosafety Protocol have stated that both Agreements should be read as mutually supportive and not conflicting, but they do not clarify enough the inter-relationship of the Biosafety Protocol with other pre-existing treaties. However, as is the nature of MEAs, it is likely to be that Parties of the Protocol settle a dispute case to non-compliance procedures before resorting to the CBD *Article 27* or to other relevant international dispute settlement procedures. Although some MEAs provide compliance procedures for dispute settlement, these seem to be

[832] The COP/MOP-1 Report Decision BS-I/11 Annex.
[833] The COP/MOP-1 Report, UNEP/CBD/BS/COP-MOP/1/15, paragraph 201-202.
[834] The COP/MOP-1 Report UNEP/CBD/BS/COP-MOP/1/INF/10.
[835] The COP/MOP-1 Report Decision BS-I/8.
[836] The COP/MOP-1 Report, UNEP/CBD/BS/COP-MOP/1/15.
[837] The Biosafety Protocol *Article 32 relationship with the CBD.* 11 Articles of the CBD have been adopted under its protocol. Article 27: Settlement of disputes, Article 28(2): Adoption of protocols, Article 29: Amendments to protocols, Article 30: Adoption and amendments of Annexes, Article 31: Right to vote, Article 32(1): Parties to protocols, Article 34: Ratification, acceptance or approval, Article 35: Accession, Article 36: Entry into force, Article 38: Withdrawal, and Article 41: Depositary.

optional, and in practice have not been used under MEAs.[838] Thus, when a dispute arises between the WTO Members, which are also Parties of the Protocol, they are likely to bring the case to the WTO dispute settlement mechanism if the issue is relevant under the WTO Agreements.

However, Parties to the Biosafety Protocol have requested establishment of an Open-Ended Ad Hoc Working Group of legal and technical experts on liability and redress in the context of the Protocol to examine its *Article 27: Liability and Redress.* The Working Group shall work on issues, such as taking due account of on-going processes under international law, and analyzing the scope of the Protocol relating to the application of international rules and procedures.[839] If *Article 27* facilitates more appropriate international rules and procedures, the relationship between the WTO case law and the Biosafety Protocol may be more sensitive.

8-6. Analyses – The WTO case law and the Cartagena Protocol on Biosafety

There have been divergent views from scientific and judicial perspectives, which have been involved in GMO-related cases. This chapter has analyzed overlaps and potential contradictions between the WTO and the Cartagena Protocol on Biosafety. The chapter argues that the problematic relationship between trade and environmental regimes not only originated in their different set of rules but also from their different legal norms.

According to WTO case law, important differences are apparent between the WTO and the Cartagena Protocol on Biosafety in the cases of PPMs, risk assessment and precautionary rules. The Biosafety Protocol regulates transboundary movement of LMOs more broadly and provides more specific technological guidelines than the WTO Agreement does. In contrast, the WTO case law has not established an absolute manner of applicability for GMOs issues. Thus, analyses of the relationship between legal norms of the WTO and the Biosafety Protocol have to be on a case-by-case basis.

Firstly, the concept of "like" product and documentation requirements is central to the application of the WTO and the Biosafety Protocol rules; however, legal norms of the two Agreements seem to interpret them differently. For example, some countries desire the rights to restrict trade on the basis of the impact of PPMs on the environment. However, permitting restrictions on these grounds of production and process contradicts the WTO principle: that is, the elements of non-discrimination, the cornerstone of GATT, can be picked apart. Thus, the WTO case law is unlikely to stretch its norms to social, cultural and environmental issues. Some officials of the trade regime also mentioned that "the WTO is not willing to restrict on the basis of environment-related PPMs, because if it does, the WTO may be demanded to balance these measures with the other unauthorized issues such as labour and human rights".[840]

[838] Mackenzie, Ruth, et al, "An explanatory guide to the Cartagena Protocol on Biosafety," IUCN Environmental Policy and Law Paper No.46.
[839] COP-MOP 1 Decisions, MOP BS-I/8.
[840] Interview with the WTO officer #8-6, October, 2003.

On the other hand, decisions of the Biosafety Protocol on documentation and the advanced informed system are unlikely to incorporate or reflect views of these WTO's export-driven legal norms. The problems of these contradictions between the WTO and the Biosafety Protocol may arise if the WTO dominates to dealings about exports of GMOs. None of the complainants or other major exporters of GMOs of WTO Members have ratified the Biosafety Protocol such as the US. Thus, if a PPM-related dispute case arises, it is likely to be brought under the WTO dispute settlement. This may contribute unfairness to the judicial relationship between trade and environmental regimes.

Secondly, the SPS Agreement and the Cartagena Protocol on Biosafety interpret differently science-based decision-making procedures on risk assessment. It is implicit that trade restrictiveness of SPS measures under the WTO case law may not be tolerated for lengthy periods of risk assessment. Provisional measures are bound only to the limits of scientific knowledge, the development of which demands further evaluation under *Article 5.7*. However, it remains unclear what meaning is to be accorded to key concepts. For example, what the reasonable timeframe is to claim "insufficient relevant scientific information" and on what standard "available pertinent information" should be based. In the absence of international standards of GMOs or measures applied by other Members, the provision may be open to broader interpretation possibly justifying measures based on theoretical scientific speculation or lower public tolerance to risk. However, the WTO Agreement takes exporter-driven regulation although Members can set their own level of standards to protect their environment; however it has to be not arbitrary or unjustifiable discrimination. Relating to risk assessment, the WTO case law is unlikely to recognize socio-economic matters. If a GMO-related case is tested in accordance with the statements of the Appellate Body and the science-oriented WTO legal norms, some basis of concrete risk assessment for GMO-related measures is likely to continue "case-by case".

On the other hand, the Biosafety Protocol recommends specific technical and scientific details to be taken into account to assess a risk. However, the Biosafety Protocol distinguishes the concept of "risk assessment" and "risk management". Its "case-by-case" basis rules also reflect more flexibility and differentiation of each Party's risk assessment.[841] Thus, it is unknown whether/how the language of "case-by-case" in the Protocol Agreement comes out as the same result as under the WTO case law.[842] In particular, the Biosafety Protocol basically protects importers; hence the Party of import's maximum standard does not have to be limited; hence the Protocol only sets the minimum standard.

It is difficult to understand how appropriate standards can or should be set between the WTO and the Biosafety Protocol in the absence of complete scientific knowledge. Although WTO Agreements reaffirm certain freedom of choice for Members about the relationship between the scientific conclusions, the WTO jurisdiction is unlikely to concern other factors.[843]

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[841] The CBD, UNEP/CBD/BSWG/5/3/, Annex.
[842] International Institute for Sustainable Development, ENB Vol. 9 No. 113, February 1998, p.1.
[843] Howse, Robert, "Democracy, science, and free trade: Risk regulation on trial at the World Trade Organization," *Michigan Law Review*, June 2000.

The WTO case law also seems to reject the view that such a distinction exists in the SPS Agreement, which should apparently amount to ignoring the interface between science and any other policy concern.[844] In contrast, Articles of the Biosafety Protocol recognize interaction between science and other non-science concerns. Thus, the risk assessment provisions of the SPS Agreement and the Biosafety Protocol are not necessary implemented in a way consistent with both Agreements.

Thirdly, although neither the WTO nor the Cartagena Protocol on Biosafety has established a clear definition of precautionary rules, interpretation of the precautionary measure between them is certainly different. In tandem with the operational definitions of precautionary rules, the WTO Agreement initially requires Members to "take into account risk assessment techniques developed by relevant international organizations",[845] but scientific justification is necessary. In contrast, the Biosafety Protocol allows importing countries maximum flexibility for the implementation of the precautionary measure in accordance with its core principle of prevention.

Both the SPS Agreement and the Biosafety Protocol incorporate the precautionary measure as an element in a country's decision regarding an import, but the importance of the measure in relation to the overall structure of each Agreement seems to differ. Although the two precautionary provisions share a basic structure of risk assessment, future interpretation of the precautionary measure is likely to be more distinguished between the SPS Agreement and the Protocol. The traditionally different norms of precautionary rules between trade and environmental regime are also more emphasized in the case of biosafety. Thus, the future of the international precautionary rules in the GMO-context depends on the evolution of the relationship between international trade and environmental agreements, and specifically the complex relationship between the WTO and the Biosafety Protocol.

Finally, if the case is based on absolute scientific evidence with international consensus, there should not be conflicts between the WTO and MEAs. However, due to their different legal norms, it is still uncertain that they will reach the same conclusion. There has been neither general international law to clarify the relationship between the WTO and MEAs, nor the clear provision of the WTO-MEAs relationship in the WTO and the Biosafety Protocol Agreements. When a dispute arises between the WTO Members which are also both Parties of the Biosafety Protocol, it depends on Member States to choose which regime they prefer to bring disputes: one is a trade-driven and the other is an environment-oriented regime. Thus, the results of dispute cases are likely to depend on States' choices.

[844] In *the EC- Hormones case*, the Appellate Body rejected the distinction between "risk assessment" and "risk management" used by the original Panel in its findings under Article 5.1. Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 181.
[845] The SPS Agreement *Article 5.1.*

Table 6: Comparison of Cartagena and WTO Agreements

Issue	Cartagena	SPS Agreement	TBT Agreement
Scope: Commodities, living organisms	Both, subject to different regimes	Both, no difference in regimes	Mainly commodities
Precaution/science	Can be described as co-equal core values	Science based requirement pre-eminent, precaution minimized	Science based requirement pre-eminent, precaution minimized
Advanced informed agreement	Required for GMO's unless exceptions apply; notification of AIA requirement by importing states needed for it to apply to commodities	Not required, use controlled by trade disciplines	Not required, use controlled by trade disciplines
Requirement for assessment	Yes, content set out in Annex, including role of precaution	Yes, content requirements from cases, minimize precaution as input	Yes in some cases, contents not clear yet
Responsibility for assessment	Can be placed on exporter, or costs paid by exporter	State taking measure	State taking measure
Decision-making parameters	Science based risk assessment, precaution, least trade restrictive, socio-economic factors, impact on trade	Full scope of trade disciplines	Full scope of trade disciplines
Subsequent review of assessment or management decisions	Responsibility on potential exporter if permit not granted or subject to conditions; responsibility on importing state if to reduce imports or increase conditions	Responsibility on state taking measure (but can download to potential exporter if specific in doing so); additional constraints subject to justification	Responsibility on state taking measure; additional constraints subject to justification
Labeling	Ongoing process, cooperation with other agencies	Mandatory labels subject to disciplines	Mandatory labels, subject to disciplines; less clear for voluntary labels

Source: Mann, Howard, "The Cartagena Protocol on Biosafety: An analysis," ASAEN Workshop on International Trade in ASEAN Agricultural and Forest Products and Measures to Align Trade and Environment, Bangkok, Thailand, 1 June, 2000.

Moreover, if a GMO-related case is analyzed in accordance with the statements of the Appellate Body, the problems of the WTO SPS-related legal measures have been illustrated. Comparing the case of GMOs and *the EC- Asbestos case*, the potential danger of asbestos has been recognized for a longer time in the international communities, whereas risks of GMOs are

still uncertain.[846] The WTO *Article 13. 1*: *Dispute Settlement Understanding* recommends that to judge those scientifically uncertain cases, it may need an alternative mechanism to seek more appropriate information and advice.

> Each panel shall have the right to seek information and technical advice from any individual or body which it deems appropriate. However, before a panel seeks such information or advice from any individual or body within the jurisdiction of a Member it shall inform the authorities of that Member. A Member should respond promptly and fully to any request by a panel for such information as the panel considers necessary and appropriate. Confidential information which is provided shall not be revealed without formal authorization from the individual, body, or authorities of the Member providing the information.

The Appellate Body also has encouraged a panel to seek information and technical advice from any appropriate individual or body. [847] However, the Appellate Body also has stated that "a panel has the discretionary authority either to accept and consider or to reject information and advice submitted to it, *whether requested by a panel or not*".[848]

Although a panel has sought additional information or has taken *amicus curiae briefs* in some cases, the WTO case law, namely the Appellate Body, has not seemed to take into account the consideration outside of their legal norms. Thus, the WTO legal norms are unlikely to consider the view of the Biosafety Protocol, which may contribute more problems about coherence between trade and environmental regimes.

8-7. Conclusion

Chapter 8 has examined conformity between the WTO case law and the Biosafety Protocol. The theoretical framework supports that trade and environmental regimes' different jurisdictions affect clarification of the relationship between the WTO and the Cartagena Protocol on Biosafety Agreements. The aim of the case studies is to show that the WTO and the Biosafety Protocol's different legal norms have contributed the potential contradiction between their Agreements.

The WTO and Biosafety Protocol are likely to offer slightly different regulations over GMOs/LMOs. The trade regime tries to stop overuse of national environmental regulation to restrict trade, whereas environmental regimes set up trade measures to protect the environment. Thus, Agreements of the WTO and the Biosafety Protocol have interpreted science and non-science factors very differently.

The case of eco-labeling is one of most controversial issues between the WTO and MEAs. According to the WTO dispute cases, the WTO case law is unlikely to incorporate PPMs, which

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[846] WHO and ILO have warned chrysotile asbestos as a highly toxic substance since 1972.
[847] Appellate Body Report, *the US - Shrimp case*, WT/DS58/AB/R, paragraph 104.
[848] Ibid. paragraph 108. "....[T]he fact that a panel may *motu proprio* have initiated the request for information does not, by itself, bind the panel to accept and consider the information which is actually submitted. The amplitude of the authority vested in panels to shape the processes of fact-finding and legal interpretation makes clear that a panel will not be deluged, as it were, with non-requested material, *unless that panel allows itself to be so deluged*."

leave no trace in the final product. On the other hand, the environmental regimes prefer to approach the life cycle differentiation between products and production processes, which are correct on the grounds discriminated by environmental regulations. Thus, the Protocol's labeling rules may not be incorporated in the WTO's legal norms and rules, *ex ante,* border tax adjustment and non-discrimination principle.

In the case of risk assessment, the WTO takes an export-driven approach based on its trade-oriented legal norms; hence its risk assessment is formulated by weak precaution. On the other hand, the Biosafety Protocol's trade measures are importer-driven in accordance with its strong precautionary approach. However, a science-based approach does not necessarily reject the importance of risk management and precaution, the balance between the WTO and the Biosafety Protocol may solve the long debate demanding a choice between the two extreme risk assessments and precautionary rules.

Science has been recognized as essential in the identification and evaluation of the risks of GMOs, as well as the capacity to develop international consensus of these risks. However, in the case of GMOs, to act in the absence of sufficient scientific evidence has become important as a necessary component of decision-making procedures, which ensures importing countries ban or restrict GMOs without waiting for scientific consensus. Moreover, social, political and economic factors have been understood as fundamental decision-making aspects of how to deal with possible "insufficient scientific evidence" or "scientific uncertainty". However, the WTO case law has not taken into account the socio-economic considerations, whereas the Biosafety Protocol takes account of non-economic factors. Thus, the WTO case law is unlikely to recognize the Biosafety Protocol as a "relevant international organization".

Trade and environmental agreements have been designed and drafted with differing objectives. Trade and environmental regimes' different legal norms have affected countries in choosing whether to allow or refuse the introduction of GMOs. However, trade and environmental regimes' different principles are not necessarily opposing goals. To remedy disparities between trade and environmental regimes, it may be important to take into account all the different interests, values and concerns involved in the GMO field.

Chapter 9

Conclusion

> One of the most pressing challenges with which the WTO is confronted today is how to reconcile free trade and sustainable development. The relationship between the two issues is complicated and they sometimes seem incompatible. Yet the maintenance of free trade helps economic development on a sustainable basis if these two issues are put into a proper relationship.[849]

9-1. Introduction

This thesis aimed to evaluate a principal research question: **what are the contradictions between different approaches towards the environment of the World Trade Organization (WTO) and multilateral environmental agreements (MEAs)?** It analyzed: the relationship between the WTO and the Cartagena Protocol on Biosafety as the WTO-MEAs case study to generalize the overlapping issues between the two different sets of multilateral agreements. The thesis argued that contradiction between multilateral agreements has emerged from trade and environmental regimes' different norms. The contradictions sometimes diminish a State's governing capacity and precedence in the face of economic, judicial and cultural transformations of trade and environmental policies. In the area of multilateral governance, constitutive elements and the operations of global society are managed by international regimes to a certain extent.[850] Thus, the aims of sustaining an open and non-discriminatory multilateral trading system and protecting the environment should be mutually supportive.[851]

This thesis explained that proliferation of international agreements has occurred because multilateralism has been confronted by new issues. Some multilateral agreements have overlapped each other and the relationship between them has not been clarified by international law. The thesis focused on the WTO's environment-related rules and the Cartagena Protocol on Biosafety's trade measures to analyze the relationship between the two different sets of international agreements. This case study was chosen because of the fact that the economic implications of the Biosafety Protocol are great and highly trade-focused; whereas due to the expanded Uruguay Round mandate, the WTO has been the centre of controversial issues involving non-traditional trade concerns. Moreover, new technology and science is also the key to analyzing a new trend in the relationship between trade and environmental agreements. Although some regard the current provisions of the WTO as sufficient in dealing with

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[849] Matsushita, Mitsuo, founding member of the WTO Appellate Body, description for Sampson, Gary P., *The WTO and Sustainable Development*, United Nations University Press, Tokyo, 2005.
[850] Cioppa, Thomas J., "The sovereign-state system, international law and institutions and environmental protection: present incompatibilities and future possibilities," International Studies Association, February 1999.
[851] Lamy, Pascal, WTO Director-General, in Sampson, Gary P., *The WTO and Sustainable Development*, United Nations University Press, Tokyo, 2005, p.x.

circumstances surrounding trade in all products, biotechnology-related issues may illustrate existing WTO provisions to be insufficient. Thus, the legal interpretation of scientific uncertainty of the new biotechnology has exacerbated tension in the relationship between trade and environmental agreements.

Firstly, **9-2** summarizes the main findings of this thesis. Secondly, **9-3** draws specific theoretical and empirical lessons for trade and environment issues in the context of research questions. Thirdly, **9-4** analyzes findings beside the research question and proposes ideas of coherence between the WTO and MEAs. Finally, **9-5** identifies recommendations for further research in the study of trade and environment.

9-2. Summary

This section summarizes the theoretical and empirical works of this thesis. This thesis has illustrated that international relations and international law theories are useful tools to explain the problematic relationship between international regimes. The empirical study aimed to illustrate the contradictions between trade and environmental regimes' norms. The purpose of the theoretical and empirical works is to link the structure of trade and environmental issues and to conceptualize the nature of regimes in international relations. In chapter 4 to chapter 8, the thesis demonstrated the relationship between the WTO and MEAs in terms of three points.

Firstly, this thesis clarified "regimes" to identify the objectives of international trade and environmental institutions and organizations including international conventions and protocols. This thesis refers to "norms" particularly to describe the objectives of these international regimes as well as organizations'/institutions' standards of behaviour. Regimes' norms are generally abandoned when there are changes of rules in regimes from a given issue area. In the case of trade and the environment, regimes' rules change in accordance with experiences of regimes. However, this thesis showed that changes in regimes' rules do not always mean changes in their norms.

The empirical study showed that liberalization and expansion of the trade regime have resulted in a unique organizational structure and developed various non-trade-related rules. In the case of trade and the environment, the WTO dispute settlement body has sought to harmonize the WTO case law with "general" international standards so as to enhance the mutual consistency of trade and environmental policies. However, according to the General Agreement on Tariffs and Trade (GATT)/WTO environment-related dispute cases, the strengthening of democratic legitimacy does not seem to exist in the WTO. The WTO merely enforces the rights of nations against discriminatory treatment both at and inside the borders of their trading partners. To keep the GATT anti-discrimination system viable, the WTO is likely to adopt a series of procedurally oriented tests to root out covert protectionism in national laws and threaten national sovereignty through attempts to introduce intrusive free trade. In contrast, the study showed that numbers of new MEAs have been created for dealing with emerging environmental issues. MEAs aim to prevent large-scale and irreversible losses in the functioning ecological and physical systems. Some MEAs have extended their ability to facilitate trade measures to protect

the environment. Nevertheless, these MEAs justify differentiation of requirements across countries in accordance with *Principle 11* of the Rio Declaration:

> States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and development context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries.[852]

These are examples of the WTO and MEAs extending their rules to cover the new areas. However, although the regimes' rules changed, the regimes' norms seem to remain the same. The purpose of the WTO is to promote trade liberalization; in contrast, the aim of MEAs is to protect the environment. Therefore, international regimes' different rules and agreements are essentially driven by their norms.

Secondly, new trade and environmental issues emphasize contradictions between trade and environmental regimes. International regimes have been developed by a new and integrated understanding of problems; hence they have facilitated better implementation mechanisms and more structured constitutional systems than previously. However, their rules are limited by normative core beliefs within existing regimes. The thesis aimed to show that inconsistency between trade and environmental agreements is caused by their different norms.

The empirical study argued that MEAs' trade measures have been negotiated by different aims and desires from the WTO's environment-related rules. In the case of the Biosafety Protocol, there were dilemmas during the negotiations on conditions that aimed to make strong rules possible, because there had not been enough concern or scientific understanding of the transboundary movement of living modified organisms (LMOs). However, the Biosafety Protocol successfully maintained its core principle of a strong precautionary approach in its final text, although it has left sensitive issues that overlap with the scope of the trade regime. In contrast, the empirical study claimed that the WTO's environment-related measures have been developed by different principles and purposes to the MEAs' trade restrictions. The WTO's non-discriminatory obligations are the core principle of the WTO, which means to restrict protectionism and to promote an open multilateral trading system. Thus, the priority of WTO legal norms is not environmental protection, which generally contradicts environmental regimes' special and different treatments of discrimination between Parties for environmental purposes.

The WTO has had a greater influence on cooperation processes between trade and environmental regimes than have MEAs. However, trade and environmental regimes' rules are likely to be contradictory because of their different norms. Thus, the WTO's trade-oriented norms and MEAs' environment-driven norms have limited the coherence between trade and environmental regimes.

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[852] The United Nations Conference on Environment and Development, Rio Declaration on Environment and Development, 3 to 14 June 1992.

Thirdly, trade and environmental regimes have developed into comparatively autonomous jurisdictions. The WTO has transformed into a highly legalized and administrated regime, whereas MEAs have contained specific technological guidelines to implement their regulations. They tried to build a common ground by forming new centres of authority to deal with the same issues. However, the contradictory problems have arisen in the overlapping area between trade and environmental agreements because consensus has not built on their legal norms.

The empirical study showed that the WTO and the Cartagena Protocol on Biosafety will impose slightly different regulations on biosafety. The study also examined more possible overlaps with WTO Agreements by analyzing the recent developments of the First meeting of the Conference of the Parties (COP) / the Meeting of the Parties to the Cartagena Protocol on Biosafety (MOP) of the Biosafety Protocol. The centre of the question is how trade and environmental regimes have taken scientific uncertainty of new biotechnology products into their legal norms differently. The empirical study proved that the WTO case law interpreted scientific uncertainty and insufficiency of Sanitary and Phytosanitary Measures (SPS)-related issues based on its trade-driven norms, whereas norms of the Biosafety Protocol's regulations mean to protect the environment. Also the former is not likely to recognize non-economic factors, whereas the latter takes into account socio-economic considerations. However, since social and ethical factors have been considered in the case where scientific evidence is insufficient, developing a means to deal with matters in the WTO may no longer ignore public interests.

Due to scientific uncertainty about the effects of genetically modified organisms (GMOs), discussions of environmental and human health risks have been unsettling, and polarized arguments are put forward whether GMOs should be encouraged or reduced. These arguments have contributed controversial debates of the future compatibility between trade and environmental regimes' different jurisdictions towards the biosafety.

9-3. Findings

This thesis demonstrated trade and environmental regimes' different principles and norms, which have affected their coherence process. This section identifies specific theoretical and empirical lessons for trade and environment issues in the context of the empirical and theoretical research questions. Findings of the relationship between the WTO and the Cartagena Protocol on Biosafety may point to some common problems, which apply to the relationship between the WTO and some MEAs. A single case study may not yet prove that a given set of dynamics is subject to common rules, but it can show a heuristic way to examine research questions. Thus, an intensive case-study approach is one of the best ways of exploring such complex sets of interactions in international relations. The aim of this section is also to link the empirical works and the theoretical studies and to argue that some theoretical perspectives may not match the received account of trade and environmental issues.

The WTO and the Cartagena Protocol on Biosafety

The case study of this thesis focused on three specific inconsistencies between the WTO and the Cartagena Protocol on Biosafety to support and generalize the central question, which

address substantial contradictions between the WTO and MEAs. It is controversial whether WTO Agreements are likely to or should apply the Cartagena Protocol on Biosafety, although it is important to recognize that the Protocol refers to living modified organisms rather than genetically modified organisms. The Biosafety Protocol is an environmental treaty with the stated objective of "ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology".[853] On the other hand, the WTO covers GMOs if they involve international trade.

The first outstanding WTO-MEAs issue is **"like" products and documentation requirements**. The trade regime regulates national environmental regulation, which supports protectionism; whereas the environmental regimes control international trades that harm the environment. The case of eco-labeling has illustrated different principles between trade and environmental regimes. WTO Agreements do not recognize processes and production methods which leave no trace in the final product. On the other hand, environmental regimes employ the life-cycle differentiation to distinguish between products by production processes. Thus, the Protocol's labeling rules are unlikely to be consistent with the WTO's non-discrimination principles – the Most-Favored-Nation and the National Treatment.

The second WTO-MEAs issue is **"risk assessment" and "risk management", and socio-economic considerations**. For the issue of risk assessment, a norm of the WTO case law does not seem to recognize non-economic factors. Thus, the concept of "risk management" is not mentioned in any provision of the SPS Agreement. In contrast, the Biosafety Protocol distinguishes between "risk assessment" and "risk management"; hence the Protocol respects the differentiation of socio-economic factors among countries. The different nature of the two agreements also can be seen. The WTO Agreement relies on exporter-driven regulation. Members can set their own level of standards to protect their environment, but should not make arbitrary or unjustifiable discrimination. On the other hand, the Biosafety Protocol protects importers. Thus, although the Protocol only sets the minimum standard, its Articles support the maximum standard not being necessarily limited.

The third WTO-MEA issue is **the precautionary "principle" and the precautionary "approach"**. Both the Biosafety Protocol and the SPS Agreement incorporate a precautionary measure as an element in a country's decision regarding an import, but the importance of the measure in relation to the general principles of each Agreement differs. In the operational definitions of precautionary rules, the WTO Agreements require Members to take into account risk assessment techniques based on a science-oriented approach and they also have to incorporate the WTO's trade-oriented nature. By contrast, the Biosafety Protocol offers maximum flexibility for the implementation of strong precautionary measures in accordance with its principle of "prevention". Although the two precautionary provisions share a basic structure, future interpretation of precautionary rules will be more distinguished between the SPS Agreement and the Biosafety Protocol once the Biosafety Protocol clarifies its procedural issues.

[853] The Cartagena Protocol on Biosafety, *Article 1*.

Directly or indirectly, the trade regime's influence on the overlap area has been large and is likely to continue in further negotiations of the Biosafety Protocol. Thus, the coherence between the WTO and the Biosafety Protocol may depend on how the Biosafety Protocol retains its norms in future negotiations and how the WTO evolves its case law.

The WTO and MEAs

Although trade and environmental regimes have become more interacting, it is still uncertain how the WTO interprets its Agreements in environment-related cases by referring to the MEAs provisions. The most problematic question is how the relationship between the WTO's environment-related measures and MEAs' trade restrictions will be clarified, when allegations of conflicts between trade and environmental agreements arise. This section aims to generalize three fundamental contradictions between different approaches towards the environment of the WTO and MEAs by using findings of the WTO and the Biosafety Protocol case.

The different considerations between the WTO and the Cartagena Protocol on Biosafety reflect the fact that one is a trade agreement, while the other proposes to protect the environment. Thus, to fill the gap between the WTO and the Biosafety Protocol based on international standards is a difficult task. In the case of GMOs, constructive mutual support is needed between the WTO and the Biosafety Protocol. This is because considerations of both Agreements have not yet covered the full situation of GMOs, especially with support of sufficient scientific evidence.

Firstly, according to the case of the WTO and the Biosafety Protocol, regimes' norms alter in accordance with a changing international consensus and technological development. Theoretically, when uncertain scientific evidence has been developed into internationally common knowledge, the WTO and MEAs should reach the same conclusion without changing their norms. However, in practice, the WTO and MEAs are based on different policy objectives, which have created an inconsistent overlapping body of international law. According to the case of the WTO and the Biosafety Protocol, different trade and environmental regimes' norms and rules are emphasized, such as risk assessment, labeling regulations, precautionary rules and socio-economic considerations. Thus, although scientific uncertainty about GMOs may be reduced or commonly agreed upon, there will still be little common ground between the WTO and the Biosafety Protocol toward the same goal of trade and environmental objectives.

Secondly, changes in norms of regimes cannot be avoided when regimes' different rules have effects outside their own organizations and when their norms are interpreted into their new negotiations and new dispute cases. The WTO's legal norm tends to be trade-centric and applies higher requirements of scientific proof, which seem to overwhelm environmental perspectives. In contrast, MEAs' trade measures sometimes negatively affect domestic markets to protect the environment. It is natural that the WTO's legal norms often make environmentally unfriendly decisions, while MEAs do not take into account fully the economic effects of their decisions. However, the WTO has opened the first public hearing in *the EU- hormones case*. And the negotiations of the Biosafety Protocol tend to become more economic-centric decision because

of the commercial pressure of GMOs. Thus, an important question arises how States should stand in relation to trade and environmental issues.

Thirdly, difficulties of the Doha negotiations showed that environmental regimes' administrative developments have contributed to a controversial relationship between trade and environmental agreements. Due to diverse positions among Member States, the WTO Committee on Trade and Environment (CTE) tried to advise Member States that the environmental aspects of the Doha principles should be harmonized among Members. However, some WTO Members (particularly countries have not been a signatory of MEAs, which facilitate trade measures) do not seem to be willing to clarify the relationship with MEAs because of concern of losing their economic advantages. This has affected synergies between the two regimes, which have not been developed since the Johannesburg Summit. In practice, it is likely that the WTO continues to address MEAs dominantly since international law has not been established to clarify a relationship between the two Agreements.

Conclusion

The relationship between the WTO and the Biosafety Protocol Agreements has led to debates over their two extreme norms: the former is the trade-driven and the latter is the environment-oriented. In the case of the WTO and the Biosafety Protocol, science has played an essential part in the identification and evaluation of risks, as well as the capacity to develop an international standard for risk assessment. However, by applying the case of GMOs, to act in the absence of sufficient scientific evidence has contributed contradictions between trade and environmental regimes because it leads countries to ban or restrict GMOs. Scientific uncertainty of GMOs has illustrated how the WTO and the Biosafety Protocol would interpret potential risks differently in this thesis. Thus, non-economic factors have become important decision-making aspects for national governments to deal with situations which involve insufficient scientific evidence or scientific uncertainty. Those decision-making procedures also enable countries to take account of their different biodiversity and socio-economic considerations when they choose whether to consent to or refuse the introduction of GMOs. However, to balance scientific and non-scientific factors as well as economic and socio-economic factors may be the most contradictory issue to be standardized between trade and environmental agreements.

In the case of the relationship between trade and environmental regimes, there needs to be an open and fruitful scholarly dialogue from which both sides can benefit. Regime literature often assigns international organizations at the best a complementary role in the creation of global governance systems. However, trade and environmental regimes have become influential in improving jurisdictional and cognitive settings of their issue areas, in translating to the international level and in gathering information at the national level about the cases and consequences of trade and environmental problems.

The theoretical study proposes that the trade and environmental aspect addresses the need to safeguard the effectiveness of current and future trade and environmental agreements. The WTO alone cannot prescribe solutions to trade and environmental problems. However, the empirical study advocates a clearer division of tasks between the WTO and MEAs to judge the

different legitimacy of trade and environmental objectives and to establish the appropriate means for clarification of the relationship. Some issues may escape MEAs but they could be caught by the WTO because WTO Agreements cover wider trade-related environmental issues than specialized MEAs. On the other hand, some cases may not be able to be judged under the WTO case law but they could be settled under MEAs because MEAs maintain specified objectives, and also MEAs facilitate more flexible mechanisms than the WTO. Moreover, transboundary movements of GMOs which do not involve international trade, such as food aid, may be covered by MEAs. On the other hand, socio-economic factors of GMOs which do not relate to environmental protection may be considered under the trade regime, for example, lesser developed countries which suffer starvation, tend to be "GMO-free" countries to expand their markets in Europe. Thus, theoretical work needs to be developed to understand how trade and environmental regimes respect each other's different norms in order to improve their contradictory relationship.

9-4. Further analyses

The case study has examined the idea of the contradictions of the relationship between trade and environmental regimes as it is applied to the WTO and the Cartagena Protocol on Biosafety. This section analyzes what has been learned from the case studies beside the research question. This section tries to explore why these contradictions between the WTO and MEAs have been developed, also what dynamics are involved in the case of the WTO and the Biosafety Protocol.

There has been a new phenomenon. The relationship between the WTO and MEAs are strongly influenced by the latest scientific technology and a larger commercial dynamic of trade and environmental issues. Constitutionalization of regimes also raised judicial power over bureaucratic power. In the case of the jurisdictional dimension between the WTO and the Biosafety Protocol, scientific uncertainty of GMOs has been emphasized. Thus, trade and environmental regimes tend to focus on their normative jurisdictions to resolve their problematic relationship. As a result, the conflict between trade and environmental policies has occurred through two different consensus buildings between trade and environmental regimes.

One may believe that the relationship between regimes should be understood in the light of some coherent international legal order. Others may prefer more narrow definitions of jurisdictional interpretations and applications of opposing norms that promote harmonization. However, the rule-making processes in trade and environmental regimes show that international organizations can only influence the outcomes of multilateral negotiations and help overcome a deadlock situation among oppositions.[854] For example, according to the case studies, the US supports more trade regime's rationality; on the other hand, the EU prefers more environmental regime's liberality. This shows that trade and environmental problems are not to be solved only within the WTO's and MEAs' relationship.

[854] Spector, Bertram, "Decision analysis: Evaluating multilateral negotiation processes," in Zartman, William I. (ed), *International Multilateral Negotiation*, Jossey-Bass, San Francisco, 1993.

The initial way to address any negative trade effects of the environment may need to focus on the domestic level. If countries make more balanced trade and environmental policies, both trade and environmental regimes' dispute settlement mechanisms may work more fairly for Member States as well as non-Member States. In the case of scientific uncertainty, the Appellate Body admitted that:

> ….[I]n most cases, responsible and representative governments tend to base their legislative and administrative measures on "mainstream" scientific opinion. In other cases, equally responsible and representative 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 source[s]. …[855]

It depends on how regimes as well as their Member States balance differentiated domestic standards and norms of international regulation. Moreover, the Secretary General of the United Nations states that:

> ….[I]f the political will is lacking to strengthen the United Nations specialised agencies, the implications may be an even wider gap to be filled by the WTO.[856]

These statements from trade and environment sides may require each State to consider the universally sustainable future and to act in "good faith"; hence "synergy" of trade and the environment will be promoted.

Due to increasing numbers of international agreements surrounded by the ever-changing international environment, overlaps between agreements will increase in the future. International agreements have also become more complicated and unclear themselves due to their widened scopes and difficulties of negotiation processes.

Normative arguments of judicial bodies may no longer have sole responsibility. For example, in *the EC-Hormones case*, the WTO was requested the Panel to open the hearings to the public.[857] Some scholars think that the WTO should be part of general international law, although in fact the WTO jurisdiction has been independent.[858] To consider the isolation of trade and environmental regimes, coherence in trade and the environment issues needs to reconceptualize "regimes" in accordance with the changing material and ideological preferences of states and individuals.

Furthermore, international relations have become more complex because of increasing new issues; and the international community has become highly informative because of arising new technologies. Although this thesis demonstrated that changes in rules do not mean changes in

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[855] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 194.

[856] Annan, Kofi, "Foundations for a fair and free world trade system," in Sampson, Gary P. (ed), *The Role of the World Trade Organization in Global Governance*, United Nations University Press, Tokyo 2001, p.27.

[857] The panels have agreed to open their proceedings with the parties on 12, 13 and 15 September 2005 for observation by WTO Members and the general public via closed-circuit broadcast to a separate viewing room at WTO Headquarters in Geneva.

[858] Pauwelyn, Joost, Conflict of Norms in Public International Law: How WTO Law Relates to other Rules of International Law, Cambridge University Press, Cambridge, 2003, pp.490-491.

norms, regimes' structure is unlikely to be clear-cut anymore (norms, principles, rules and policy-making procedures). Cognitive factors in policy-making producers have become more influential. Specific rules can become norms, as means turn into ends over time. Norms can also take on more specific content over time. Thus, norms, principles, rules and policy-making procedures are mutually interdependent each other.

The WTO has seemed to face the erosion of non-discrimination, because the world trading system has exceptionally expanded its membership and scope. The WTO has been asked to adjust its rules to the changing environment, especially by its developing country Members which have strongly demanded the recognition of special and deferential treatment. The WTO may have to accept that social norms are inextricably linked with the international trading system, which provides the common moral and legal underpinnings for the formulation of policies relating to non-traditional trade areas such as the environment. On the other hand, the MEAs' sustainable principle has altered to a more inter- and intra- generational concept. This concept has not only extended horizontally but also deepened. Some MEAs facilitate trade measures to regulate the environmental degradation, which are expected to meet the interrelated social, economic and environmental requirements. Global environmental governance has evolved with a step-by-step approach, rather than a one-fit-all system of a traditional environmental institution model through the creation of a new MEA.

Finally, coherence between trade and environmental regimes is crucial and trade and environmental regimes have committed to mutually supportive policies. However, the important fact is that "to turn good institutions into results requires both clear identification of those areas of policy where there is an overlap between trade and sustainable development, as well as constructive proposals as to how to ensure trade and sustainable development are mutually supportive".[859]

In the case of coherence between trade and environmental regimes, coherence literally refers to the degree to which elements of an international regime are internally consistent each other. However, in practice, coherence between regimes seems to be complex. A coherent system may constrain social practice; hence it is important to develop both descriptive and normative components of the regime study. Moreover, trade and environmental issues may need to improve trade capacity building by balancing between non-discrimination and trade liberalization. There are some common trends of trade and environmental issues, which is how trade and environmental regimes take account of various different interests. Procedural transformation and democratic information may be the key to achieving coherence between trade and the environment.

[859] Panitchpakdi, Supachai, UNCTAD Secretary-General and former WTO Director General (2002-2005), description for Sampson, Gary P., *The WTO and Sustainable Development*, United Nations University Press, Tokyo, 2005.

9-5. Recommendations – Coherence between the trade regime and environmental regimes

> Where there was uncertainty, they thought we needed more research and I thought we needed to be cautious. We just looked at the same science and came to two different conclusions.[860]

The importance of enhancing cooperation between trade and environmental policies has long been acknowledged. The complexity of international negotiations and disputes can be reduced by developing coordination between regimes' rules and establishing shared norms. In the case of trade and the environment, increasing scientific consistency may improve the effectiveness of the implementation of trade and environment agreements. Escalating trade and environmental disputes from potential tensions can also be prevented by encouraging an exchange of experts between MEAs and the WTO. Thus, building information exchange and enhancing technical cooperation can assist national governments to implement environmentally sound technologies in a more efficient way.

This thesis showed that the contradictions between trade and environmental regimes reside in several places. Both regimes' vagueness of core concepts and their non-overlapping memberships are often considered to be part of the cause of the contradictions between them. Thus, early chapters addressed these contradictions by explaining the two regimes' conflicting general rules referred to in this thesis as norms and principles. Then, following chapters focused on their more specific provisions and procedures, referred to in this thesis as rules, to highlight jurisdictional gaps, overlaps and relationships between them.

Normative changes of regimes can be seen because of new sciences and new trade and environmental problems. MEAs have shifted from a conventional "problem-solving" style to a "risk-averting" style[861]because new environmental problems need to take precautionary action. On the other hand, the WTO has held for the first time the public hearing of Panel procedures in *the EC-Hormones case* because of demands from civil society. In the case of trade and the environments, scientific knowledge has become one of important sources of norm/rule-making of regimes. The available scientific knowledge has also become a significant source of nations' interests under conditions of scientific uncertainty. Thus, the "scientization of politics" may well devolve into the "politicization of science".[862]

In the case of the relationship between trade and environmental regimes, scientific consensus tends to generate political consensus. However, scientific consensus does not automatically create policy consensus. International rule-making in the face of scientific

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[860] Thomas, Lee, former EPA administrator, "Global environmental change :The EPA perspectives," in Titus, James (ed), *Effects of changes in stratospheric Ozone and glonal climate*, Washington D.C., Environmental Protection Agency, 1986.

[861] Ruggie, John, "Social time and international policy: Conceptualizing global population and resource issues," in Karns, M.P. (ed), *Persistent patterns and emergent structures in a waning century*, Praeger, New York, 1986, p. 231.

[862] Weingart, Peter, "The scientific power elite: A chimera," in Elias, Norbert, et al, (eds), *Scientific establishments and hierarchies*, Reidel, Dordrecht, 1982, p. 73.

uncertainty involves a rich and complex set of interactions among facts and values, knowledge and interests.[863] States are often provided insufficient scientific evidences in the face of new policy-making possibilities raised by new technologies. Thus, the limited scientific knowledge often contributes the range of policy options. For example, chapter 5 showed different positions among Member States of the WTO. The EC has emphasized strong precaution and frames what is known in terms most favourable to their citizens in establishing stricter trade regulations. On the other hand, the US has stressed science and frames what is known in terms of strong business interests. Thus, the US is likely to take weak precaution.

There may be no definitive answers to resolve the contradictions between the trade and environmental regimes. However, I propose two recommendations based on this research. I focus on how and to what extent could some of the conceptual vagueness be removed over time through development of case law, and if addressing the contradictions mentioned above could reduce the problem.

Firstly, there has been no progress in the area of negotiation on synergy between the WTO and UNEP. In the absence of international regimes' subsequent transformation, trade and environmental issues may need to seek alternative actions. Many of the actual participants were available for personal interviews allowing me to ask specific questions. These interviews were crucial in determining the beliefs and discursive orientations inside the international organizations, and this information is not readily accessible through official documents. However, according to my experience of interviews from the trade and environmental regimes, "communication" between different regimes is essential and should be increased. Better understanding of complex Agreements of WTO and MEAs would improve their juridical relationship because their Agreements did not mean to be created to damage the environment or disguise international trade.

At the national level, since trade and environmental regimes have not significantly solved the issues observed by one structure of multilateral governance, they may need to find a way to accommodate a more "bottom-up" governing process. For example, trade and environmental ministries acting together to promote enough common interest that will be successful in the long run. As a practical matter, it is important to identify specific areas where mutually supportive policies could be pursued between trade and environmental regimes. Moreover, the WTO Committee on Trade and Environment can be the key to continue synergy between trade and environmental regimes. For example the CTE invited MEAs to send their representatives for an information-sharing exercise. The CTE briefed MEAs on the use of trade measures as applied to MEAs. [864] This "anti-top-down" approach restructures collaboration between trade and environmental regimes. The approach may also permit trade and environmental regimes'

[863] Litfin, Karen T., *Ozone Discourse: Science and politics in global environmental cooperation*, Columbia University Press, New York, 1994, p.115.

[864] A regular meeting of the Committee of Trade and Environment (CTE) was held on 21 June 2004, followed by a CTE Special Session meeting on 22 June 2004. Seven MEAs were invited. Interview with the WTO officer #9-2, July, 2004.

different norms and rules to become more consistent, and promotes coherence between international regimes in international relations.

Secondly, contradictions between trade and environmental regimes have eased the problem by conceptual vagueness through a body of case law. In chapter 8, in *the EC-Hormones case*, the Appellate Body tried to search the common interests or values and to balance its case law with international standards.[865] However, the Appellate Body stated that "standard should not *only* be based on science but also should be weighed in conjunction with the effectiveness of the measure in achieving those ends and the trade restrictiveness of the contested measure".[866] Thus, if international standards are not created in a science laboratory, the WTO case law is likely to continue weighting trade-related facts. However, the positive progress was seen at the Sixth Hong Kong Ministerial Conference, Members agreed that the Director-General develop new proposals for promoting international standards, including through a better use of *the Standards and Trade Development Facility*[867] launched in 2004.[868]

New technologies and new environmental problems involve precautionary actions; hence different normative beliefs among regimes and States can be emphasized. More participation of epistemic society may help to fill the gap between casual and normative beliefs (scientific evidence and precaution). However, scientists as a power source in policy have a limited role, because they usually do not directly participate in policy-making procedures. Moreover, although the WTO Agreement recommends seeking additional information outside the WTO, the Panel did not take into account opinions from the specialists in relevant fields as an international standard in *the US-Shrimp case*.[869] More specific/specialized regimes can often better solve particular problems; hence, more specific law should come before more general law. This one of principles of public international law[870] may apply or should be emphasized in the case of trade and environmental problems of conceptual vagueness through a body of case law.

It is also important to note that trade and environmental regimes have different types of norms. The former is subject to continual legitimating through adjudicatory procedures. The latter may need almost universal participation to implement their treaties. Legalization requires greater obligation, and norm-making requests policy construction. Thus, it is essential to interplay between legalization and norm inscription in the study of trade and environment.

Moreover, for coherence between regimes, different norms should not be the issue to deal with new matters together, or different regimes' norms shall not be easily abandoned. Regime can be communitarian, cooperative, benevolent and voluntary.[871] To build common values while

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[865] Appellate Body Report, *the EC- Hormones case*, WT/DS26/AB/R, WT/DS48/AB/R, paragraph 123.
[866] Ibid. paragraph 187.
[867] The purpose of the Standards and Trade Development Facility is to shape and implement international standards on food safety, and plant and animal health. (so-called sanitary and phytosanitary (SPS) standards) WTO News, 30 November 2004.
[868] WTO Press Releases, 14 December 2005.
[869] discussed in chapter 4
[870] see chapter 5
[871] Litfin, Karen T., 1994, op.cit. p.190.

respecting different norms, the first step of coherence between regimes may be to understand closely each other's rules. This "horizontal coordination" between international regimes[872] may help to achieve mutual cooperation between two different sets of agreements over the same issues. It is essential that trade and environmental issues are addressed in solutions that integrate trade, environment and development. For example, countries "win" when they remove environmentally harmful trade restrictions in their own countries; other countries "win" when their exports grow owing to the improved market access because of this removal of trade restrictions. The "win-win-win" outcome should benefit the multilateral trading system, the environment, and social equity.[873]

Finally, developments in the field of international regime analyses, such as studies dealing with institutional design and institutional cultures, have contributed to the formalization of international institutionalism. However, in the density of evolution of international cooperation with various growing agendas in the world, the new institutionalism needs studies of the interactions between regimes. Regarding the significance of institutions as determinants of collective outcome, two ideas can be concluded. Firstly, it is important to explore the normative mechanisms through which regimes affect collective outcomes and the interactive behaviour of Member States. Secondly, it is necessary to increase interdisciplinary collaboration between international relations and international law to reconceptualize problems of the regime complex.

This thesis has been an attempt to create some space to think about the question of the relationship between international regimes more clearly. The case of the WTO and the Cartagena Protocol on Biosafety has provided an arena in which to consider the complex of international agreements. To develop analyses of the contradictory relationship between international regimes, trade and environmental issues may need to take the powerful and insistent claims from many different communities. And it is essential there are more cross-over specialists such as trade and the environment or science and law.

[872] Sutherland, Peter, et al., "The future of the WTO: Addressing institutional challenges in the new millennium," The WTO, Geneva, 2005.
[873] The WTO, Environment Backgrounder: The effects of trade liberalization on the environment, Available online [http://www.wto.org/english/tratop_e/envir_e/envir_backgrnd_e/c4s1_e.htm] viewed 20 December 2005.

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Appendix 1:
GATT Article XX: General Exceptions

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

(a) necessary to protect public morals;

(b) necessary to protect human, animal or plant life or health;

(c) relating to the importations or exportations of gold or silver;

(d) necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trade marks and copyrights, and the prevention of deceptive practices;

(e) relating to the products of prison labour;

(f) imposed for the protection of national treasures of artistic, historic or archaeological value;

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption;

(h) undertaken in pursuance of obligations under any intergovernmental commodity agreement which conforms to criteria submitted to the CONTRACTING PARTIES and not disapproved by them or which is itself so submitted and not so disapproved;*

(i) involving restrictions on exports of domestic materials necessary to ensure essential quantities of such materials to a domestic processing industry during periods when the domestic price of such materials is held below the world price as part of a governmental stabilization plan; Provided that such restrictions shall not operate to increase the exports of or the protection afforded to such domestic industry, and shall not depart from the provisions of this Agreement relating to non-discrimination;

(j) essential to the acquisition or distribution of products in general or local short supply; Provided that any such measures shall be consistent with the principle that all contracting parties are entitled to an equitable share of the international supply of such products, and that any such measures, which are inconsistent with the other provisions of the Agreement shall be discontinued as soon as the conditions giving rise to them have ceased to exist. The CONTRACTING PARTIES shall review the need for this sub-paragraph not later than 30 June 1960.

Appendix 2:
The SPS Agreement Article 2: Basic Rights and Obligations

1. Members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such measures are not inconsistent with the provisions of this Agreement.
2. Members shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence, except as provided for in paragraph 7 of Article 5.
3. Members shall ensure that their sanitary and phytosanitary measures do not arbitrarily or unjustifiably discriminate between Members where identical or similar conditions prevail, including between their own territory and that of other Members. Sanitary and phytosanitary measures shall not be applied in a manner which would constitute a disguised restriction on international trade.
4. Sanitary or phytosanitary measures which conform to the relevant provisions of this Agreement shall be presumed to be in accordance with the obligations of the Members under the provisions of GATT 1994 which relate to the use of sanitary or phytosanitary measures, in particular the provisions of Article XX(b).

Appendix 3:
The SPS Agreement Article 3: Harmonization

1. To harmonize sanitary and phytosanitary measures on as wide a basis as possible, Members shall base their sanitary or phytosanitary measures on international standards, guidelines or recommendations, where they exist, except as otherwise provided for in this Agreement, and in particular in paragraph 3.
2. Sanitary or phytosanitary measures which conform to international standards, guidelines or recommendations shall be deemed to be necessary to protect human, animal or plant life or health, and presumed to be consistent with the relevant provisions of this Agreement and of GATT 1994.
3. Members may introduce or maintain sanitary or phytosanitary measures which result in a higher level of sanitary or phytosanitary protection than would be achieved by measures based on the relevant international standards, guidelines or recommendations, if there is a scientific justification, or as a consequence of the level of sanitary or phytosanitary protection a Member determines to be appropriate in accordance with the relevant provisions of paragraphs 1 through 8 of Article 5. Notwithstanding the above, all measures which result in a level of sanitary or phytosanitary protection different from that which would be achieved by measures based on international standards, guidelines or recommendations shall not be inconsistent with any other provision of this Agreement.
4. Members shall play a full part, within the limits of their resources, in the relevant international organizations and their subsidiary bodies, in particular the Codex Alimentarius Commission, the International Office of Epizootics, and the international and regional organizations operating within the framework of the International Plant Protection Convention, to promote within these organizations the development and periodic review of standards, guidelines and recommendations with respect to all aspects of sanitary and phytosanitary measures.
5. The Committee on Sanitary and Phytosanitary Measures provided for in paragraphs 1 and 4 of Article 12 (referred to in this Agreement as the "Committee") shall develop a procedure to monitor the process of international harmonization and coordinate efforts in this regard with the relevant international organizations.

Appendix 4:
The SPS Agreement Article 5: Assessment of Risk and Determination of the Appropriate Level of Sanitary or Phytosanitary Protection

1. Members shall ensure that their sanitary or phytosanitary measures are based on an assessment, as appropriate to the circumstances, of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organizations.
2. In the assessment of risks, Members shall take into account available scientific evidence; relevant processes and production methods; relevant inspection, sampling and testing methods; prevalence of specific diseases or pests; existence of pest — or disease — free areas; relevant ecological and environmental conditions; and quarantine or other treatment.
3. In assessing the risk to animal or plant life or health and determining the measure to be applied for achieving the appropriate level of sanitary or phytosanitary protection from such risk, Members shall take into account as relevant economic factors: the potential damage in terms of loss of production or sales in the event of the entry, establishment or spread of a pest or disease; the costs of control or eradication in the territory of the importing Member; and the relative cost-effectiveness of alternative approaches to limiting risks.
4. Members should, when determining the appropriate level of sanitary or phytosanitary protection, take into account the objective of minimizing negative trade effects.
5. With the objective of achieving consistency in the application of the concept of appropriate level of sanitary or phytosanitary protection against risks to human life or health, or to animal and plant life or health, each Member shall avoid arbitrary or unjustifiable distinctions in the levels it considers to be appropriate in different situations, if such distinctions result in discrimination or a disguised restriction on international trade. Members shall cooperate in the Committee, in accordance with paragraphs 1, 2 and 3 of Article 12, to develop guidelines to further the practical implementation of this provision. In developing the guidelines, the Committee shall take into account all relevant factors, including the exceptional character of human health risks to which people voluntarily expose themselves.
6. Without prejudice to paragraph 2 of Article 3, when establishing or maintaining sanitary or phytosanitary measures to achieve the appropriate level of sanitary or phytosanitary protection, Members shall ensure that such measures are not more trade-restrictive than required to achieve their appropriate level of sanitary or phytosanitary protection, taking into account technical and economic feasibility.
7. In cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information, including that from the relevant international organizations as well as from sanitary or phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time.
8. When a Member has reason to believe that a specific sanitary or phytosanitary measure introduced or maintained by another Member is constraining, or has the potential to constrain, its exports and the measure is not based on the relevant international standards, guidelines or recommendations, or such standards, guidelines or recommendations do not exist, an explanation of the reasons for such sanitary or phytosanitary measure may be requested and shall be provided by the Member maintaining the measure.

Appendix 5:
The SPS Agreement Annex A: Definitions

1. Sanitary or phytosanitary measure — 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.
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.
2. Harmonization — The establishment, recognition and application of common sanitary and phytosanitary measures by different Members.
3. International standards, guidelines and recommendations
(a) for food safety, the standards, guidelines and recommendations established by the Codex Alimentarius Commission relating to food additives, veterinary drug and pesticide residues, contaminants, methods of analysis and sampling, and codes and guidelines of hygienic practice;
(b) for animal health and zoonoses, the standards, guidelines and recommendations developed under the auspices of the International Office of Epizootics;
(c) for plant health, the international standards, guidelines and recommendations developed under the auspices of the Secretariat of the International Plant Protection Convention in cooperation with regional organizations operating within the framework of the International Plant Protection Convention; and
(d) for matters not covered by the above organizations, appropriate standards, guidelines and recommendations promulgated by other relevant international organizations open for membership to all Members, as identified by the Committee.
4. Risk assessment — The evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences; or the evaluation of the potential for adverse effects on human or animal health arising from the presence of additives, contaminants, toxins or disease-causing organisms in food, beverages or feedstuffs.
5. Appropriate level of sanitary or phytosanitary protection — The level of protection deemed appropriate by the Member establishing a sanitary or phytosanitary measure to protect human, animal or plant life or health within its territory.
NOTE: Many Members otherwise refer to this concept as the “acceptable level of risk”.
6. Pest— or disease-free area — An area, whether all of a country, part of a country, or all or parts of several countries, as identified by the competent authorities, in which a specific pest or disease does not occur.
NOTE: A pest— or disease-free area may surround, be surrounded by, or be adjacent to an area — whether within part of a country or in a geographic region which includes parts of or all of several countries -in which a specific pest or disease is known to occur but is subject to regional control measures such as the establishment of protection, surveillance and buffer zones which will confine or eradicate the pest or disease in question.
7. Area of low pest or disease prevalence — An area, whether all of a country, part of a country, or all or parts of several countries, as identified by the competent authorities, in which a specific pest or disease occurs at low levels and which is subject to effective surveillance, control or eradication measures.

Appendix 6:
The SPS Agreement Annex C:
Control, Inspection and Approval Procedures

1. Members shall ensure, with respect to any procedure to check and ensure the fulfilment of sanitary or phytosanitary measures, that:
(a) such procedures are undertaken and completed without undue delay and in no less favourable manner for imported products than for like domestic products;
(b) the standard processing period of each procedure is published or that the anticipated processing period is communicated to the applicant upon request; when receiving an application, the competent body promptly examines the completeness of the documentation and informs the applicant in a precise and complete manner of all deficiencies; the competent body transmits as soon as possible the results of the procedure in a precise and complete manner to the applicant so that corrective action may be taken if necessary; even when the application has deficiencies, the competent body proceeds as far as practicable with the procedure if the applicant so requests; and that upon request, the applicant is informed of the stage of the procedure, with any delay being explained;
(c) information requirements are limited to what is necessary for appropriate control, inspection and approval procedures, including for approval of the use of additives or for the establishment of tolerances for contaminants in food, beverages or feedstuffs;
(d) the confidentiality of information about imported products arising from or supplied in connection with control, inspection and approval is respected in a way no less favourable than for domestic products and in such a manner that legitimate commercial interests are protected;
(e) any requirements for control, inspection and approval of individual specimens of a product are limited to what is reasonable and necessary;
(f) any fees imposed for the procedures on imported products are equitable in relation to any fees charged on like domestic products or products originating in any other Member and should be no higher than the actual cost of the service;
(g) the same criteria should be used in the siting of facilities used in the procedures and the selection of samples of imported products as for domestic products so as to minimize the inconvenience to applicants, importers, exporters or their agents;
(h) whenever specifications of a product are changed subsequent to its control and inspection in light of the applicable regulations, the procedure for the modified product is limited to what is necessary to determine whether adequate confidence exists that the product still meets the regulations concerned; and
(i) a procedure exists to review complaints concerning the operation of such procedures and to take corrective action when a complaint is justified.
Where an importing Member operates a system for the approval of the use of food additives or for the establishment of tolerances for contaminants in food, beverages or feedstuffs which prohibits or restricts access to its domestic markets for products based on the absence of an approval, the importing Member shall consider the use of a relevant international standard as the basis for access until a final determination is made.
2. Where a sanitary or phytosanitary measure specifies control at the level of production, the Member in whose territory the production takes place shall provide the necessary assistance to facilitate such control and the work of the controlling authorities.
3. Nothing in this Agreement shall prevent Members from carrying out reasonable inspection within their own territories.

Appendix 7:
The TBT Agreement Article 2: Preparation, Adoption and Application of Technical Regulations by Central Government Bodies

With respect to their central government bodies:

2.1 Members shall ensure that in respect of technical regulations, products imported from the territory of any Member shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country.

2.2 Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade. For this purpose, technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create. Such legitimate objectives are, *inter alia:* national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. In assessing such risks, relevant elements of consideration are, *inter alia:* available scientific and technical information, related processing technology or intended end-uses of products.

2.3 Technical regulations shall not be maintained if the circumstances or objectives giving rise to their adoption no longer exist or if the changed circumstances or objectives can be addressed in a less trade-restrictive manner.

2.4 Where technical regulations are required and relevant international standards exist or their completion is imminent, Members shall use them, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems.

2.5 A Member preparing, adopting or applying a technical regulation which may have a significant effect on trade of other Members shall, upon the request of another Member, explain the justification for that technical regulation in terms of the provisions of paragraphs 2 to 4. Whenever a technical regulation is prepared, adopted or applied for one of the legitimate objectives explicitly mentioned in paragraph 2, and is in accordance with relevant international standards, it shall be rebuttably presumed not to create an unnecessary obstacle to international trade.

2.6 With a view to harmonizing technical regulations on as wide a basis as possible, Members shall play a full part, within the limits of their resources, in the preparation by appropriate international standardizing bodies of international standards for products for which they either have adopted, or expect to adopt, technical regulations.

2.7 Members shall give positive consideration to accepting as equivalent technical regulations of other Members, even if these regulations differ from their own, provided they are satisfied that these regulations adequately fulfil the objectives of their own regulations.

2.8 Wherever appropriate, Members shall specify technical regulations based on product requirements in terms of performance rather than design or descriptive characteristics.

2.9 Whenever a relevant international standard does not exist or the technical content of a proposed technical regulation is not in accordance with the technical content of relevant international standards, and if the technical regulation may have a significant effect on trade of other Members, Members shall:

2.9.1 publish a notice in a publication at an early appropriate stage, in such a manner as to enable interested parties in other Members to become acquainted with it, that they propose to introduce a particular technical regulation;

2.9.2 notify other Members through the Secretariat of the products to be covered by the proposed technical regulation, together with a brief indication of its objective and rationale. Such notifications shall take place at an early appropriate stage, when amendments can still be introduced and comments taken into account;

2.9.3 upon request, provide to other Members particulars or copies of the proposed technical regulation and, whenever possible, identify the parts which in substance deviate from relevant international standards;

2.9.4 without discrimination, allow reasonable time for other Members to make comments in writing, discuss these comments upon request, and take these written comments and the results of these discussions into account.

2.10 Subject to the provisions in the lead-in to paragraph 9, where urgent problems of safety, health, environmental protection or national security arise or threaten to arise for a Member, that Member may omit such of

the steps enumerated in paragraph 9 as it finds necessary, provided that the Member, upon adoption of a technical regulation, shall:

2.10.1 notify immediately other Members through the Secretariat of the particular technical regulation and the products covered, with a brief indication of the objective and the rationale of the technical regulation, including the nature of the urgent problems;

2.10.2 upon request, provide other Members with copies of the technical regulation;

2.10.3 without discrimination, allow other Members to present their comments in writing, discuss these comments upon request, and take these written comments and the results of these discussions into account.

2.11 Members shall ensure that all technical regulations which have been adopted are published promptly or otherwise made available in such a manner as to enable interested parties in other Members to become acquainted with them.

2.12 Except in those urgent circumstances referred to in paragraph 10, Members shall allow a reasonable interval between the publication of technical regulations and their entry into force in order to allow time for producers in exporting Members, and particularly in developing country Members, to adapt their products or methods of production to the requirements of the importing Member.

Appendix 8:
Doha Ministerial Declaration Paragraph 31 and 32

31. With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on:
(i) the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs). The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the MEA in question. The negotiations shall not prejudice the WTO rights of any Member that is not a party to the MEA in question;
(ii) procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and the criteria for the granting of observer status;
(iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services. We note that fisheries subsidies form part of the negotiations provided for in paragraph 28.
32. We instruct the Committee on Trade and Environment, in pursuing work on all items on its agenda within its current terms of reference, to give particular attention to:
(i) the effect of environmental measures on market access, especially in relation to developing countries, in particular the least-developed among them, and those situations in which the elimination or reduction of trade restrictions and distortions would benefit trade, the environment and development;
(ii) the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights; and
(iii) labelling requirements for environmental purposes.
Work on these issues should include the identification of any need to clarify relevant WTO rules. The Committee shall report to the Fifth Session of the Ministerial Conference, and make recommendations, where appropriate, with respect to future action, including the desirability of negotiations. The outcome of this work as well as the negotiations carried out under paragraph 31(i) and (ii) shall be compatible with the open and non-discriminatory nature of the multilateral trading system, shall not add to or diminish the rights and obligations of members under existing WTO agreements, in particular the Agreement on the Application of Sanitary and Phytosanitary Measures, nor alter the balance of these rights and obligations, and will take into account the needs of developing and least-developed countries.

Appendix 9:
The Cartagena Protocol on Biosafety Article 3. Use of Terms

For the purposes of this Protocol:
(a) "Conference of the Parties" means the Conference of the Parties to the Convention;
(b) "Contained use" means any operation, undertaken within a facility, installation or other physical structure, which involves living modified organisms that are controlled by specific measures that effectively limit their contact with, and their impact on, the external environment;
(c) "Export" means intentional transboundary movement from one Party to another Party;
(d) "Exporter" means any legal or natural person, under the jurisdiction of the Party of export, who arranges for a living modified organism to be exported;
(e) "Import" means intentional transboundary movement into one Party from another Party;
(f) "Importer" means any legal or natural person, under the jurisdiction of the Party of import, who arranges for a living modified organism to be imported;
(g) "Living modified organism" means any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology;
(h) "Living organism" means any biological entity capable of transferring or replicating genetic material, including sterile organisms, viruses and viroids;
(i) "Modern biotechnology" means the application of:
a. In vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or
b. Fusion of cells beyond the taxonomic family,
that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection;
(j) "Regional economic integration organization" means an organization constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by this Protocol and which has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it;
(k) "Transboundary movement" means the movement of a living modified organism from one Party to another Party, save that for the purposes of Articles 17 and 24 transboundary movement extends to movement between Parties and non-Parties.

Appendix 10:
The Cartagena Protocol on Biosafety Article 7. Application of the Advance Informed Agreement Procedure

1. Subject to Articles 5 and 6, the advance informed agreement procedure in Articles 8 to 10 and 12 shall apply prior to the first intentional transboundary movement of living modified organisms for intentional introduction into the environment of the Party of import.
2. "Intentional introduction into the environment" in paragraph 1 above, does not refer to living modified organisms intended for direct use as food or feed, or for processing.
3. Article 11 shall apply prior to the first transboundary movement of living modified organisms intended for direct use as food or feed, or for processing.
4. The advance informed agreement procedure shall not apply to the intentional transboundary movement of living modified organisms identified in a decision of the Conference of the Parties serving as the meeting of the Parties to this Protocol as being not likely to have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health.

Appendix 11:
The Cartagena Protocol on Biosafety Article 11. Procedure for Living Modified Organisms Intended for Direct Use as Food or Feed, Or For Processing

1. A Party that makes a final decision regarding domestic use, including placing on the market, of a living modified organism that may be subject to transboundary movement for direct use as food or feed, or for processing shall, within fifteen days of making that decision, inform the Parties through the Biosafety Clearing-House. This information shall contain, at a minimum, the information specified in Annex II. The Party shall provide a copy of the information, in writing, to the national focal point of each Party that informs the Secretariat in advance that it does not have access to the Biosafety Clearing-House. This provision shall not apply to decisions regarding field trials.
2. The Party making a decision under paragraph 1 above, shall ensure that there is a legal requirement for the accuracy of information provided by the applicant.
3. Any Party may request additional information from the authority identified in paragraph (b) of Annex II.
4. A Party may take a decision on the import of living modified organisms intended for direct use as food or feed, or for processing, under its domestic regulatory framework that is consistent with the objective of this Protocol.
5. Each Party shall make available to the Biosafety Clearing-House copies of any national laws, regulations and guidelines applicable to the import of living modified organisms intended for direct use as food or feed, or for processing, if available.
6. A developing country Party or a Party with an economy in transition may, in the absence of the domestic regulatory framework referred to in paragraph 4 above, and in exercise of its domestic jurisdiction, declare through the Biosafety Clearing-House that its decision prior to the first import of a living modified organism intended for direct use as food or feed, or for processing, on which information has been provided under paragraph 1 above, will be taken according to the following:
(a) A risk assessment undertaken in accordance with Annex III; and
(b) A decision made within a predictable timeframe, not exceeding two hundred and seventy days.
7. Failure by a Party to communicate its decision according to paragraph 6 above, shall not imply its consent or refusal to the import of a living modified organism intended for direct use as food or feed, or for processing, unless otherwise specified by the Party.
8. Lack of scientific certainty due to insufficient relevant scientific information and knowledge regarding the extent of the potential adverse effects of a living modified organism on the conservation and sustainable use of biological diversity in the Party of import, taking also into account risks to human health, shall not prevent that Party from taking a decision, as appropriate, with regard to the import of that living modified organism intended for direct use as food or feed, or for processing, in order to avoid or minimize such potential adverse effects.
9. A Party may indicate its needs for financial and technical assistance and capacity-building with respect to living modified organisms intended for direct use as food or feed, or for processing. Parties shall cooperate to meet these needs in accordance with Articles 22 and 28.

Appendix 12:
The Cartagena Protocol on Biosafety Article 17. Unintentional Transboundary Movements and Emergency Measures

1. Each Party shall take appropriate measures to notify affected or potentially affected States, the Biosafety Clearing-House and, where appropriate, relevant international organizations, when it knows of an occurrence under its jurisdiction resulting in a release that leads, or may lead, to an unintentional transboundary movement of a living modified organism that is likely to have significant adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health in such States. The notification shall be provided as soon as the Party knows of the above situation.
2. Each Party shall, no later than the date of entry into force of this Protocol for it, make available to the Biosafety Clearing-House the relevant details setting out its point of contact for the purposes of receiving notifications under this Article.
3. Any notification arising from paragraph 1 above, should include:
(a) Available relevant information on the estimated quantities and relevant characteristics and/or traits of the living modified organism;
(b) Information on the circumstances and estimated date of the release, and on the use of the living modified organism in the originating Party;
(c) Any available information about the possible adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, as well as available information about possible risk management measures;
(d) Any other relevant information; and
(e) A point of contact for further information.

Appendix 13:
The Cartagena Protocol on Biosafety Article 18. Handling, Transport, Packaging and Identification

1. In order to avoid adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, each Party shall take necessary measures to require that living modified organisms that are subject to intentional transboundary movement within the scope of this Protocol are handled, packaged and transported under conditions of safety, taking into consideration relevant international rules and standards.
2. Each Party shall take measures to require that documentation accompanying:
(a) Living modified organisms that are intended for direct use as food or feed, or for processing, clearly identifies that they "may contain" living modified organisms and are not intended for intentional introduction into the environment, as well as a contact point for further information. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall take a decision on the detailed requirements for this purpose, including specification of their identity and any unique identification, no later than two years after the date of entry into force of this Protocol;
(b) Living modified organisms that are destined for contained use clearly identifies them as living modified organisms; and specifies any requirements for the safe handling, storage, transport and use, the contact point for further information, including the name and address of the individual and institution to whom the living modified organisms are consigned; and
(c) Living modified organisms that are intended for intentional introduction into the environment of the Party of import and any other living modified organisms within the scope of the Protocol, clearly identifies them as living modified organisms; specifies the identity and relevant traits and/or characteristics, any requirements for the safe handling, storage, transport and use, the contact point for further information and, as appropriate, the name and address of the importer and exporter; and contains a declaration that the movement is in conformity with the requirements of this Protocol applicable to the exporter.
3. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall consider the need for and modalities of developing standards with regard to identification, handling, packaging and transport practices, in consultation with other relevant international bodies.

Appendix 14:
The Cartagena Protocol on Biosafety Article 20. Information Sharing and the Biosafety Clearing-House

1. A Biosafety Clearing-House is hereby established as part of the clearing-house mechanism under Article 18, paragraph 3, of the Convention, in order to:
(a) Facilitate the exchange of scientific, technical, environmental and legal information on, and experience with, living modified organisms; and
(b) Assist Parties to implement the Protocol, taking into account the special needs of developing country Parties, in particular the least developed and small island developing States among them, and countries with economies in transition as well as countries that are centres of origin and centres of genetic diversity.
2. The Biosafety Clearing-House shall serve as a means through which information is made available for the purposes of paragraph 1 above. It shall provide access to information made available by the Parties relevant to the implementation of the Protocol. It shall also provide access, where possible, to other international biosafety information exchange mechanisms.
3. Without prejudice to the protection of confidential information, each Party shall make available to the Biosafety Clearing-House any information required to be made available to the Biosafety Clearing-House under this Protocol, and:
(a) Any existing laws, regulations and guidelines for implementation of the Protocol, as well as information required by the Parties for the advance informed agreement procedure;
(b) Any bilateral, regional and multilateral agreements and arrangements;
(c) Summaries of its risk assessments or environmental reviews of living modified organisms generated by its regulatory process, and carried out in accordance with Article 15, including, where appropriate, relevant information regarding products thereof, namely, processed materials that are of living modified organism origin, containing detectable novel combinations of replicable genetic material obtained through the use of modern biotechnology;
(d) Its final decisions regarding the importation or release of living modified organisms; and
(e) Reports submitted by it pursuant to Article 33, including those on implementation of the advance informed agreement procedure.
4. The modalities of the operation of the Biosafety Clearing-House, including reports on its activities, shall be considered and decided upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first meeting, and kept under review thereafter.

Appendix 15:
The Cartagena Protocol on Biosafety Annex I. Information Required in Notifications Under Article 8, 10 and 13

(a) Name, address and contact details of the exporter.
(b) Name, address and contact details of the importer.
(c) Name and identity of the living modified organism, as well as the domestic classification, if any, of the biosafety level of the living modified organism in the State of export.
(d) Intended date or dates of the transboundary movement, if known.
(e) Taxonomic status, common name, point of collection or acquisition, and characteristics of recipient organism or parental organisms related to biosafety.
(f) Centres of origin and centres of genetic diversity, if known, of the recipient organism and/or the parental organisms and a description of the habitats where the organisms may persist or proliferate.
(g) Taxonomic status, common name, point of collection or acquisition, and characteristics of the donor organism or organisms related to biosafety.
(h) Description of the nucleic acid or the modification introduced, the technique used, and the resulting characteristics of the living modified organism.
(i) Intended use of the living modified organism or products thereof, namely, processed materials that are of living modified organism origin, containing detectable novel combinations of replicable genetic material obtained through the use of modern biotechnology.
(j) Quantity or volume of the living modified organism to be transferred.
(k) A previous and existing risk assessment report consistent with Annex III.
(l) Suggested methods for the safe handling, storage, transport and use, including packaging, labelling, documentation, disposal and contingency procedures, where appropriate.
(m) Regulatory status of the living modified organism within the State of export (for example, whether it is prohibited in the State of export, whether there are other restrictions, or whether it has been approved for general release) and, if the living modified organism is banned in the State of export, the reason or reasons for the ban.
(n) Result and purpose of any notification by the exporter to other States regarding the living modified organism to be transferred.
(o) A declaration that the above-mentioned information is factually correct.

Appendix 16:
The Cartagena Protocol on Biosafety Annex II. Information Required Concerning Living Modified Organisms Intended for Direct Use as Food or Feed, or for Processing Under Article 11

(a) The name and contact details of the applicant for a decision for domestic use.
(b) The name and contact details of the authority responsible for the decision.
(c) Name and identity of the living modified organism.
(d) Description of the gene modification, the technique used, and the resulting characteristics of the living modified organism.
(e) Any unique identification of the living modified organism.
(f) Taxonomic status, common name, point of collection or acquisition, and characteristics of recipient organism or parental organisms related to biosafety.
(g) Centres of origin and centres of genetic diversity, if known, of the recipient organism and/or the parental organisms and a description of the habitats where the organisms may persist or proliferate.
(h) Taxonomic status, common name, point of collection or acquisition, and characteristics of the donor organism or organisms related to biosafety.
(i) Approved uses of the living modified organism.
(j) A risk assessment report consistent with Annex III.
(k) Suggested methods for the safe handling, storage, transport and use, including packaging, labelling, documentation, disposal and contingency procedures, where appropriate.

Appendix 17:
The Cartagena Protocol on Biosafety Annex III. Risk Assessment

Objective

1. The objective of risk assessment, under this Protocol, is to identify and evaluate the potential adverse effects of living modified organisms on the conservation and sustainable use of biological diversity in the likely potential receiving environment, taking also into account risks to human health.

Use of risk assessment

2. Risk assessment is, inter alia, used by competent authorities to make informed decisions regarding living modified organisms.

General principles

3. Risk assessment should be carried out in a scientifically sound and transparent manner, and can take into account expert advice of, and guidelines developed by, relevant international organizations.

4. Lack of scientific knowledge or scientific consensus should not necessarily be interpreted as indicating a particular level of risk, an absence of risk, or an acceptable risk.

5. Risks associated with living modified organisms or products thereof, namely, processed materials that are of living modified organism origin, containing detectable novel combinations of replicable genetic material obtained through the use of modern biotechnology, should be considered in the context of the risks posed by the non-modified recipients or parental organisms in the likely potential receiving environment.

6. Risk assessment should be carried out on a case-by-case basis. The required information may vary in nature and level of detail from case to case, depending on the living modified organism concerned, its intended use and the likely potential receiving environment.

Methodology

7. The process of risk assessment may on the one hand give rise to a need for further information about specific subjects, which may be identified and requested during the assessment process, while on the other hand information on other subjects may not be relevant in some instances.

8. To fulfil its objective, risk assessment entails, as appropriate, the following steps:

(a) An identification of any novel genotypic and phenotypic characteristics associated with the living modified organism that may have adverse effects on biological diversity in the likely potential receiving environment, taking also into account risks to human health;

(b) An evaluation of the likelihood of these adverse effects being realized, taking into account the level and kind of exposure of the likely potential receiving environment to the living modified organism;

(c) An evaluation of the consequences should these adverse effects be realized;

(d) An estimation of the overall risk posed by the living modified organism based on the evaluation of the likelihood and consequences of the identified adverse effects being realized;

(e) A recommendation as to whether or not the risks are acceptable or manageable, including, where necessary, identification of strategies to manage these risks; and

(f) Where there is uncertainty regarding the level of risk, it may be addressed by requesting further information on the specific issues of concern or by implementing appropriate risk management strategies and/or monitoring the living modified organism in the receiving environment.

Points to consider

9. Depending on the case, risk assessment takes into account the relevant technical and scientific details regarding the characteristics of the following subjects:

(a) Recipient organism or parental organisms. The biological characteristics of the recipient organism or parental organisms, including information on taxonomic status, common name, origin, centres of origin and centres of genetic diversity, if known, and a description of the habitat where the organisms may persist or proliferate;

(b) Donor organism or organisms. Taxonomic status and common name, source, and the relevant biological characteristics of the donor organisms;

(c) Vector. Characteristics of the vector, including its identity, if any, and its source or origin, and its host range;

(d) Insert or inserts and/or characteristics of modification. Genetic characteristics of the inserted nucleic acid and the function it specifies, and/or characteristics of the modification introduced;

(e) Living modified organism. Identity of the living modified organism, and the differences between the biological characteristics of the living modified organism and those of the recipient organism or parental organisms;
(f) Detection and identification of the living modified organism. Suggested detection and identification methods and their specificity, sensitivity and reliability;
(g) Information relating to the intended use. Information relating to the intended use of the living modified organism, including new or changed use compared to the recipient organism or parental organisms; and
(h) Receiving environment. Information on the location, geographical, climatic and ecological characteristics, including relevant information on biological diversity and centres of origin of the likely potential receiving environment.