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INTERNATIONAL ECOLOMIC POLICY: EMERGENCE AND DIMENSIONS

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Abstract

The purpose of this research essay is not to convince the reader that we are facing very serious environmental problems at a global level and that these are getting more and more out of control. It is assumed that such a realization has been widely achieved, and that the information is relatively easily available, on the Internet for example. What is much less clear is how we, as the epistemic community[1] involved in the negotiation, analysis, communication and implementation of policy and law in the domain of global environmental affairs can make a contribution to the protection of the global ecosystem as it deteriorates under the combined pressures of economic globalization (closely tied to lifestyle and consumption patterns) and population growth (closely tied to the status of women and poverty). The analysis starts from the observation that in all countries Ministries in charge of economy-related affairs are far more politically powerful than environmental Ministries. This power relationship has serious implications, for instance in what is called the "chilling effect" which often hampers and dilutes the negotiation and implementation of environmental safeguard measures in trade-related Multilateral Environmental Agreements.

More specifically, I shall investigate here the application of the sustainable development paradigm, and its relationship with the more recent concept of "EcoLomics" which refers to the interaction between Ecology and Economics (see table below). I shall argue that the confines of the sustainable development concept may be considered to be somewhat arbitrary, and that at the same time in many cases, e.g. at the WTO, the concept is wrongly applied in so far as social concerns are not really taken into consideration. Then again, there is nothing wrong with such a more focused approach. It should be stressed that the ecolomic approach does not express a hierarchy of importance or of values but simply an often unavoidable if not obvious organization of work. I shall argue therefore that in such cases -- of which the trade and environment debate is a classic example -- the term EcoLomics represents a pragmatic concept which is of course included in the sustainable development paradigm, and which can be used, under the appropriate circumstances, in the effort to balance equitably these two very different issue areas. At the same time it also takes into consideration poverty alleviation at the aggregate level which underpins in any case the position of the developing countries in just about all multilateral negotiations. The idea is by no means to replace the wider and more ambitious sustainable development term which connotes the overarching goal, but to put the emphasis on the need for focused policies that can be implemented for instance through intergovernmental organizations.

[1] Haas 1990.

Political Concepts Related to EcoLomics vs. Related Academic Sub-disciplines

A Conceptual Overview:

	Comprehensive	←	→	**Focused**
Political Concepts	Sustainable Development	Ecopolitics, Intergenerational Equity	**EcoLomics** incl. poverty alleviation,*) Equal Importance of Environment and Economy	Mutual Supportiveness of Trade and Environment in Public International Law**)
Academic Sub-disciplines	International Environmental Policy International Environmental Law Sustainable Development Law Ecological Economics Geographical, Human, Political, and Social Ecology Environmental Philosophy & Ethics		Industrial Ecology, International Political Economy	Environmental Economics, Domestic Environmental Law

*) Like Sustainable Development, EcoLomics can be defined many different ways; for the purposes of EcoLomics International it includes poverty alleviation at the aggregate level as explained below.

**) Mutual Supportiveness is essentially a legal principle but it is listed here under political concepts because its inclusion in an MEA (such as the Cartagena Protocol on Biosafety) is the result of a decision process of a political nature.

PART ONE -- INTRODUCING THE ECOLOMICS CONCEPT

1. The Accumulation of Scientific Evidence Demonstrating our Unsustainable Treatment of the Ecosystem

The continuing deterioration of the global ecosystem has been analyzed extensively by scientists in numerous disciplines and interdisciplinary teams, especially over the past thirty years or so. Rather than summarize these problems, I wish to mention some of the most authoritative sources of recent information on global environmental problems in order to provide, as a background of this research essay, an indication of the wealth of scientific information and overviews available from major well-known institutions.

One of the most respected illustrations and analyses of this ongoing monitoring process over the past years has been supplied by the Washington-based World Watch Institute which started to publish its findings in 1975.[2] Its annual flagship publications represent much-cited sources of crucial information on the natural sciences and human interactions and policies which are related to these problems. *State of the World*[3] presents every year a number of sectoral studies on the interface between ecological, social and economic concerns. *Vital Signs*[4] on the other hand tracks and documents every year changes in many ecological sectors but it also highlights areas where progress has been achieved. The 1992 Rio Conference on Environment and Development has determined the subject of the World Bank's yearly volume *World Development Report*:[5] The 1992 issue is dedicated to the theme of 'Development and the Environment.'[6] Similarly, the UN Development Programme (UNDP) publishes a yearly volume *Human Development Report*[7] whose 1992 edition[8] became famous thanks to its cover drawing: it depicts a graphic in the shape of a wide Champaign glass on a tall narrow stem which reflects the fact that the world's economic "Champaign" is reserved for the top 20% incomes, whereas the remaining 80% are located down in the narrow stem.

At the intergovernmental level, the *Global Environmental Outlook*[9] published by the United Nations Environment Program (UNEP) has been published in 1997, 2000, and 2002.[10] Subsequently UNEP has started the publication of a new series *Geo Year Book*[11] in 2003 with a special feature focus each year. Volume 2007 is particularly interesting in the context of the present analysis, it concentrates on the interface between environment and globalization.[12] In 2001 the UN has launched, under the leadership of Secretary-General Kofi Annan, the Millennium Ecosystem

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[2] World Watch Institute, http://www.worldwatch.org/node/23
[3] http://www.worldwatch.org/taxonomy/term/38
[4] http://www.worldwatch.org/taxonomy/term/39
[5] http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/0,,contentMDK:20227703~pagePK:478093~piPK:477627~theSitePK:477624,00.html
[6] World Bank 1992.
[7] http://hdr.undp.org/
[8] http://hdr.undp.org/reports/global/1992/en/
[9] http://www.unep.org/geo/
[10] The latest version is available online at http://www.unep.org/geo/geo3
[11] http://www.unep.org/geo/yearbook/yb2007/series.asp
[12] http://www.unep.org/geo/yearbook/yb2007/

Assessment (MA) research project which is analyzing ecosystem changes over the past decades and projects them into the future. It has published its first set of reports based on synthesized information from the scientific literature in 2005.[13] These reports also incorporate knowledge held by the private sector, practitioners, local communities, and indigenous peoples. The added value of the MA consists in collating, evaluating, and communicating in a useful form information which is held by the scientific community, private researchers, and civil society organizations, but which is not accessible for most people without significant analytical and synthesizing skills and efforts.

As we can see from these research projects carried out or commissioned by key international organizations as well as by private foundations and research initiatives, the international community has undertaken -- in parallel and in cooperation with the world's major scientific research institutions -- major efforts in arriving at an understanding of the forces at work which shape and change our environment. The projects mentioned here represent by no means an exhaustive listing but they clearly indicate that lack of knowledge or awareness can no longer be an excuse for inaction, or for the development and implementation of wrongheaded policies. Indifference toward these warnings is especially perilous because little is known about the growing number of overlapping stresses which may lead to rapid, unexpected damages to the ecosystem.[14]

The historic 1992 Earth Summit in Rio de Janeiro benefited from a considerable number of influential books published over many years which analyze the deterioration of the global ecosystem. The first one which attracted world-wide attention was Rachel Carson's 1962 *Silent Spring,* which was followed by a number of pioneering works.[15] In the 1970s and 1980s the social sciences also tried to come to terms with the challenges of the deteriorating ecosystem. In the development of a conceptual political framework -- as pointed out by Marten -- Erhard Eppler[16] has made a lasting, even though not sufficiently known, contribution with the introduction, in 1975, of the fundamental distinction between value conservatism and structural conservatism:

> … in a world of rapid and radical material changes the traditional values can be maintained only if one changes the structures actively; on the other hand, those who want to maintain the structures must, without being aware of it, sacrifice the values for which the structures were created originally [author's translation].[17]

Marten puts this contribution by Eppler to the ecopolitical debates of that time into a wider context by explaining:

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[13] http://earthwatch.unep.net/world/index.php; for a summary of its findings see http://en.wikipedia.org/wiki/Millennium_Ecosystem_Assessment

[14] Bright 1999.

[15] For instance Ehrlich 1968; Meadows *et. al.* 1972; Ehrlich and Holdren 1988.

[16] Marten 1983, 87: Erhard Eppler, born 1926, was a German Federal Minister (SPD) for economic cooperation in four social-democratic coalition governments. He defended progressive views with regards to the environment and official development assistance. When he was unable to implement his policies he resigned in 1974.

[17] Marten 1983, 88, citing Eppler: „… in einer Welt raschen und radikalen materiellen Wandels […] man die überlieferten Werte nur bewahren [kann], wenn man die Strukturen aktiv ändert; umgekehrt, wer die Strukturen bewahren will, muss, ohne es zu merken, die Werte untergehen lassen, um derentwillen die Strukturen da waren."

> Today Eppler even goes a step further in his conceptual clarification by asserting that all important controversies of our time did not divide the classic conservatives from the classic progressives, rather, they were drawing the line between the value-conservatives and the structure-conservative camps [author's translation].[18]

More recently certain self-styled "skeptical environmentalists" have tried to downplay and trivialize the overwhelming and multidisciplinary scientific evidence of broad-scale damages to nature due to human activity which is accumulating from all regions of the earth, not to mention from satellite monitoring; they zero in selectively on exceptions to the broad picture and twist around cause and effect relationships in order to promote self-serving *laissez-faire* economic and lifestyle principles which deregulate environmental safeguards. Those analysts, on the other hand, who are concerned about intergenerational equity and the rights of future generations extrapolate the human impact on earth into the future and find little reason to be sanguine about the ongoing and in many cases accelerating degradations.[19]

To take the pulse of trends which fundamentally determine the shape of the global ecosystem we need to take into consideration a twofold impact. On one hand we have the effects of population growth which has slowed but continues on a worldwide basis due to demographic pressures in the poorest regions. It is obvious that these populations have an ethical right to improve their life and their low life expectancy which unavoidably will increase their energy and materials consumption that is extremely low on a per capita basis. Even though their capita consumption will remain far below industrialized standards for the foreseeable future, there is no evidence that the latter are willing to reduce their energy and materials throughput to compensate for a certain catching up of the poorest region. On the other hand we see intensifying and spreading Western consumption patterns which are deeply rooted in the emphasis on individual freedom and personal indulgence.

These combined pressures are most clearly visible in the phenomenal growth of trade, which has also been greatly fueled by the generalization of containerized shipments worldwide on water, land and the air. 400 million standard containers[20] were shipped through ocean ports globally in 2005, twice as many a six years earlier![21] China alone reached approximately 100 million standard containers in 2007.[22] World trade is growing about three times faster than the global gross national product, putting enormous pressures on the port facilities in spite of very large investments over the past few years.[23] In ports such as Hong Kong, Rotterdam or Hamburg the growth rates have exceeded even very optimistic planning targets and cause serious logistical not to mention environmental problems.[24] These awesome and continually growing streams of goods shipped around the world are relatively

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[18] *Ibid.* „Eppler geht heute sogar in seiner begrifflichen Schärfung noch einen Schritt weiter, wenn er behauptet, dass alle wichtigen Kontroversen unserer Zeit sich nicht zwischen den klassisch Konservativen und den klassisch Progressiven abspielen, sondern vielmehr zwischen wertkonservativen und strukturkonservativen Fronten verlaufen."

[19] For instance McRae 1994; Mason 2003.

[20] Twety foot Equivalent Units (TEUs).

[21] Schulz 2006, 82.

[22] China Economic Review. http://www.chinaeconomicreview.com/logistics/category/teu/

[23] *Idem*, 83.

[24] The world's ten biggest container ports (2005), in sequence starting with the biggest: Singapore, Hong Kong, Shanghai, Shenzen, Pusan, Kaohsiung, Rotterdam, Hamburg, Dubai, Los Angeles. *Ibid.*

easy to quantify and therefore provide an impressive illustration of the problem we are facing, especially if we consider that each shipment represents only a snapshot in the lifecycle of its contents. It would be far more difficult if not impossible to carry out a comprehensive environmental impact analysis which would take into consideration the pollution and the resource consumption footprints of this gigantic flow of merchandise from production to distribution to consumption to disposal.

2. The Years of 1984 and 1994: Historical Coincidences and Perspectives

The decade between 1984 and 1994 has been exceptionally rich in sustainable development and in other geopolitical events, most notably of course the end of the Cold War followed closely by the 1992 Rio Conference. This article is by no means an attempt to re-write history. It does however focus on concepts, more specifically on their political importance and power. Let us just think of the importance and power of concepts such as liberalization, Washington Consensus, free trade, freedom of movement for goods and capital, intellectual property rights etc. These and similar concepts have done much to shape the world in which we are living. The attempt to introduce the new concept of EcoLomics therefore warrants a historical digression to contextualize the new paradigm proposed here. If one focuses on the history of international environmental policy and of the sustainable development paradigm and one attempts to link these processes to other geopolitical developments and events then one cannot avoid taking note of some surprising chronological coincidences and interconnections which I shall summarize below.

2.a) 1984: The Concurrent Emergence of International Environmental Policy and of the Sustainable Development and EcoLomics Concepts

The concept of Sustainable Development has emerged from the UN-sponsored but independent World Commission on Environment and Development (WCED), which was spearheaded at the diplomatic level by Dr. med. Gro Harlem Brundtland, the Norwegian Prime Minister at this time. The Commission was headquartered in Geneva under the direction of Secretary-General Jim MacNeill, a Canadian citizen, from 1984-1987. The so-called Brundtland Report published as *Our Common Future*[25] which was translated into about twenty languages provides a comprehensive introduction, discussion and endorsement of the sustainable development concept and it arguably represents the most successful creation of a new socio-economic and political paradigm in recent times. This can be attributed to the fact that *Our Common Future* represents not only a conceptual framework, but an integrated set of policies which have gone through the fire of intensive deliberative hearings and countless other meetings in about twenty cities across the world, and hundreds of written submissions. Once the Report was published it initiated related debates in numerous UN and other governmental and intergovernmental bodies. The emphasis of the World Commission was placed in particular on the organization of

[25] World Commission on Environment and Development 1987, *Our Common Future*.

these public hearings which led to the systematic collection and compilation of ideas expressed on these occasions.[26] The Report's definition of sustainable development as

> development that meets the needs of the present without compromising the ability of future generations to meet their own needs[27]

has stood the test of times. In spite of the fact that numerous similar definitions have been suggested, it is undoubtedly still by far the most cited one. *Our Common Future's* emphasis on an integrated long-term North-South perspective based on the three pillars of economic, environmental and social policy-making is particularly relevant in today's more fast-paced and often less considerate zeitgeist.

In its concluding "Call for Action"[28] the Commission has called for an international conference to review progress and to develop new initiatives in the promotion of the objectives that it has developed.[29] As part of the very intensive preparatory process which included four large preparatory conferences, a book with the self-explanatory title *Beyond Interdependence -- The Meshing of the World's Economy and the Earth's Ecology*[30] builds on *Our Common Future* and develops a conceptual tool box for its implementation. Looking back to the late 1960s, the authors comment that "Environment was viewed largely as an "add-on" to development, seldom as an integral "build-in."[31]

The WCED's call for a conference turned out to be highly pertinent and fruitful, the 1992 Rio de Janeiro UN Conference on Environment and Development (UNCED) which was held five years later was the largest international conference at that time, it resulted in a highly influential publication, *Earth Summit Agenda 21* which includes the *Rio Declaration* with 27 Principles, a Program of Action for Sustainable Development of 40 sectoral chapters, as well as a Statement on Forest Principles. The latter resulted from the inability of the negotiators to achieve a more formal agreement, contrary to the UN Framework Convention on Climate Change[32] and the Convention on Biological Diversity[33] which were adopted as planned at the Conference. Furthermore, the Conference created the UN Commission on Sustainable Development.[34] All together we can clearly state that this conference was exceptionally fruitful and productive, and that it built a base on which numerous future Multilateral Environmental Agreements (MEAs) have been built.[35]

Important sustainable development progress has undoubtedly been achieved since then but if one looks at numerous national political debates, economic policies, at the multilateral trade negotiations, and even more so at most of the countless bilateral and regional trade and investment agreements that have been proliferating over the past few years, one may have to wonder if human nature is amenable to change. More often than not, environmental considerations continue to be regarded as "end-of-the-pipe" afterthoughts. There continues to be a predominant resistance to

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[26] *Idem* 359.
[27] *Idem* 43.
[28] *Idem* 343.
[29] *Our Common Future* 343.
[30] MacNeill, Winsemius and Yakushiji, 1991.
[31] *Idem* 29.
[32] http://unfccc.int
[33] http://www.cbd.int/default.shtml
[34] http://www.un.org/esa/sustdev/csd/review.htm
[35] For a detailed Timeline of Trade and Environment negotiations see Biswas 2007.

the effective integration of the environment as a key variable at every step along the chain of raw materials-production-consumption-disposal. This has led MacNeill to speak of the 'Forgotten imperative of sustainable development:'

> We have failed dismally in our attempts "to merge environment with economics in our processes of decisionmaking" — in the cabinet chambers of government, in the board rooms of industry and in the kitchens of our homes. This is in some ways the most important imperative of all. If we change the way we make decisions, we will change the decisions we make: if we don't, we won't. One of the key assumptions underlying *Our Common Future* was that we could and would change the way we make decisions. I call this the forgotten imperative of sustainable development.[36]

Perhaps this "forgetfulness" is easier to understand if we remember that the development of intergovernmental organizations dealing with environmental problems is a relatively recent phenomenon. Most environmental Ministries, agencies or other governmental bodies were created in the 1970s, at least in the industrialized countries, and probably in the 1980s in most developing countries. UNEP was created in 1972. A systematic analysis of international environmental policy and of organizational, political and legal aspects therefore could not really take place on a significant scale before 1980. The first major book focusing on this new phenomenon was Robert Boardman's 1981 *International Organizations and the Conservation of Nature.*[37] A couple of years later Lynton Keith Caldwell[38] published *International Environmental Policy*[39] with the fitting subtitle *Emergence and Dimensions* which he reviewed and expanded in 1990 and 1996. The book quickly established itself as a reference on this quickly growing issue area that saw an enormous surge of publications both in political science and in public international law in the 1980s and 1990s. As Caldwell observed,

> The formation of policy is characterized by a sequence of steps beginning with the appearance of a given development. (…) As the problem is formulated in policy-relevant terms, a social phenomenon called "an issue" takes shape. An issue often redefines the problem as the means to cope with it are considered and debated, and either an acceptable response is achieved, no solution is found, or opinion divides over alternative ways of coping.[40]

This notion of a process creating "an issue" is interesting, especially nowadays, as the media -- and their more and more concentrated conglomerate owners -- are assuming an increasing importance in the policy-making process. Let us look briefly here at the forces which have shaped the phenomenon we are interested here, i.e. the interaction between the global ecosystem and economic globalization.

The year of 1984 turned out to be an important year in the history of the protection of the environment, not only because of the publication of Caldwell's book on the emergence of international environmental policy. 1984, by coincidence, also

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[36] MacNeill 2006, 14.
[37] Boardman 1981.
[38] Lynton Caldwell (born 1913), Professor Emeritus of Public and Environmental Affairs, Arthur F. Bentley Professor Emeritus of Political Science, Environmental Science Faculty, Indiana University http://www.indiana.edu/~speaweb/faculty/caldwell.php
[39] Caldwell 1984, 1990, 1996.
[40] Caldwell 1990, 11.

marked the beginning of the visible work on both the sustainable development and the ecolomics concepts. In the first instance the World Commission on Environment and Development[41] started, as mentioned above, its three-year work program in Geneva. The original impetus for this undertaking funded with US$ 8 million (US$ 20 million in today's currency) was initiated by a Canadian proposal at the May 1981 ninth UNEP Governing Council.[42] It had to overcome determined efforts by UNEP's Executive Director Dr. Mustapha Tolba to control staffing and other contracts which would have completely undermined the Commission's independence, a key prerequisite for a meaningful outcome which was vigorously and successfully defended by the Commission's Secretary General, Jim MacNeill.[43] It was clear for him from the beginning that the Commission would need to be able, in order to succeed, "to adopt its own simple mandate (while of course respecting the spirit of the General Assembly resolution)."[44] Once this independence was ascertained, he left his position as the OECD's environment director to accept this challenge which culminated in April 1987 in the publication of *Our Common Future.*

In the second instance which happened in an amazing irony also in 1984, I published the first mentioning of the term "ecolomics" in a 'Commentary' column in a (still existing) academic journal:

> (…). The pressures for short-term results under which businesses and governments must operate are enormous. Universities are in a better position to look at long-term degradations such as acid rain. Unfortunately, however, they are presently lacking a generally recognized framework which could deal with the complexities of the relationship between ecology and economy.
> A new academic support system is needed to bridge the gulf between these two disciplines. For this purpose, I propose the establishment of a new interdisciplinary science called "ecolomics," a coinage that not only contains the words ecology and economy but also starts with the French word *école,* meaning school. This is appropriate since the solution of our major environmental problems requires a reeducation process. (…).[45]

This short paragraph, written as an MBA student frustrated about the 'business as usual' approach to economic issues has stood the passage of more than twenty years except that I have come to realize, as is clear from the table in chapter 4, that ecolomics is by no means a science but a political concept.

2.b) 1994: the Overlooked Year of the Globalization Watershed

Let us go fast forward now from 1984 to 1994. As a matter of fact, 1994 turned out to be a real geopolitical watershed year, yet it has been completely ignored by the media, by academia, by politics, and by other analyses, presumably because everybody's attention was captivated by other historically crucial events a few years before and after this particular year: Europe was deeply mesmerized by the fall of the

[41] For a fascinating account of the three years' duration of the Commission, including its hearings and visits in the major regions of the globe, see MacNeill 2007a.
[42] *Idem* 242.
[43] *Idem* 243.
[44] *Idem* 244.
[45] *Bulletin of the Atomic Scientists,* April 1984, Volume 40, Number 4, p. 46.

Berlin wall in 1989 which triggered the end of the Cold War, and the US just as much by 9/11 in 2001. Other cultures and continents have their own watersheds, such as the death of Mahatma Ghandi in 1948, or of Mao Tsedong in 1976. I would argue, however, that the year 1994 is an even more important geopolitical watershed year, not because of any specific event or process that occurred, but because of the *confluence* of four very different kinds of events. One may well debate how important each one of them is compared to other universally recognized historical milestones. However, if one takes the combined historical importance of all four events together, then a historical watershed becomes visible which clearly surpasses any other event since World War II in terms of global significance, not only for Americans or Europeans or Asians or for whomever, but for the whole world! These four events have all substantially, durably, and with countless interactions among themselves, influenced the kind of era and epoch we are living in, and they continue to do so with definitely no end in sight. The following events all occurred in 1994 (in no particular order):

1. The triumphant break-through and commercial marketing of Internet technologies incorporating today's user-friendly form and potential thanks to the Mosaic browser,[46] renamed later the same year Netscape Navigator.[47]
2. The creation of the WTO through adoption of the Marrakesh Agreement Establishing the World Trade Organization by the Ministerial Conference in Marrakesh, Morocco, on April 15, 1994.[48]
3. The marketing of the first commercially grown genetically modified food product, the *Flavr Savr* tomato.[49]
4. The first anti-globalization/altermondialization manifestation initiated by a group of civil society organizations on the occasion of the celebration of the Bretton Woods institution's 50th anniversary in Madrid in September 29-30, 1994, under the slogan *Fifty years is enough* which became the name of an NGO.[50]

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[46] "The company was founded as Mosaic Communications Corporation on April 4, 1994 by Marc Andreessen and Jim Clark, and was the first company to attempt to capitalize on the nascent World Wide Web. It released a web browser called *Mosaic Netscape 0.9* on October 13, 1994. This browser was subsequently renamed Netscape Navigator, and the company took on the 'Netscape' name on November 14, 1994."
http://en.wikipedia.org/wiki/Netscape_Communications_Corporation#History (accessed 25.2.08)
Netscape completed its Initial Public Offering in April 1994, an event which was one of the driving forces which led to the subsequent boom of the Internet-related industries.
http://onlinetradingnow.com/ipo/initial-public-offering-made-netscape-the-leading-web-browser-company-in-the-20th-century/ (accessed 25.2.08)

[47] "Mosaic Communications Changes Name to "Netscape Communications Corporation"
Adopts New Name to Underscore Unique Identity
MOUNTAIN VIEW, Calif. (November 14, 1994) -- Mosaic Communications Corporation today announced that it is changing its name to Netscape Communications Corporation. … The company believes its new name better represents the full nature of its products and services, which are broader than the Mosaic name implies."
http://www.holgermetzger.de/netscape/NetscapeCommunicationsNewsRelease.htm (accessed 25.2.08)

[48] World Trade Organization, The Legal Texts. http://www.wto.org/english/docs_e/legal_e/final_e.htm

[49] U. S. Food and Drug Administration, Center for Food Safety and Applied Nutrition.
FDA Consumer: September 1994. http://www.cfsan.fda.gov/~lrd/biotech.html

[50] Ironically, we can cite here an IMF document and a critical NGO Web site:
Fifty Years After Bretton Woods: The Future of the IMF and the World Bank: Proceedings of a Conference held in Madrid, Spain, September 29-30, 1994, by James M. Boughton and K. Sarwar Lateef, 1995, 296 p., published by IMF. http://www.imf.org/external/pubs/cat/longres.cfm?sk=533

The arrival in 1994 of these four events and their interactions among themselves have marked the beginning of a vigorous intensification of the globalization process, a process which had been going on for many years, and which Alvin Toffler as an astute and prescient observer described already in his 1970 book *Future Shock.*[51] It is not the purpose of this essay to reflect upon the significance of the confluence of these four events in the same year, and upon the multitude of ways in which they changed and shaped the world in which we are living. The purpose of the article is, however, to show the relevance of the ecolomics concept to today's day and age. Well, suffice it to note here that it turns out that all four events are intimately related to the study of the interactions between the protection of the global ecosystem and the economic globalization process: (i) The Internet has very fundamentally changed multilateral negotiations in virtually all domains including MEAs. (ii) The link with the WTO and the creation of the Committee on Trade and Environment (CTE) is particularly obvious. (iii) The negotiation of the Biosafety Protocol as arguably the most economically significant trade-related MEA has unquestionably been pushed forward through the introduction of the *Flavr Savr.* As matter of fact, as the former Executive Secretary of the Convention on Biological Diversity, Hamdallah H. Zedan, has noted: "In late 1994 the Netherlands and the UK initiated a process to develop international guidelines."[52] (iv) Last but not least, grass-root groups and more specialized NGOs have established successfully sophisticated international networks and have achieved an importance in multilateral environmental and trade negotiations which by far exceeds their earlier role. For instance, two years earlier at the 1992 Rio Earth Summit, I attended the parallel conference *Global Forum* which in retrospective appears as having occurred in another time and age: There was no organized demonstration of any significance against economic globalization, and as far as electronic NGO communications were concerned, these were limited do floppy disks…

There is no doubt that the year 1994 represents a turning point of historical importance in the acceleration and intensification of globalization processes with very far-reaching consequences at every level, including ramifications and implications with regards to the environment and the economy of all countries. This intensification of the global interdependence and of interactions in countless domains naturally calls for multilateral negotiation processes, institutions and legal agreements which are a precondition for safeguarding or establishing some sense of a balance between divergent objectives and interests. This is particularly important in the domain of trade and environment where economic considerations have generally very much dominated the negotiation dynamics.[53]

To mark the 50th anniversary of the Bretton Woods conference at which these institutions were founded, a diverse group of U.S. organizations established the 50 Years Is Enough Campaign. (Now the 50 Years Is Enough: U.S. Network for Global Economic Justice).
http://www.50years.org/about/94platform.html
Additional Information can be found in the cover story section of *Third World Resurgence:* Many happy Returns…? 50 Years of Bretton Woods, No. 49, Sept. 1994. pp. 14-37.

[51] Toffler 1970.

[52] Hamdallah Zedan 2002, 30.

[53] Thomas 2005, 5; 7-9.

3. What is the Case for the New Concept of *EcoLomics?*

The nature of the two domains of ecology and of economics differs in many ways, that is why their interaction is so difficult. Most importantly, ecological analyses and perspectives tend to have a much longer time frame and a more comprehensive scope than economic ones. At the same time, countless debates over the past decades have shown the importance of finding a satisfactory relationship between the two. The creation of the EcoLomics concept has grown out of the observation that in spite of all these analyses, negotiations, and policy-making processes aimed at improving and making transparent the interaction between these two domains, we are still far from a satisfactory balance between the two, most of the time short-term focused economic interests trump over long-term more comprehensive ecological needs. The purpose of this essay is to strengthen the ecological side of the equation and thus to get closer to an equilibrium between the two sides. In this effort the *interaction* between them as such is given its own concise term and thus a more targeted visibility and profile. I therefore define EcoLomics broadly as *a political concept which refers to the interaction between ecological and economic considerations.* There are many different uses and fields of applications for this term. For the global policy level which is the one we are discussing here I adjust the definition as follows: *Global EcoLomics refers to the interaction between the protection of the global ecosystem and the economic globalization process, taking into consideration poverty alleviation at the aggregate level.* The ecolomy, in the same logic, connotes a certain ecosystem or ecology, its economy, and the mutual interaction, interrelationship and interdependence within their common borders, but also beyond these usually artificial enclosures. The analysis of such interactions is complicated by the fact that ecological and economic boundaries are rarely overlapping.

Part one of this research essay represents a general introduction of the problematic, whereas part two is a more applied interpretation of the ecolomics concept focusing on the case of trade and the environment negotiations, policies laws and dispute settlement. The domain of application in fact could have been chosen quite differently without diminishing the usefulness and pertinence of the ecolomics paradigm. Its analytical value, flexibility and power indeed lie in its applicability to countless situations of very different nature where ecological and economic considerations are juxtaposed. In view of the fact that I shall be focusing on international negotiations it is evident that poverty relief is always an inherent consideration here because these concerns are in any case usually incorporated in such negotiations. It should be emphasized that this particular focus does not imply in any way a hierarchical ordering of values, priorities or urgencies, it is simply based on the realization that an effective and efficient organization of work tends to make a limitation on certain aspects of sustainable development advisable, necessary, and very often simply obvious.

To return to the intergovernmental level, one may say that multilateral environmental negotiations have started with the creation of UNEP at the 1972 Stockholm Conference on the Human Environment.[54] This earlier conference tried,

[54] Von Moltke 1996.

not very successfully, to promote the paradigm called *ecodevelopment.*[55] After this failed attempt, however, there is no question that the sustainable development concept has had a very large impact worldwide on public policy and law at all levels from the village to the United Nations. The past 20 years have seen an enormous institution-building effort thanks to the strengthening or the creation of environmental ministries and other international, national and sub-national authorities. At the intergovernmental level, not only UNEP is now 35 years old, but numerous UN bodies have built up environmental capacities and structures. So why bother with semantics and introduce another concept for the protection of the environment?

Well, as noted in Chapter 1, the regulation of human activity's impact on the environment is by no means satisfactory, in spite of all these efforts. The combined effects of changes in consumption patterns and demographics have annihilated this progress and overwhelmed the regulatory and institutional safeguards for the environment. Furthermore, the socio-economic gaps between and within countries are just simply appalling and are getting worse with the highly uneven access especially to modern information and communication technology and other goods and services protected by intellectual property rights. This 'new economy' determines increasingly the productivity and competitivity of countries, enterprises, and of individuals, and it increases the socioeconomic inequities caused by globalization processes which tend to protect the industrialized countries' competitive advantages against competitive pressures from emerging economies. At the same time, social factors, issues and dimensions other than aggregate poverty statistics have always played a very important role which affect environmental conditions. Thus there are countless studies on the interfaces between social and economic and between economic and environmental concerns. But what about the interface between social and environmental concerns? Is an improvement of social equity good or bad for the environment? The question is impossible to answer without clearly spelling out an analytical framework and specific assumptions. In many cases the industrialized countries are rightfully blamed for dreadful social conditions, e.g. where they are caused by the behavior of certain Western corporations. But in others they cannot be blamed, local sweat shops may be even more appalling. Furthermore, the low status of women in many developing and least developed countries constitutes a home-grown social predicament at the root of high population growth, resulting in environmental and economic crises.

Aggregate poverty plays a predominant role in multilateral environmental negotiations, it is relatively easy to address at least at the policy level - implementation is a different story. The picture gets much more cloudy by integrating other social issues in the analysis, these may easily cover up rather than clarify the stakes in the ecosystem-economy debate, which in any case is highly complex and

[55] "…the sustainable development concept replaced the much weaker and more ambiguous term of 'ecodevelopment' which was promoted at the 1972 Stockholm Conference and which is "not susceptible to precise definition" (Caldwell, 1990:76). The main differences between the two notions are that the ecodevelopment concept lacked the emphasis on *integrating* environmental concerns from the very beginning into economic planning, and it arguably put less emphasis on issues of North-South equity than the sustainable development paradigm."
In retrospective it is quite likely that this failure has to be attributed at least partially to UNEP's unclear mandate especially during its first few years, i.e. UNEP did not have the wherewithal and the sense of purpose to promote such a complex paradigm whatever it might have been called. It should be noted that after 1987 UNEP had major internal debates over whether it was to be an environmental or a sustainable development organization. See Thomas, 1992/2004, 92.

politicized. Furthermore, even by taking social concerns into consideration one is still leaving aside the security, cultural and religious dimensions which, as some argue, are becoming more and more prevalent.[56] Clearly, the contours of the sustainable development paradigm have been drawn up with a well-justified internal logic but at the same time these contours are necessarily somewhat arbitrary in a growing list of countries which are failed states (e.g. Somalia) or contain regions which are not or only tenuously under the control of a national government (e.g. Pakistan).

I therefore suggest for certain applications that the ecolomics paradigm with its more limited scope is more useful in achieving at least partial solutions and improvements. This new term of course cannot replace the sustainable development paradigm, in fact it represents part of it. It should also be noted that the use, meaning, application and even the scope of the ecolomics concept are open for discussion and even for abuse -- but that is also the case for the sustainable development term! Furthermore, the fact is that in many cases where sustainable development policies are officially invoked, a balanced debate on its three pillars is in reality out of the question. For instance the WTO's Preamble of its fundamental charter text, the 1994 Marrakesh Agreement Establishing the WTO, represents a classical example of the undoubtedly well-meant but entirely incorrect use of the sustainable development term. Its first paragraph stipulates the following:

> The Parties to this Agreement,
> Recognizing that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development, …[57]

Notwithstanding the above, the WTO is not -- and should not pretend to be -- functioning "in accordance with the objective of sustainable development" because the inclusion in its negotiation mandate of social issues other then aggregate poverty, such as working conditions, union rights or retirement entitlements would be vigorously rejected by the developing countries which constitute the overwhelming majority of its membership. They consider economically "competitive" working conditions as one of their key comparative advantages. Worse, linking environmental and general social discussions at the WTO would strengthen the hand of those who argue that the WTO ought to limit itself strictly to trade issues, and that all so-called "non-trade" issues ought to be left to UN organizations. As a consequence, references to sustainable development principles in WTO documents change nothing in the social domain but they may be deleterious to the environment, in fact they could even be in conflict with some WTO agreements. A number of Articles, such as especially GATT Article XX[58] and Article 5.7 of the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS)[59] provide for exceptions to the general

[56] See e.g. Huntington 1996.
[57] http://www.wto.org/english/docs_e/legal_e/04-wto_e.htm
[58] http://www.wto.org/english/docs_e/legal_e/06-gatt.pdf
[59] http://www.wto.org/english/docs_e/legal_e/15-sps.pdf

overarching trade obligations of WTO Members which could be subsumed as "Obligation To Import" (OTI).[60] Thus we can see, a serious inclusion of sustainable development policies at the WTO could well be counterproductive for its trade and environment discussions and negotiations. What the WTO does in fact discuss, negotiate, and adjudicate, however, are policies, rules, schedules and rulings based on the paradigm endorsed here, i.e. ecolomics!

Unfortunately, the international community has not only *not* expressed a consistent, coherent and meaningful intention to establish a balanced relationship between the WTO and MEAs, the Members of the WTO and the Parties of the CBD have gone even further in clearly demonstrating their policy incoherence. These countries are essentially the same ones in both cases -- with the important exception of the US which has participated in the negotiations and signed the CBD, but in the end has not ratified it, which implies a certain legal pledge but considerably less than a ratification. As pointed out explicitly by Cordonier Segger and Khalfan,[61] two of the key results of the 1992 Rio Conference, i.e. the Rio Declaration and *Agenda 21,* contain an unequivocal mandate to *integrate* international environmental and economic (and also social) policies:

> *Rio Declaration Principle 4*
> In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.[62]
>
> *Agenda 21*
> International Legal Instruments and Mechanisms: Basis for action
> 39.1. The recognition that the following vital aspects of the universal, multilateral and bilateral treaty-making process should be taken into account: (…) (b) The need to clarify and strengthen the relationship between existing international instruments or agreements in the field of environment and relevant social and economic agreements or instruments, taking into account the special needs of developing countries;[63]

Principle 4 is arguably the Rio Declaration's most important one from an ecolomic perspective. As Segger and Khalfan make it abundantly clear, and a reading of the WTO agreements will confirm it, environmental protection is not by any stretch of the imagination "an integral part of the development process" in the sense that this process is promoted by the WTO, which includes, as we shall see, the mandate of the more recent Doha Development Agenda. Environmental protection is in fact, in the perspective of the trade ministries, precisely what our political representatives have declared it "cannot be," namely something which happens as an add-on if at all, in other words "in isolation" from the development process!

Given that essentially only two dimensions have to be reconciled under the ecolomics paradigm, one arrives at the conclusion that the goal of balancing these two is far easier than that of sustainable development where the integration of three forces is far more challenging. This question of *balancing* interests and priorities

[60] In legal terms, this obligation is spelled out in Articles I, II, and III of the GATT Agreement, i.e. General Most Favored Nations Treatment, Schedules of Concessions, and National Treatment on Internal Taxation and Regulation. http://www.wto.org/english/docs_e/legal_e/06-gatt.pdf
[61] Cordonier Segger and Khalfan 2004, 105.
[62] http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm
[63] http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter39.htm

which are very often conflicting at the political and scientific level (even though there tends to be no conflict at the level of Public International Law as we shall see in Chapter 5) is at the heart of the ecolomics paradigm. We may note, incidentally, that both the ecolomics and the sustainable development terms tend to favor compromise solutions, and that the actual implementation of such compromises *a priori* is much easier in the ecolomics case.

This broad and pervasive lack of a balanced approach to policymaking determines the public discourse where we are facing a real dilemma. The majority of the media and politicians tend to present conventional and narrow economic analyses at the expense of the environment. This state of affairs of course represents a complete violation of twenty years of sustainability dialogue, analysis and intergovernmental negotiations. It prevails nevertheless in most cases because the triangular weighing and assessment required by the sustainable development paradigm is just simply too demanding, too complex and too cumbersome. Maybe also because this more comprehensive approach opens up all kinds of avenues for critiques which politicians and journalists understandably prefer to avoid.

It follows naturally that the fundamental characteristic of an ecolomic approach, i.e. its emphasis on the need for balance or equilibrium between its two components offers in many instances a pragmatic solution out of this dilemma. The need to respect a certain equilibrium between two forces can be seen as nature's must fundamental law: blood pressure, acidity, rainfall, temperature and countless other variables must be neither too high or too much, nor too low or too little, they must fluctuate within certain strict limits. The 2007 peace Nobel price co-laureate Al Gore has clearly understood the importance of focusing on this fundamental characteristic of nature in his much-cited 1992 book *Earth in the Balance.* He has put the term balance into the book's title and into the heading of its second part ('The Search for Balance).[64] As a matter of fact the search for balance combined with an urgent appeal to act permeates the whole book and has made it a success and unquestionably one of the most important ecopolitical analyses ever published:

> I have come to believe that we must take bold and unequivocal action: we must make the rescue of the environment the *central organizing principle* [my italics, he uses this very succinct term numerous times] for civilization. Whether we realize it or not, we are now engaged in an epic battle to right the balance of our earth, and the tide of this battle will turn only when the majority of people in the world become sufficiently aroused by a shared sense of urgent danger to join an all-out effort.[65]

Ten years after the Rio Conference, the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg took place. In terms of logistics it was the most important international conference ever but its output was less than impressive, undoubtedly less successful than the Rio event. It failed to achieve a significant breakthrough comparable to the biodiversity and the climate Conventions or to the Rio Declaration on Environment and Development ten years earlier. The WSSD was left in the shadow of the WTO's 2001 Doha Ministerial Conference,[66] and the Johannesburg Plan of Implementation[67] has failed to make a substantial contribution

[64] Gore 1992, 167.
[65] *Idem* 169.
[66] Khor 2002.
[67] http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm

to either ecolomics or sustainable development.[68] The conference thus reminded us of the uneven power relationship between the environmental and economic Ministries.

4. EcoLomics and Sustainable Development: Related Paradigms

Political Concepts Related to EcoLomics vs. Related Academic Sub-disciplines
A Conceptual Overview:

	Comprehensive	←	→	**Focused**
Political Concepts	Sustainable Development	Ecopolitics, Intergenerational Equity	**EcoLomics** incl. poverty alleviation,*) Equal Importance of Environment and Economy	Mutual Supportiveness of Trade and Environment in Public International Law**)
Academic Sub-disciplines	International Environmental Policy International Environmental Law Sustainable Development Law Ecological Economics Geographical, Human, Political, and Social Ecology Environmental Philosophy & Ethics		Industrial Ecology, International Political Economy	Environmental Economics, Domestic Environmental Law

*) Like Sustainable Development, EcoLomics can be defined many different ways; for the purposes of EcoLomics International it includes poverty alleviation at the aggregate level as explained below.

**) Mutual Supportiveness is essentially a legal principle but it is listed here under political concepts because its inclusion in an MEA (such as the Cartagena Protocol on Biosafety) is the result of a decision process of a political nature.

As the above table attempts to explain, sustainable development and ecolomics are both not scientific subdisciplines, rather, they are political concepts lying at different ends of a spectrum which differentiates concepts between 'comprehensive' and 'focused.' Another much used political concept, ecopolitics, is situated somewhere in the middle. Ecopolitics takes usually into consideration issues like lifestyle and consumption patterns, as well as population growth and the status of women. EcoLomics, on the other hand does not address social aspects other than poverty at the aggregate level. These three political concepts of course are wide open to different interpretation and emphasis, and the demarcation lines between them are in fact quite fuzzy. Interestingly, the same can be said for the related academic subdisciplines. The purpose of this table therefore is not to make a claim to political or epistemological accuracy, rather, the intention here is to suggest a framework which is effective in reconciling ecological and economic priorities.

[68] See e.g. A Setback for Sustainable Development, Special Issue on WSSD Johannesburg 2002, *Third World Resurgence* 145-146. Sept./Oct. 2002, pp. 5-43.

Given that ecolomics deals with two thirds of the scope of the sustainable development paradigm (assuming its three pillars are of equal importance and complexity), we need now to look at the relation between the two concepts. The usefulness of the ecolomics paradigm has indirectly been established for a long time because very often one speaks of sustainable development policies and actions which have in actual fact no significant social component or where it may be left aside without impairing the pertinence of a policy framework, e.g. in the introduction of the environmental management system standard ISO 14001, in life cycle analyses, in the improvement of energy efficiencies or in countless other climate change mitigation measures. Therefore, at all levels, i.e. local, national, regional and global, the ecolomics paradigm is helpful in focusing the thinking on the impact and the pressures of economic forces on the ecosystem.[69]

The problem with the sustainable development concept is that it lends itself to vague or inappropriate applications because -- unlike ecolomics -- it does not put the spotlight on trade-offs and the need to balance conflicting priorities and constituencies. Rather, there is a danger that the attention is scattered without providing an added benefit to social needs. In the worst case it is relatively easy to abuse it for insincere greenwashing practices because as a generally accepted feel-good alibi without a clear focus it does not necessarily imply a specific performance requirement. The ecolomics paradigm -- although it can of course also be abused for greenwash and other disingenuous objectives -- makes it relatively easy, thanks to its limited scope, to constantly push for an answer to the question: what does a certain measure, policy, or technological innovation contribute to a better balancing between environmental and economic parameters? For instance, environmental improvements will be easier to promote and to achieve if related medium and long term economic benefits such as energy savings are better communicated. Improving the balance between two competing sectors is much easier to achieve than spreading benefits and sacrifices over three sectors in a fair distribution. Ecolomic thinking does not aim at replacing the broader sustainable development paradigm, to the contrary, its goal is to widen the reach of the still dominating largely economic analyses and policy-making processes which too often treat environmental considerations as “unrelated” externalities instead of integrating them explicitly and transparently.

What is the methodology of ecolomics? The answer is that there is no such a thing, as is the case with sustainable development. Both concepts are open for interdisciplinary interpretations, applications and methodologies. Nobody has an *a priori* assumed authority in defining a framework, in specifying methods or approaches, in prescribing a set of principles or in establishing benchmarks to implement the ecolomics paradigm. Some institutions may develop widely used benchmarks or practices but essentially it is as malleable as its sustainable development counterpart. The difference is simply that the goal here is more limited and therefore easier to implement. It is hoped of course that by consciously focusing on ecological and economic objectives, and by leaving social, but also security, cultural and religious questions explicitly for separate consideration, it should be possible to achieve positive results in this domain easier and faster. Perhaps it would be pertinent for today’s times to develop a paradigm which comprises the four pillars of social, security, religious and cultural aspects? One may argue that in unstable and potentially violent situations the coherence between these four concerns is in the

[69] For a national level study on China of an ecolomic nature see Elizabeth Economy 2007.

short term more relevant than the one among the sustainable development components. As the quagmires of countries like Afghanistan, Iraq or Somalia, or parts of D.R. Congo, Sudan or Yemen are reminding us relentlessly, very short-term questions of security, religion and culture may be more urgent to resolve in some cases than medium-term ecological, economical and social issues. That does not mean at all of course that sustainable development concerns are not important in these countries, but those (more and more numerous) situations show the limits of any analytical paradigm. This is no different with the ecolomics paradigm. The particular situation will determine which paradigm is more appropriate.

The ecolomics approach can be helpful and constructive in many circumstances but it is no magic wand. For instance in the complex nexus of questions surrounding the use of biofuels to reduce greenhouse gases[70] many studies conclude that these efforts are likely to make food more expensive for the poorest of the poor who suffer from hunger even without these market-driven price increases.[71] The importance of certain industrial lobby groups cannot be overlooked, e.g. ethanol producers in the US.[72] Thus the UN special rapporteur on the right to food, Jean Ziegler, has recently called for a five-year moratorium on producing biofuels in order to develop policies which will prevent raising food prices.[73] In a situation like this it is not sufficient to establish the appropriate environment-economy balance at the national level, the right to food as a core component of poverty alleviation policies must be taken into consideration. The much increased role and importance of intellectual property rights, especially in the context of GMOs, has opened up an additional Pandora's box of very complex political, inter-institutional and legal issues (for an up to date presentation of the state of play regarding these issues and the relations among the key institutions see Geoff Tansey and Tasmin Rajotte, editors). These issues, many of them new or emerging, make an ecolomic analysis much more complicated but probably still more manageable than a sustainable development analysis which would also have to take into consideration questions such as farmers' rights, implications for women, the position of workers and unions in the food and agriculture industries etc. The example does show that it is not always easy to draw the line between the two concepts. As we can see, in today's more and more complex ecopolitical and geopolitical context it can be a challenge to devise the appropriate analytical framework, and I would argue that the relatively focused ecolomics paradigm can be very valuable in those instances where specific social issues other than poverty alleviation are not being addressed in any case for justifiable reasons.

[70] http://r0.unctad.org/ghg/

[71] See for instance the much cited in depth EMPA/ETHZ analysis, 2007 (available in German only) http://www.news-service.admin.ch/NSBSubscriber/message/attachments/8514.pdf

[72] Daschle, Runge and Senauer, 2007.

[73] http://www.un.org/apps/news/story.asp?NewsID=24434&Cr=food&Cr1=

PART TWO -- SOME APPLICATIONS OF THE ECOLOMICS CONCEPT

There are countless applications of both the EcoLomics and the Sustainable Development concepts. As I have argued above, in many cases the use of term ecolomics would be more appropriate simply because social aspects are in fact not integrated into the analysis or are at best of marginal importance. We shall look now at four cases where the ecolomics concept is particularly useful because social aspects other than aggregate levels of poverty are not relevant in the interplay of the key policy-shaping forces.

5. Trade and Environment

Legal Issues

The trade and environment negotiations and discussions form part of a wider context within the multilateral trading system which is often called 'non-trade issues.' In these negotiations industrialized and developing countries often express opposed viewpoints. Generally speaking, the developing countries' primary concerns relate to export possibilities and market access, whereas industrialized countries tend to be concerned mainly about threats to their ecosystem and to public health arising from developing country imports that may not meet their environmental standards and other requirements, such as e.g. maximum residue limits for pesticides or other chemicals, or restrictions on how products were produced or harvested. These restrictions are particularly noteworthy because they concern some of those sectors which are of particular economic importance to developing countries, such as textiles, leather, fish or horticultural products.

The purpose of the WTO Agreements on Sanitary and Phytosanitary Measures (SPS) and on Technical Barriers to Trade (TBT) is precisely to avoid import barriers in these kinds of areas for reasons which cannot be justified based on scientific evidence, or which go beyond least trade-restricting measures.[74] These agreements, however, solve the developing countries' problems in this regard only partially, mainly because they and their national implementation are very demanding in terms of expertise and technical equipment, and they tend to require expensive specialized legal and scientific counseling and infrastructures that especially the smaller developing countries often cannot afford. In the same vein, it may be too expensive for developing countries do prove successfully to the WTO Dispute Settlement Body cases of environmentally disguised forms of WTO-illegal protectionism. OECD has carried out over twenty case studies of these problems and concludes, among other points, that a one-size-fits-all approach is inappropriate, that it is difficult to quantify the impact of environmental measures, and that the responses among developing countries' industries and governments may vary considerably. The study furthermore found that NGOs in many cases play a constructive and helpful role in reconciling the needs of developing countries' industries and the import

[74] For a detailed overview of the complex and continually evolving domain of risk analysis, scientific evidence and precaution related to scientific uncertainty in the context of trade & environment policies and WTO jurisprudence see Petitpierre et al. 2004 a & b, available at http://www.ecolomics-international.org/ecolomic_policy_and_law.htm

conditionalities of industrialized markets, for instance in the cases of the Marine Stewardship Council or the Green Globe 21 program.[75] Trade and environment analyses emerged at the beginning of the 1990s as a distinct field. The OECD played a key role in this emergence by holding joint discussions between the Trade and the Environment Committees starting in 1991.[76] The following year saw, as discussed in Chapter 3, the adoption of the Rio Declaration on Environment and Development.

With the conclusion of the Uruguay Round and the creation of the World Trade Organization[77] at the GATT's last Ministerial Conference in Marrakesh, Morocco, in April 1994[78] a new chapter in the trade and environment discussions and negotiations has been opened. Most importantly, for our purposes, the WTO created the Committee on Trade and Environment (CTE). The creation of the CTE has a somewhat contorted history which is probably not very surprising because the history and tradition of nearly 50 years of the GATT was dominated by nearly exclusively trade-related concerns which left hardly any space for these related concerns which refer essentially to public health and the environment. In other words, the trade system had -- and still has now -- considerable difficulties in integrating in its functioning certain governmental policies which are not aiming to increase trade volumes and may in fact restrict trade. This fundamental reality lies at the core of the whole trade and environment debate including the settlement of environment-related disputes. The GATT already had a light environmental structure, the Group on Environmental Measures and International Trade (also known as the "EMIT" group),[79] but it was never really made operational. Was the EMIT Group and later the CTE created in order to make a contribution toward a balanced relationship between trade and environment priorities? Maybe that is so but some think that, to the contrary, the purpose of these innovations was to protect the trade regime from the pressures of environmental NGOs:

> …states convened the EMIT Group and formed the CTE in large part because, in reaction to domestic producer complaints, they perceived that environmental measures increasingly threatened their trading interests. (…) Both trade and environmental factors were important to the CTE's formation. Yet it was the forces of trade competition, in reaction to the perception of environmental groups' growing success in promoting environmental regulations in national and other international fora, that are most important in explaining why environmental issues were brought to the GATT and the WTO.[80]

It should be pointed out that Professor Gregory C. Shaffer's analysis is on the whole quite defensive about the CTE and by no means an environmental critique. It is interesting to note also that at the 1994 Marrakesh Ministerial Conference, the Trade Ministers did not create a functional trade and environment committee as they had done in a number of other cases, which seems to reflect the difficulty of these political

[75] OECD 2005, Executive Summary 11-20.
[76] OECD 1991.
[77] The WTO Legal Texts are available at http://www.wto.org/english/docs_e/legal_e/legal_e.htm
[78] The Marrakesh Agreement Establishing the World Trade Organization entered into force on January 1, 2005.
[79] http://www.wto.org/english/tratop_e/envir_e/hist1_e.htm#EMIT
[80] Shaffer 2002, 86.

negotiations. They simply crafted a Decision[81] which postponed this question to the first WTO Ministerial Conference. At the academic level, Professor Steve Charnovitz published the pioneering and authoritative first overview of this nascent field of study and negotiations with the appropriate title *GATT and the Environment -- Examining the Issues*[82] in 1992. A much cited book *Greening the GATT* was published subsequently by Professor Daniel Esty in 1994,[83] one may say that it facilitated the opening up of this field for a stream of mostly academic articles and books. At the same time certain NGOs started to take an interest in these questions and some of them specialized in this field (such as CIEL, ICTSD, IELRC, IISD).

The question as to what extent trading bans or restrictions, for instance in the case of hazardous chemicals or wastes,[84] usually referred to as trade measures, may or may not cause problems with the coherence of policy-making and with conflicting objectives goes well beyond the scope of this research essay. Nevertheless, an important consideration needs to be pointed out, namely the need to distinguish between science and policy issues on one hand, and legal questions on the other hand. At the science and policy level it is obvious that it may be a real policy challenge to reconcile economic or trade interests with concerns over more or less clear-cut scientific evidence of risks due to the importation of goods such as pesticides or industrial chemicals. MEAs such as the so-called Basel, Rotterdam and Stockholm Conventions[85] provide a policy framework for the decision an importing country will have to take with regard to goods that may be hazardous. The framework centers on the principles of prior notification by the exporting country, and of prior informed consent by the importing country.

The problem of elaborating a coherent policy which satisfies the often opposite constituencies related to environmental and public health interests on one hand and to trade interests on the other hand may lead to acrimonious negotiations, for instance at the Conferences or the Meetings of the Parties of Conventions and Protocols. If trade interests manage to exert sufficient influence over the negotiation of specific provisions in such environmental agreements to significantly affect the outcome then the relationship between the two sets of norms has been characterized through what is often called the chilling effect or regulatory chilling.[86] This effect refers to the phenomenon that when push comes to shove in tense negotiations trade interests outweigh environmental constituencies who have to accept long delaying tactics and uncertainties, watered down environmental provisions or significant exceptions and other loopholes, all of which may render an MEA less effective. Such practices tend to be found in those MEAs which contain important trade-related economic stakes, e.g. the Cartagena Protocol on Biosafety[87] or the three above-mentioned chemicals and wastes conventions. These MEAs which represent a minority among this kind of agreements have been called by Professor

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[81] …*Decide:* to direct the first meeting of the General Council of the WTO to establish a Committee on Trade and Environment open to all members of the WTO to report to the first biennial meeting of the Ministerial Conference after the entry into force of the WTO when the work and terms of reference of the Committee will be reviewed, in the light of recommendations of the Committee… http://www.wto.org/english/tratop_e/envir_e/issu5_e.htm

[82] Charnovitz 1992.

[83] Esty 1994.

[84] See e.g. Al-Ajmi 2007; Perrez 2006 ; Thomas 2008.

[85] http://www.basel.int/; http://www.pic.int/home.php?type=t&id=5&sid=16; http://chm.pops.int/

[86] Thomas 2002, 200-02.

[87] Bail, Falkner and Marquart, ed. 2002.

Laurence Boisson de Chazournes and Makane Moïse Mbengue MEAs "à texture commerciale," in contrast to the majority of the MEAs which are "à texture écologique."[88] This is a very important distinction indeed because those MEAs which lack a strongly trade-related character are not subject to these kinds of pressures.

Alternatively, disputes may be discouraged through numerous and complex legal uncertainties in WTO law thanks to its dispute settlement procedures which has the merit of being based on relatively predictable procedures. These are compulsory for WTO Members and far more strict than those of any MEA:

> … the many legal uncertainties and the resultant dangers of being drawn into a trade dispute under the dispute settlement mechanism of the WTO may considerably discourage states from fully relying on the [Biosafety] protocol for purposes of regulating transboundary transfers of LMOs [living modified organisms].[89]

The relationship between environmental and trade concerns from the perspective of Public International Law and dispute settlement rather than from a science and policy perspective looks very different. Conflicts of norms in Public International Law have been studied extensively,[90] and the premise here is that there is no *a priori* conflict between MEAs and WTO law. The first MEA to introduce some sort of a "no conflict" clause mandating the Parties to the agreement to essentially respect the rights and obligations from "any existing international agreement" is the 1992 Convention on Biological Diversity (CBD).[91] Thus the environmental regime has paid due respect to the trade regime from the very beginning of the history of explicit trade and environment negotiations. Regrettably, the trade regime has not found it to be appropriate to reciprocate two years later on the occasion of the conclusion of the WTO Agreement signed at Marrakesh in 1994. A unique opportunity to signal to the world that the two regimes are mutually supportive and that there is no hierarchy between them that was offered to the Members of the trade regime was unfortunately wasted. This is a clear reflection of the lack of balance between the two regimes: the trade regime as the politically more powerful actor has made it clear that instead of establishing a predictable and transparent legal equilibrium between the two regimes it prefers to await potential disputes and the rulings by the DSB on a case-by-case basis, based on rules which have been elaborated by the trade ministries. Given the fact that the WTO thus controls the legal dynamics between the two regimes, we now find the environmental regime with a huge handicap: in a stand-off it has to play by the rules crafted by its 'opponent.'

Be that as it may, since then the idea of preventing conflicts through clauses which protect the rights and obligations of Parties of other agreements has been spreading. A new legal principle gaining increasing attention is the concept of "Mutual Supportiveness" which now lies at the core of legally binding trade and environment regulation and dispute settlement. This principle has now been introduced into the in the Preambles of most important recent trade-related MEAs:[92] the 1998 Rotterdam Convention,[93] of the 2000 Cartagena Protocol on Biosafety,[94] of the 2001 Stockholm

[88] Boisson de Chazournes et Mbengue 2002, 884.
[89] Stoll 2000, 119.
[90] See e.g. Marceau 1999 and 2001; Pauwelyn 2003.
[91] Article 22.1.
[92] Boisson de Chazournes and Mbengue 2008, 215-16.
[93] Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals

Convention,[95] and of the 2001 FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).[96] In light of the disadvantageous power relationship between the two regimes this is an important legal achievement. This comprehensive approach which I suggest to call the "quadruple principle of conflict avoidance" consists of four interdependent legal elements:

1. a presumption against conflict[97]
2. mutual supportiveness
3. a non-hierarchical legal relationship
4. deference to each other's authority and competence

This quadruple principle starts from the realization that MEAs and WTO agreements have different specific mandates and competencies but they represent frameworks which serve the same broad goal, namely the maintenance or improvement of well-being. As explained by Franz X. Perrez, thanks to this common goal they are considered to be mutually supportive and therefore not in conflict:

> In order to maintain this mutual supportiveness rather than being construed as contradictory, each framework should remain responsible and competent for the issues falling within its primary competence. … while each regime should focus on its primary competence, it is not prevented from adopting measures having an effect on the other regime. However, it should take into account the concerns and interests of the other regime, and it should pay deference to the competence of the other regime. This deference requires that each regime does not judge the legitimacy or the necessity of measures adopted by the other regime. Hence, WTO should not try to decide whether an environmental goal pursued by an MEA is legitimate or whether a measure adopted by MEAs for the realization of such goal is necessary. The determination of the environmental objectives and of the means, instruments, mechanisms and measures necessary to realize these objectives fall clearly within the competence of MEAs.[98]

It is important to note, as pointed out by Perrez more recently,[99] that the underpinnings of this approach have been reaffirmed by the world's heads of state and government through the WSSD's Plan of Implementation.[100] In a recent in-depth analysis of the *mutual supportiveness principle* Professor Laurence Boisson de Chazournes and Makane Moïse Mbengue have explored its multiple facets and implications for public international law in the specific case of the relationship between the Cartagena Protocol on Biosafety and the WTO agreements.[101] They conclude that this principle must be considered as the *compass* of the relationship

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and Pesticides in International Trade http://www.pic.int/home.php?type=t&id=49&sid=16

[94] http://www.cbd.int/doc/legal/cartagena-protocol-en.pdf

[95] Stockholm Convention on Persistent Organic Pollutants http://chm.pops.int/Portals/0/Repository/conf/UNEP-POPS-CONF-4-AppendixII.5206ab9e-ca67-42a7-afee-9d90720553c8.pdf

[96] http://www.ukabc.org/ITPGRe.pdf

[97] Boisson de Chazournes and Mbengue 2008, 217, 222.

[98] Perrez 2000, 523-25.

[99] Perrez 2008, 279.

[100] Para. 97 and 98: http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIChapter10.htm

[101] Boisson de Chazournes et Mbengue, 2007.

between MEAs and WTO agreements.[102] The role of this principle at the core of the highly sensitive and politicized relationship between these two very different kinds of agreements -- located, as the authors point, out at the core of the sustainable development policy framework -- demonstrates the legal, not to mention political, complexity of the principle whose fundamental purpose is to create linkages between environmental and trade concerns.[103] They call attention to a subtle but significant shift in MEA legislation during the short period of the above-mentioned 1998 Rotterdam Convention and the 2000 Cartagena Protocol on Biosafety, namely the difference, from a legal standpoint, between the terms 'coexistence' and 'coherence.' The Rotterdam Convention is more modest in its philosophy, it does establish in its Preamble the notion of a non-hierarchical relationship with the trade regime but stops short of a call for real coherence. This has changed by 2000 in the case of the Cartagena Protocol on Biosafety which goes a step further in its Preamble which species not only a non-hierarchical relationship, it spells out more forcefully that "…the above recital is not intended to subordinate this Protocol to other international agreements,…[104]" This explicit non-subordination implies not just a vague coexistence but a more demanding real coherence between it and the WTO agreements.[105]

Striving for coexistence between the environmental and the trade regimes is one thing. Coexistence on the ground, more precisely coexistence between fields planted with GMO crops and those based on traditional seeds or even organic produce are a different story. As Professor Anne Petitpierre points out this becomes a problem especially in situations where the acreage is very limited and all three kinds of varieties have to coexist in proximity as is the case in many European countries such as Switzerland. What is the impact of national policies on trade in such instances with regard to the regulation of GM germplasm? Petitpierre distinguishes between national (environmental) policies and regulations dealing with GMOs *as organisms* which are designed to

> prevent GMOs from interfering with the genetic characteristics of the existing plants and animals, as well as from creating an imbalance in the existing ecosystem.[106]

The approach is very different in the regulation of international trade. In this instance what matters are *products.* The importers of such organisms look at them as seeds of a specific variety, and their objective is to protect their specific brand from being subject to commercial discrimination. Clearly, the national authorities and the importers have very different perspectives and objectives, and the legislators are challenged to find a solution which may bridge this gap. Petitpierre suggest that the solution lies in the elaboration of legal obligations for the importer to pay compensation to neighboring farmers where the GMO crops are too close to make coexistence possible. Strict legislation on liability should be concerned with the control of *organisms* and not with the products which contain these new genes;

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[102] *Ibid.* 859.
[103] *Ibid.*
[104] http://www.cbd.int/biosafety/articles.shtml?a=cpb-00 (Preamble)
[105] *Ibid. 854-855.*
[106] Petipierre 2008, 190.

furthermore, such legislation needs to be "consistently applied within the national legislation."[107]

It seems to me that the difficulty in coming to terms with mutual supportiveness as a legal principle resides in the fact that it there is no clear-cut definition of the principle, but at the same time it can be considered as a *framework* for several important interrelated concepts with wide political and economic implications. This framework is of particular importance for the small number of MEAs which hold economically important stakes through their trade ramifications, and which are relatively new, say more recent than the creation of the WTO. We must keep in mind in this context that the very extensive enlargement of the trading system's scope through the replacement of the GATT with the WTO in 1994 has had, and continues to have, a profound impact on public international law. As a result there is still, among many trade negotiators, what Perrez has diplomatically called a "great nervousness" about the relationship between MEAs and the WTO.[108] We may conclude, that the Cartagena Protocol is not a pure MEA like the others we have mentioned. Rather, it may be considered as a hybrid between a trade and an environmental agreement in which both concerns are represented in a dynamic equilibrium. As a matter of fact, the most important stumbling block during its tense and protracted negotiations consisted in devising a solution which treats (food) crops differently from seeds which are more sensitive from an ecological standpoint.

Probably the most environmentally significant situations where win-win situations may be achieved can be found in the WTO's across-the-board drive to reduce or abolish trade-distorting subsidies. The fact is that some of the largest subsidies have very destructive environmental consequences, e.g. subsidies for energy generation, large-scale fishing operations, logging, and for certain sectors of industrial agriculture such as large feed lots or water-intensive crops which degrade the environment through the eutrophication of waterways or by lowering the water table. Therefore the reduction or abolishment of such environmentally harmful subsidies as a result of pressures emanating from WTO rules and negotiations represents a positive impact on the environment, assuming that such practices will indeed be modified as a consequence.

Institutional Issues

The first WTO Ministerial Conference took place in 1996 in Singapore. On that occasion a ten-point program for the CTE was adopted[109] which gave the CTE a considerable leeway in determining its own objectives. Regrettably, however, it has still not managed to develop any environment-related trade policy recommendations to the General Council, although it does have that authority.[110] Since the Fourth Ministerial Conference in Doha, the CTE divides its work in two streams: the CTE Special Session (CTESS) is in charge of certain very focused *negotiations* related to paragraph 31 of the 2001 Doha Development Agenda (DDA),[111] whereas the CTE in regular sessions continues its as usual its non-binding *discussions.* It should be noted, however, that the regular CTE has potentially a broad mandate:

[107] *Ibid.* 192.
[108] Perrez 2008, 272.
[109] http://www.wto.org/english/tratop_e/envir_e/cte00_e.htm
[110] Abdel Motaal 2007, 19.
[111] http://www.wto.org/English/tratop_e/dda_e/dda_e.htm

> … it can make enquiries about the developments taking place in the different negotiating groups, as well as launch discussions on how environmental considerations can best be integrated. However, it remains to be seen if the CTE will indeed succeed in injecting environmental considerations into the negotiations process.[112]

Unlike the regular CTE, the CTESS has the authority make changes to the WTO rules as long as it does not "change the overall balance of rights and obligations under WTO agreements.[113] Unfortunately, however, most environmental-related negotiations are not conducted in the CTESS but they are scattered around in a number of Councils and Committees. For instance, the CTESS at the time of this writing negotiates definitions and other generic clarifications and classifications with regard to Environmental Goods and Services as it is mandated to do in DDA paragraph 31(iii),[114] but the key negotiations about the actual tariff reductions (which are strangely termed 'modalities') are presently included in the non-agricultural market access negotiations (NAMA) although some Members are opposed to such a split-up to the negotiations.[115] This scattered nature of the environmental negotiation processes in general is disadvantageous to environmental concerns because first of all it makes a coherent vision and strategy in the trade and environment negotiations very difficult to achieve in the extremely complex and constantly shifting maze of the WTO negotiations, and secondly it subordinates environmental stakes to the principal trade promotion mandates of these committees and councils. This state of affairs is particularly serious because the organizational working of the WTO as a multi-layered interlocked negotiation forum shows "just how central the policy formulation process is to the trade and environment debate."[116] Then again, this architecture which is the result of the GATT traditions and the Uruguay Round negotiations simply reflects the low importance given to environmental concerns at that time. Will the next Round be used to finally upgrade the political weight of the trade and environment concerns?

The CTE and the CTESS are clearly *the classical ecolomic instruments* at the multilateral level; they are strategically positioned "where the rubber hits the tarmac." I would have difficulties to consider that these two WTO Committees have been adopting a sustainable development perspective worthy of this term, as argued above. Developing countries often join together in one or more coalitions, e.g. in the attempt to bring technology transfer concerns[117] into the Environmental Goods negotiations[118] by emphasizing environmental projects or activities and not simply lists or categories of goods to be liberalized which the industrialized countries would

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[112] Abdel Motaal 2007, 21.
[113] *Ibid*.
[114] Stilwell, 2008.
[115] http://www.wto.org/english/tratop_e/markacc_e/nama_negotiations_e.htm
[116] Abdel Motaal 2007, 25, concurring with Halle 2007, 265 and 269, as mentioned below, on the importance of negotiation procedures.
[117] On the role of technology transfer in the implementation of MEAs see the 2006-2007 joint research project carried out be the Geneva University's Law Faculty, IHEID, UNCTAD, UNEP and INECE "Technology Transfer, Trade, and the Environment: Promoting Synergy for Sustainable Development among the World Trade Organization and Multilateral Environmental Agreements." Financing was provided by the RUIG/GIAN. http://www.ecolomics-international.org/affil_ruig_gian_project.htm
[118] For up-to-date information on trade and environment negotiations and issues, the Web sites listed on top of this article's Bibliography are especially recommended.

like to negotiate.[119] It is unfortunate that the latter started off negotiations with a list that was artificially expanded to about 480 products for the purpose of negotiation tactics -- this practice did undoubtedly little to convince developing countries of the ecological seriousness of this whole negotiation, even though it was reduced, belatedly in the fall of 2007, to a list of 153 items.

It should be emphasized in this context that especially at the United Nations organizations, and to a somewhat lesser extent at the World Bank with its stronger economic focus, the sustainable development paradigm needs to retain and expand its position; ecolomic analysis and policy-making cannot do more here than provide insight in certain specific areas. That is very different at the WTO which ought to be given a clear *EcoLomics mandate* that goes well beyond the present framework of the CTE. The CTE or a more substantive successor organism of course will need a much enhanced profile within the WTO organizational and political structure. At present it can only make recommendations to the General Council -- and it hasn't even done that so far after more than ten years of discussions and five years of inconclusive negotiations. Like certain other WTO bodies which are empowered to change WTO agreements,[120] the CTE should be able to act as a proactive catalyst for change in the trading system. In this scenario of a reformed WTO, representatives from environmental ministries are not only tolerated next to their more influential colleagues from the trade ministry, rather, they will be in a position to forcefully promote the realization that trade needs the ecosystem but the ecosystem doesn't need trade...

6. Scientific Evidence and the WTO's Dispute Settlement Body

The Dispute Settlement Body (DSB) is undoubtedly the main reason for the WTO's preeminent status among the world's multilateral economic instruments. It is based on the Dispute Settlement Understanding which is the legal charter of its dispute settlement system, and on the WTO's agreements and other legal provisions. WTO Members are legally obliged to submit trade disputes with other Members to the DSB for adjudication. As former member of the Appellate Body, Claus-Dieter Ehlermann puts it: "It is this compulsory character which distinguishes it from all other existing international dispute settlement systems."[121] From an ecolomic perspective it is of interest to know under what circumstances a country may refuse the importation of a good because of environmental objections, given that, as we have seen, with some exceptions it must accept imports without discrimination as long as the goods in question are strictly equivalent to acceptable products, i.e. so-called *like products.*

An important difficulty lies in the fundamental structure of the WTO's dispute settlement process: In the first instance a dispute is adjudicated by a three-member Panel whose composition varies from case to case. If there is an appeal the Appellate Body (AB) takes over. It will establish a new 'division' consisting also of three members which will be chosen from the seven members of the AB. The AB members are accomplished and widely respected law professors or other lawyers specialized in trade law who are appointed for a four-year term that is exercised,

[119] The question of making the Environmental Goods negotiations amenable to technology transfer has largely determined the dynamics of the para. 31(iii) negotiation process. See Stilwell 2008.
[120] Abdel Motaal 2007, 19.
[121] Ehlermann 2002, 5.

officially at least, part time and can be renewed only once.[122] The problem here is that the fact finding process is reserved to the Panels of the first instance and no appeal is possible to their factual finding because the AB can only consider legal issues but not scientific or other non-legal issues (there is a certain debate about where exactly the dividing line between legal and other issues is to be drawn): "An appeal shall be limited to issues of law covered in the panel report and legal interpretations developed by the panel."[123] Not surprisingly therefore, Ehlermann comments that "It is widely held that fact finding is also the most difficult task of panels, and that it is one of the -- if not *the* -- weakest aspects of the panel process."[124] He wonders why the system was devised this way without suggesting an answer. Indeed, in light of the paramount importance which is given to scientific evidence for the justification of trade-restricting measures by the SPS Agreement[125] [126] it is difficult to understand the logic of this organizational structure, especially where very large science-based ecological as well economic stakes are being assessed, such as in the recent *EC-Biotech* case.[127]

What benchmarks ought to apply in the evaluation of scientific data? Should an importing country that wishes to regulate certain environmental risks through import restrictions be allowed to use the scientific data of its own competent authority, or should it be forced to accept the limits elaborated by international bodies, i.e. expert committees which have been set up by an intergovernmental organization? For instance in the setting of limits such as acceptable daily intakes (ADI) in the case of pesticide residues in imported food we have several UN bodies involved jointly: on one hand there is the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and the Codex Alimentarius Commission which is administered jointly by these two and is in charge of the *management* and *communication* of risk. On the other hand there is the independent Joint WHO/FAO Meeting on Pesticide Residues (JMPRs)[128] which is administered jointly by these two UN agencies[129] and which is in charge of the *assessment* of risk.

Such structures can be rather complex which may be explained by the inherent scientific complexity of the subject matter as well as by the fact that the

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[122] The Panel and the AB are supported in their work by two separate groups of legal experts.

[123] Dispute Settlement Understanding http://www.wto.org/english/tratop_e/dispu_e/dsu_e.htm Art. 17.6.

[124] Ehlermann 2002, 25.

[125] Agreement on the Application of Sanitary and Phytosanitary Measures, http://www.wto.org/English/tratop_e/sps_e/spsagr_e.htm

[126] SPS Article 5.7 covers cases where scientific evidence is insufficient, see Oliva 2006.

[127] Panel Report, European Communities – Measures Affecting the Approval and Marketing of Biotech Products (EC-Biotech), WT/DS291/R, WT/DS292/R, WT/DS293/R, 29 September 2006.

[128] http://www.codexalimentarius.net/web/jmpr.jsp

[129] "The Joint FAO/WHO Meeting on Pesticide Residues (JMPR) is an international expert scientific group that is administered jointly by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO). JMPR, which consists of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group, has been meeting regularly since 1963. During the Meetings, the FAO Panel of Experts is responsible for reviewing residue and analytical aspects of the pesticides under consideration, including data on their metabolism, fate in the environment, and use patterns, and for estimating the maximum residue levels that might occur as a result of the use of the pesticides according to good agricultural practices. The WHO Core Assessment Group is responsible for reviewing toxicological and related data and for estimating, where possible, acceptable daily intakes (ADIs) for humans of the pesticides under consideration." http://www.who.int/ipcs/food/jmpr/en/index.html

comprehensive task of risk analysis is defined in the Codex Alimentarius *Procedures Manual* as a composite concept: "A process consisting of three components: risk assessment, risk management and risk communication."[130] This definitional distinction between the three components of the risk analysis process is the result of a multilateral consensus negotiated by the Codex Alimentarius. It should be added that the definitions which are included in this *Procedures Manual* are the most detailed and specific internationally respected definitions available in the field of pesticide residues or more generally in the domain of interest here, i.e. environment-related food safety. Furthermore, it should be emphasized that the questions of pesticide residues in food and of the regulations regarding trade in genetically modified food are inherently of interest to our discussion of ecolomic considerations because these environment-related concerns regarding both food safety and food security are at the center of very large ecopolitical, geopolitical and economic stakes.[131] [132]

The distinction between risk assessment and risk management is one of the key issues at the heart of the WTO's adjudication of import restrictions, commonly called "measures," which are justified on environmental or health-related grounds, and which must be defended by the country of import through the establishment of relevant and sufficient scientific evidence. Otherwise they are violating WTO law, specifically the above-mentioned GATT Articles I and III. Another very important issue relates to the level of the competent authority: to what extent does the country of import have the right to rely on its own national competent authorities -- or to the contrary does it have to accept multilaterally negotiated standards such as the Codex Alimentarius?

Professor Thomas Cottier would like to see the role of international standards strengthened in the interpretation of SPS Article 3 on the Harmonization of trade-restrictive measures which gives countries the option of applying stricter than international standards if there is a scientific justification. Thus he suggests "to look into the *traveaux préparatoires* as required by Article 32 of the Vienna Convention in cases where the interpretation of the text is considered to be contextually unclear."[133] Such a practice is impeccable from a legal standpoint but politically speaking it may be controversial because it puts the value system of bygone times hierarchically over that of today's day and age. He qualifies his preference for international standards, however, by concluding that "Politically speaking, the drive and incentive to work towards international standards --- unlike in the field of environmental protection -- has been lost."[134] Michael Burkard of the Swiss World Trade Institute (WTI) also heads in this direction: "A vertical separation of risk assessment and risk management, following the theory of multilayered governance would address one of the major problems…, i.e. the interference of risk managers with risk assessors at the national level (e.g. in the *Salomon* case)."[135] Cottier does point out, nevertheless, that

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[130] ftp://ftp.fao.org/codex/Publications/ProcManuals/Manual_16e.pdf

[131] For an analysis of the relationship between the WTO and the international regulation of GMO shipments (Cartagena Protocol on Biosafety) see Martinez 2006; Thomas 2002; Yajima 2007; Zerhdoud 2005.

[132] For an up to date « Guide to International Negotiations and Rules on Intellectual Property, Biodiversity and Food Security (*The Future Control of Food)* see Tansey and Rajotte, editors 2008.

[133] Cottier 2001, 47.

[134] *Ibid.* 45.

[135] Burkard 2007, 7.

the SPS agreement suffers from deficiencies and weaknesses that should be corrected in future trade negotiations:

> A proper methodology referring to the social sciences should be developed in the context of risk management. In particular, this includes inquiries into the social and political acceptance of an existing risk. Standards of review should be framed accordingly, and examination of scientific evidence and social and political criteria should be undertaken in consecutive steps.[136]

This is a very important point which has recently been addressed by the WTO's Director General, Pascal Lamy, who essentially expressed understanding for Cottier's concerns about the need to address social and political criteria. In a recent interview he pointed out that "risk management is closely related to the question of values and the weighing of the good and the bad, and that all peoples do not have the same dreams and the same nightmares [author's translation]."[137] Subsequently the Director General in a recent speech at Yale University in October 2007 further expanded his views on concerns that were expressed about the introduction of value-laden criteria into the WTO by expressing his confidence that the WTO is well equipped to handle these while at the same time it continues its work undisturbed:

> Where would the WTO draw the line between the values that could cross national borders, became the question. And, more importantly perhaps, should the drawing of such a line at all be the role of the WTO? Whereas to some, it was vital that the international system be made to stop morally, or environmentally-repugnant trade; to others, accommodating such values through the trading system spelt doomsday. Professor Jagdish Bhagwati wrote: "If a nation's trading rights can be suspended simply because it refuses to accept another nation's idiosyncratic values, everyone could insist on 'morality-driven' trade restrictions, and the whole international trading system would head down a slippery slope." Now, as this debate continued to rage, the WTO quietly went about its day-to-day business.[138]

As we can see, the relationship between risk assessment and risk management is quite complex, not to mention politically charged. In spite of that there is not much research available which focuses specifically on this question. An in depth exploration of this topic by Christine Noiville and Nicolas de Sadeleer represents therefore an exceptional contribution to this difficult and important topic.[139] Their key argument is summarized in the following paragraphs which explain why the assessment and the management of risk are so closely interwoven:

> … Is it possible that risk management can constitute a first phase, after which one would cross and leave behind for good the dividing line in order to focus on the second phase, risk management? Such a justification is not very convincing because it is disconnected from the concrete reality of scientific and political work. Science and politics are far from constituting two

[136] Cottier 2001, 57.
[137] Pilet, 2007, 67 [Pascal Lamy : « Dès que l'on parle de la gestion du risque, on entre sur le terrain des valeurs où l'on pondère le bien et le mal. Tous les peuples n'ont pas les mêmes rêves et les mêmes cauchemars. »]
[138] http://www.wto.org/english/news_e/sppl_e/sppl79_e.htm
[139] Noiville et de Sadeleer, 2001.

> linear actions which are following each other chronologically, and where the second would kick in only once the first is concluded.
>
> In reality, risk assessment and evaluation are overlapping, they are characterized by constant back and forth movements. The assessment of a risk is often the fruit of a managerial decision. In the same way, new assessments are often undertaken even after a risk management measure has been adopted. In fact, it is often the law which imposes new assessments as part of the risk management, especially if scientific uncertainties remain. These will allow in case of need to adjust the risk management to the evolution of knowledge. Therefore we can see that if there is a functional separation it is far from impermeable and we can even see that this would not be desirable. This is why some institutions, such as the Codex Alimentarius, even where they provide for a functional separation between risk assessment and risk management, clearly spell out that certain interactions are indispensable for a pragmatic approach [author's translation]. [140]

As far as the question of a hierarchy between risk assessment and risk management is concerned, Noiville and de Sadeleer clearly point out where ultimately the responsibility has to be placed: it can only be the political level which at the end of the day must assume the responsibility for the whole risk analysis process, the decisional authorities need to be autonomous.[141] In a democracy "the buck has to stop" at the desk of the elected political representation of an electorate. As pointed out at the beginning of this section, environment-related concerns in many cases constitute an integral part of food politics. That is certainly one reason why Professor Marsha A. Echols warns: "Trade policy experts who argue that food should be treated no differently than a bar of soap must be prepared for a rocky road."[142] As we can see, the above-mentioned call by Professor Cottier for the WTO to negotiate a proper methodology referring to the social sciences in the context of risk management is very timely and appropriate. These questions will undoubtedly preoccupy WTO negotiators, the DSB, as well as academia, not to mention NGOs and the media, for a long time to come, especially since the DDA does not address them.

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[140] *Ibid.* 407 « … l'évaluation peut-elle constituer à elle seule une première étape, après quoi l'on passerait définitivement de l'autre côté de la frontière pour se concentrer à une second étape, la gestion ? Une telle justification est peu convaincante car elle se trouve déconnectée de la réalité concrète du travail scientifique et politique. Science et politique sont loin en effet de pouvoir constituer deux actions linéaires qui se suivraient chronologiquement, la seconde ne pouvant « prendre ses fonctions » qu'une fois la première terminée.
… Car dans la réalité, évaluation et gestion se chevauchent, se caractérisent par un va-et-vient permanent dans le temps. L'évaluation d'un risque est souvent le fruit d'une décision de gestion. De la même manière, de nouvelles évaluations sont souvent entreprises alors même qu'une mesure de gestion vient d'être adoptée. C'est du reste le droit lui-même qui l'impose souvent, notamment lorsque des incertitudes scientifiques demeurent, d'accompagner la gestion de nouvelles évaluations qui permettront éventuellement de l'adopter à l'évolution des connaissances. Aussi bien, si séparation il y a, elle n'a rien d'étanche et l'on voit même qu'il n'est pas souhaitable qu'elle le soit. C'est pourquoi tout en prônant une séparation fonctionnelle entre l'évaluation et la gestion du risque, certaines institutions comme le Codex Alimentarius énoncent que certaines interactions sont indispensables à une approche pragmatique. »

[141] *Ibid.* 413.

[142] Echols 2001, 155.

The question of the role of science in WTO dispute settlement is further complicated by the fact that the DSB puts enormous faith in the impeccable functioning of scientific institutions, as was strongly re-emphasized in the 2003 dispute *Japan-Apples.*[143] At the same time, unfortunately recent studies are accumulating which demonstrate -- in a number of instances -- a self-interested, politicized and sometimes very unethical or at the very least uninformed behavior of certain scientists.[144] For instance in cases like asbestos, leaded paint and gasoline, PCBs, DDT and a host of other chemicals, or the toxicity and addictiveness of cigarette smoking, to name just a few examples, scientists have known product-related dangers for a long time but have been silent, or even in certain cases have actively helped to cover up the available scientific evidence of such dangers. One may paraphrase Eisenhower's term of the military-industrial complex and speak of a scientific-industrial complex which is not always living up to the expectation of scientific excellence. Without generalizing certain observations on rotten apples which one may find in any basket, one does have to wonder how the WTO's automatic assumption of the neutrality and methodological excellence of scientific evidence stands up to some realities of real life.

The term which epitomizes this trust in science is of course "sound science," a term which to my knowledge is not used by the WTO Secretariat; it is, however, used very commonly in the trade and science related discourses, as if its use and endorsement would automatically represent an assurance of scientifically approved methodologies, analyses, conclusions and science-related policies. In reality the term "sound science" has a somewhat substandard pedigree; it has been promoted originally in the tobacco industry's massive perjury and cover-up attempts in the early 1990's. The industry used the term to support its own scientists who disparaged colleagues warning of the dangers of smoking.[145]

Most scientists are not using this term, at best they speak of scientifically sound methodologies, procedures, approaches and related concepts which is by far not the same. The disturbing aspect of the term "sound science" is a certain absolutism which often conveys the notion that disagreeing opinions or standpoints violate the results of scientific investigations. Real science is not built upon absolute truths; rather, scientists are very much used to debates, competing explanations, uncertainties, or lack of knowledge. Therefore the notion of precaution has entered the debate on the relationship between law, scientific uncertainty, and risk a long time ago, and it has led to a rich literature on this and related issues. A survey of the concept of precaution and of its use in public international law would by far exceed the focus and limits of this research essay. [146] It should be pointed out, nevertheless, that both the Codex Alimentarius Commission and the WTO's DSB have not yet been able to reach a conclusive statement on the legal meaning and ramifications of precaution and on acceptable ways to deal with precautionary measures.

[143] WT/DS245/Rpara. 8.312, 15.7.2003, see Mbengue and Thomas 2003.
[144] Chapman 2007; Mooney 2005; see also the critical science journal *Science in Society* http://www.i-sis.org.uk/index.php
[145] Mooney 2005, 65-78.
[146] See e.g. Boisson de Chazournes 2002; 2003, 392--401. Marceau 2005. Mbengue 2004. Mbengue and Thomas 2004. Perrez 2008, 252-260.

7. Asymmetries in Development: Trade, Environment and Poverty Relief

It is arguably correct to say that the developing countries by and large show less enthusiasm in the negotiation of environmental "measures," i.e. exceptions to the trading regime which are incorporated into certain MEAs, than their industrialized counterparts, even though the picture looks less black and white if one examines the situation closely. The developing countries in fact are actually *demandeurs* in a number of trade-related MEAs, e.g. in the Convention on Biological Diversity and in its Biosafety Protocol, in the chemicals and wastes conventions, or in the International Treaty on Plant Genetic Resources for Food and Agriculture. In any case the industrialized world shows just as little eagerness to assume its responsibility for its far larger per capita environmental footprint or its ecological shadow ecology: "This ecological capital, which may be found thousands of miles from he regions in which it is used, forms the 'shadow ecology' of an economy."[147] The mass media still often compare US and Chinese raw material consumption figures or CO2 emissions at the aggregate national level rather than at the per capita level.

In order to appreciate the developing countries' perceptions with regard to environmental issues in the context of the DDA negotiations it is necessary to understand how the trade and environment negotiations evolved over the past few years in the context of the wider WTO negotiations. For a really in-depth understanding of this question we would have to look into the creation of the WTO, and in fact into the history of the preceding GATT negotiations. This is not the purpose of this paper. Rather, I am attempting to demonstrate the pertinence of the EcoLomics concept in some areas of application.

Talking to certain industrialized country representatives of the trade community in Geneva one sometimes gets the impression that the Doha Ministerial Conference is seen as some kind of a ground zero, a clean slate on which improvements to the global trading system are being built through the ongoing DDA negotiations. But one should not underestimate the historical memory of the developing country negotiators. They are accepting the results of the Uruguay Round because they have no choice, but the lingering feeling is palpable that many see the conclusion of that Round as having been forced upon them because they were not prepared to defend their interests or even to fully comprehend the stakes being negotiated, and they signed because they didn't really have a choice.

This has changed, there is now a widespread consensus on the observation that the role and the political and economic -- as well as the legal -- clout of the developing countries after the failures of the 1999 and 2003 Ministerials has vastly increased. We may subsume this broad general feeling among Southern delegates through a citation on the Uruguay Round from Martha Shahin, an influential Egyptian trade official and diplomat. She asked herself why developing countries have signed on to the April 1994 conclusion of this Round and thus to membership in the WTO and concluded:

[147] MacNeill, Winsemius and Yakushiji 1991, 58-61.

> The main reason – in my view – for developing countries signing the agreement in Marrakesh was the fear of being left behind, rather than truly being convinced of any benefits accruing to them from the agreements.[148]

One of the reasons why the WTO is difficult to understand and therefore often misunderstood is that the "products" of this organization, i.e. primarily the rules contained in the agreements and the rulings made by the Dispute Settlement Body based on these rules are the result of a closely interwoven and opaque conundrum of political will and of organizational policy processes, and it is sometimes not clear to what extent procedural issues are simply a leftover of earlier times or if they are strategically devised for political objectives. The relationship between WTO agreements and MEAs, the communications processes between MEA Secretariats and relevant WTO bodies, and negotiations on Environmental Goods and Services, all of which are being negotiated at the present time under paragraph 31 of the Doha Development Agenda,[149] may be cited as an example. Mark Halle of the International Institute for Sustainable Development argues that the importance of the WTO's policy-making process and its deep roots in domestic processes tend to be underestimated:

> No one -- or only a select few -- blames an inadequate policy process. And yet in looking for reasons for the present impasse that is precisely where a good part of the blame should be placed.[150]

The fact that the WTO has a far broader mandate that the GATT used to have implies that it reaches much deeper into national political and economic policy-making processes and prerogatives. At the same, the voices of the consumer and of the citizen are diffuse, consumer organizations and other NGOs tend to be scattered, whereas interest groups like the farm or the pharmaceutical lobbies tend to be far better organized, and of course much better financed. As a result, Halle argues that we can observe

> … a failure of the trade policy process at the national level and in particular its failure to recognize the widening of the interests genuinely at play and to accommodate this new and broadened constituency. It stems from a failure to rank interests not only on the grounds of economic clout, but instead on their relevance for the broader development goals that the WTO had (same would say foolishly) set for itself.[151]

Mark Halle's insightful observation dovetails with another point of view which also emphasizes the importance of the WTO's negotiation procedures, specifically the influence of the WTO Secretariat. There is probably a wide agreement on the notion that the Secretariat has very few formal powers, which may explain the constant mantra of the WTO being -- more than that of other intergovernmental organizations -- "member-driven." However, as Hakan Nordström, a former analyst with the Secretariat's economic research unit who enjoys the benefit of 'insider knowledge' has explained in quite some detail, it would be very mistaken to overlook the informal but no less real power of influence which the Secretariat enjoys vis-à-vis the

[148] Shahin 1996, 6.
[149] http://www.wto.org/english/tratop_e/envir_e/envir_e.htm
[150] Halle 2007, 265.
[151] Halle 2007, 269.

Members. The fact that the staff and the delegates are "closely intertwined in a physical sense"[152] thanks to working very often in the same building combined with a very fuzzy, unclear mandate of the Secretariat, and in numerous important instances a lack of procedural guidelines, combine to give its staff, as numerous observers agree, a very substantial degree of influence over the daily business of the institution, and even more so over the preparation of the key moments in the trading system's existence, namely the preparation of the Ministeral Conferences which are its highest decision-making organ. Ten years in Geneva have convinced me that the notion of a weak, member-driven Secretariat carrying out the requests of the Permanent Missions and capitals is in reality the biggest myth surrounding the WTO!

The question of the benefits or otherwise accruing to developing countries from the WTO is of course a hotly debated question. Nobel Prize economist Joseph E. Stiglitz undoubtedly can be trusted, as a former World Bank chief economist, for a good knowledge of the issues, of the multilateral institutions, and of their member countries' policy objectives and negotiation processes. He considers that the governance of the three key multilateral economic institutions IMF, World Bank and WTO needs to be changed in order to better accommodate the needs of the developing countries: *"The most fundamental change that is required to make globalization work in the way that it should is a change in governance* [his italics]*."*[153] For instance the imposition of higher tariffs for manufactured goods exported from the South to the North has long been a particularly serious impediment to development.[154] The more a developing country follows the industrialized countries' doctrine of "don't do as we do, do as we say," the more it gets punished at the border. The more it tries to get integrated into the global economy by processing its raw materials and by exporting semi-finished or finished goods, the higher in numerous cases are the tariffs which are imposed by the industrialized countries:

> Tariff escalation and tariff peaks are manifestly unfair and have a particularly pernicious effect on development by restricting industrial diversification in the poorest countries.[155]

It is too early to predict the impact of the DDA on developing countries, a task that will be made difficult due to the fact that the impact on national economies will unquestionably vary considerably from one country to another, and also the impact on different sectors of society within each country.

8. Conclusion: Aiming for Global EcoLomic Governance

To conclude, there is obviously a great amount of work to be done to achieve a better equilibrium between the protection of the global ecosystem and the process of economic globalization. At the level of multilateral negotiations this of course means an improved relationship between the environment-related organs of the UN and the WTO. This seems to be very difficult to achieve, the WTO missed an opportunity of making a step in this direction by not including UNEP in its Integrated Framework for

[152] Nordström, 2005, 823.
[153] Stiglitz 2002, 226.
[154] ActionAid International 2005, 12.
[155] Stiglitz and Charlton, 51. See also Smaller 2005, 27.

Least Developed Countries (IF), created in 1997.[156] Generally speaking, when the WTO speaks of coherence with other organizations it means the World Bank and the IMF[157] but not UN organizations which of course does not bode well for ecolomic approaches and even worse for sustainable development policies. There is clearly a need for a more intensive dialogue between the WTO and UNEP. Alice Palmer and Richard Tarasofsky have done an important analysis of the potential for closer cooperation between the trade and the environment regimes, and they suggest that inter-institutional initiatives involving the WTO and UNEP could form a liaison forum which may include, where appropriate, UNCTAD, FAO, WIPO, and relevant MEAs. Such an innovative and proactive forum would have a potential role to play in conducting analyses, make policy recommendations, and avoid or resolve conflicts.[158] It may indeed go a long way in establishing better linkages between these two so very different universes. The WTO's Director General Pascal Lamy in fact has called, in a similar vein, for the development of what he calls a "Geneva Consensus" which would open up the trade system to integrate non-trade issues such as the environment in a more outgoing fashion, not just as is the case now as an exception under highly technical and very difficult to fulfill conditions.[159] Will the Members listen to this suggestion?

NGOs also have a very important role to play in reconciling the discrepancies between divergent objectives. They are sometimes criticized for not paying enough attention to the interlinkages among separate issues.[160] I would argue, however, that by and large, they are in fact doing a better job *bridging* and *weighing* issues of a different and often conflicting nature than governments, it is no coincidence that the International Centre for Trade and Sustainable Development has a bridge as its logo, and EcoLomics International a balance…

To conclude, this research essay has attempted to introduce the notion that we have achieved now, at the intergovernmental level, fledgling organizational and political structures and processes which allow us to design policies that take into consideration the *linkages* between ecological and economic imperatives or priorities. At the end of the day, however, it is the legal implementation of these policies which matters most, and here we are still far from being able to observe any such emerging structures. The presently ongoing negotiations on trade and environment under the Doha Development Agenda which focus on an exceedingly narrow interpretation of the MEA-WTO relationship, on ways of communication with MEAs, and on the liberalization of whatever may in the end be defined as environmental goods and services make this abundantly evident. In fact, we are still at the relatively primordial level of addressing conflicts between environmental and economic concerns on an *ad hoc* basis through the WTO's Dispute Settlement Body which takes its guidance from the comprehensive body of all WTO agreements and rulings as it sees appropriate. This uneasy cohabitation between international environmental and trade law results in a considerable degree of legal uncertainty for the enforcement of the most basic environmental tenets such as precaution, the polluter pays principle, process and production methods, or the consideration of environmental externalities.

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[156] In addition to the WTO, the IF includes IMF, ITC, UNCTAD, UNDP and the World Bank http://www.wto.org/english/tratop_e/devel_e/teccop_e/if_e.htm

[157] http://www.brettonwoodsproject.org/article.shtml?cmd%5B126%5D=x-126-4423

[158] Palmer and Tarasofsky 2007, 40. http://www.chathamhouse.org.uk/files/3397_wtomea0207.pdf

[159] Speech in Santiago de Chile, 30 January 2006.
http://www.wto.org/english/news_e/sppl_e/sppl16_e.htm

[160] Global Environmental Outlook GEO 4, 2007, p. 381.

This rather unpredictable state of play is ultimately explained by the fact that the mandate and authority of MEA dispute settlement mechanisms reflect the political power discrepancy between environment and trade Ministries in the Member countries, they are therefore no match for the DSB. With the important exception of the 2006 *EC-Biotech* dispute over GMO products from the US, Argentina and Canada, the WTO has so far managed to avoid direct legal conflicts between these two spheres in its jurisprudence, dealing with them on a case-by-case basis but without any assurance for the future. On the other hand, things are very different at the level of MEA negotiations where trade-related provisions are constantly under strong pressure to subordinate environmental imperatives to trade rules. As discussed above, the chilling effect is very much a political reality. The pressure for WTO consistency in MEAs through the long reach of trade and other economic vested interests undoubtedly facilitates legal coherence but it may do so at the expense of the ecosystem entitlements of our children and future generations.

Last but not least, in spite of some critical notes, I am among those who consider that the WTO agreements are, by and large, clearly more favorable both for the environment and for developing countries than what is obviously the only realistic alternative, i.e. regional or bilateral Preferential Trade Agreements. The same observation applies to other multilateral processes, especially at WIPO.[161] If the Doha Round should fail or result in too much "reduced expectations," these agreements would get even more support than they have been getting especially since the failed 2003 Cancun Ministerial.

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http://www.ictsd.org/
http://www.ielrc.org/
http://www.iisd.ca/ (especially the Earth Negotiations Bulletin)
http://www.iisd.org/
http://www.southcentre.org/
http://www.trade-environment.org/ (part of ICTSD)
http://www.unep.ch/etb/

[161] This is how Maria Julia Oliva (2008, 78) has expressed the same general idea with a focus on intellectual property rights: "As the US and other developed countries shift to bilateral trade negotiations for IP standard setting, the collaborations among developing countries and civil society organizations that promoted sustainable development issues and culminated in the WIPO Development Agenda process becomes more difficult."

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