

inspective.

Science-based environmental Protection in World Trade Law

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1 Environmental and Trade Principles

Like the dinosaur mutant, created by radioactive waste dumped into the sea, was awakened to life through nuclear tests near the Japanese island Odo, so at Seattle GATTzilla¹ came into existence out of the neglect of the environment. In the eyes of environmentalists free trade embodies in a globalized world an insatiable monster that devours the means of livelihood for future generations. Concerned only with values of liberalization free trade did not even take into account values of the protection of the environment. Therefore, globalization made a balance of trade values and environmental values necessary.²

Such a balance however is hardly achievable as long as there is no common criterion for trade and the environment that warranted the balance. Without communalities there is no way to weigh objectively incommensurate values.³ Furthermore, already the quest for a balance of trade values and environmental values fortifies the assumption of a gap between trade and the environment.⁴ The balance appears as one of two isolated, self-contained regimes.⁵ Then even within a 'trade constitution'⁶ the values of both regimes remain competitive. Acknowledging that all trade policy is necessarily embedded in a wider societal vision,⁷ the competing values become only reconcilable insofar trade and environment overlap in society, for example when their linkage offers attractive export and investment opportunities.⁸

The ambition to reconcile trade and environment by revealing linkages between them leads naturally to the meaning of 'free trade' – and 'environmental protection'. These meanings however not only vary but also change over time.⁹ One departure of reconciliation then consists in an exploration of meanings in order to reveal the extent to which free trade is indeterminate and open for environmental values.¹⁰ The departure from meaning thus answers the question what trade is or what it could be. Another departure answers the question how trade operates or how it should operate. Here, one departs from principles which are more stable than meanings, wherefore the extent to which free trade and the protection of the environment are able to come together can be revealed.

The fundamental principle related to the protection of the environment is the precautionary principle. It is hailed to be an 'agent of democracy'¹¹ because the principle defers political sovereignty to the states in the sense that it enables them to take measures to protect the environment unilaterally. Thus, the *Washington Convention on International Trade in Endangered Species of Wild Fauna or Flora* (1973), the *Montreal Protocol on Substances that deplete the Ozone Layer* (1987), or the *Basel Convention on the Control of trans-boundary Movements of hazardous Wastes and their Disposal* (1989) allow their member states the unilateral measure of import bans. In so doing the multilateral environmental agreements ensure state sovereignty over protecting measures by depriving free trade of its ruling dominance which had no democratic legitimacy.¹²

¹ Cho (2005), p.625.

² Lang (2007) p.532.

³ Charnovitz (2002) p.101.

⁴ Lang (2007) p.538.

⁵ Atik (2000) p.1231f.

⁶ Cho (2005), p.627.

⁷ Guzman (2004) p.303f; Cho (2005), p.626; Lang (2007) p.545.

⁸ Orellana (2006) p.52; Harashima (2008) p.19.

⁹ Lang (2007) p.524 and 529.

¹⁰ Lang (2007) p.543.

¹¹ Orellana (2006) p.62.

¹² Shaffer (2001) p.1f.

Indeed, advocates of free trade regard unilateralism as highly inefficient. In addition it is not equipped to meet the standardizing requirements of a global trade because natural resources, production conditions, or societal support for environmental protection differ in various states.¹³ Hence, environmentally directed trade restrictions are likely to discriminate disproportionately the exports of developing countries.¹⁴ There again unilateral measures may pose a risk to the environment: Were for example unilaterally subsidized timber logging and forest clearance for ranching purposes prohibited, then environmental protection was better achieved by liberalized trade.¹⁵ That is why the precautionary principle runs danger of being captured by people who wish to protect unjustifiably inefficient action, and why some trade concerned environmentalists stick to the principle of liberalization.¹⁶

The principle of liberalization is the fundamental principle of free trade. It comprises the equal treatment of products irrespective of its origin and the removal of trade barriers between states. The non-discrimination is regulated in articles I and III GATT. Pursuant to article III(1) GATT measures should not be taken ‘so as to afford protection to domestic production.’ Obviously, the pure non-discrimination requirement leaves plenty of room for regulatory sovereignty to states.¹⁷ This room however is narrowed by the elimination of quantitative restrictions under article XI GATT which prohibits any quota on exports or imports. The prohibition, of course, includes the zero quotas of import bans provided for in multilateral environmental agreements.

There, the precautionary principle prevails – in two versions. The weak version is articulated in principle 15 *Rio Declaration on Environment and Development* (1992) which states that where ‘there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.’ Hence, the weak version allows taking measures whereas the strong version, enshrined in the *Cartagena Protocol on Biosafety* (2000) or the *Conferences on the Protection of the North Sea*, requires precautionary measures in the absence of scientific certainty with respect to environmental threats. The strong version thus shifts the burden of proof.¹⁸ Under the liberalization principle the proponent of a measure to protect the environment has to demonstrate that a product poses a threat to the environment in order to justify the measure. Whereas under the strong precautionary principle the exporter or producer has to demonstrate that a product poses no threat to the environment in order to challenge the measure.

And not only the burden of proof but also the standard of proof becomes decisive, where the level of scientific certainty determines the validity of a measure; especially when there is a trade-off between a threat for the environment and its protection. Thus, under the strong precautionary principle technological innovations might be blocked before their impact on the environment reaches the required level of scientific certainty and therewith hinder that for example genetically modified crops nourish starving people in developing countries.¹⁹

What is more, from a legal point of view, is that the principles confront members to environmental and trade agreements with conflicting obligations as to precautionary measures. The WTO’s panels have then to interpret environmental law in order to decide whether its

¹³ Lang (1997) p.277.

¹⁴ Harashima (2008) p.18.

¹⁵ Yu (1994) p.992; Stonehouse (2000) p.133.

¹⁶ Weiss (2003) p.141.

¹⁷ Howse (2000) p.2332.

¹⁸ Miller (2000) p.360; Weiss (2003) p.140.

¹⁹ Weiss (2003) p.158.

provisions justify the measure.²⁰ Consequently, the panels' proceedings often exclude the precautionary principle from the interpretations of international law.²¹ This however does not imply that WTO agreements dispense with precaution. On the contrary, there exist several 'gateways'²² through which precaution is introduced into trade law.

2 Environmental Precautions in WTO Agreements

The signpost for gateways to precaution in free trade reads 'general exceptions' which are classified under article XX GATT. The classification of precautionary measures with regard to the environment is threefold and will be discussed consecutively.

2.1 Measures protecting exhaustible natural Resources

Pursuant to article XX(g) GATT nothing in the agreement shall prevent measures 'relating to the conservation of exhaustible natural resources', as long as the measures are not discriminating. Regarding 'exhaustible natural resources' the panels followed an evolutionary interpretation taking into account recent developments of international law, i.e. the term is interpreted in the light of multilateral environmental agreements.²³ Originally the panel restricted recency to the date when the measure was taken and admitted no more recent evidence. The Appellate Body however reversed this decision.²⁴

The relationship between the measure and the conservation of resources must be reasonable, but needs not to be based on a strict causality.²⁵ The reasonable relationship only requires that the measure predictably will meet the aim of conservation.²⁶ This requirement is like the interpretation of 'exhaustible natural resources' rather broad, at least broad enough to allow states a wide range of precautionary measures.

2.2 Measures protecting Animal or Plant Health

Neither shall the General Agreement on Trade and Tariffs prevent measures which are necessary to protect animal or plant life or health pursuant to article XX(b) GATT. The measures may only aim at animal or plant life or health within the state which adopts the measure.²⁷ This decision is well recognized in principle 11 of the *Rio Declaration on Environment and Development* (1992) which declares that 'unilateral actions to deal with environmental challenges outside the importing country should be avoided.' Thus, only imported products are covered by the provision; a regulation on all products of an exporter would reach too far because such regulations could lead to conflicting trade obligations for states who export their

²⁰ Pauwelyn (2008) p.41.

²¹ WT/DS291/R, WT/DS292/R, WT/DS293/R *EC – Measures affecting the Approval and Marketing of Biotech Products* (2006), paras 7.3008-7.3399.

²² Cheyne (2007) p.162.

²³ WT/DS58 *United States – Import Prohibition of Certain Shrimp and Shrimp Products* (1998), para 130.

²⁴ WT/DS26/AB/R, WT/DS48/AB/R *EC – Measures concerning Meat and Meat Products (Hormones)* (1998) paras 8.118 and 8.111.

²⁵ WT/DS58 *United States – Import Prohibition of Certain Shrimp and Shrimp Products* (1998), para 136.

²⁶ WT/DS21, WT/DS29 *United States – Measures concerning the Importation, Marketing and Sale of Tuna and Tuna Products* (1994), para 5.33.

²⁷ WT/DS21, WT/DS29 *United States – Measures concerning the Importation, Marketing and Sale of Tuna and Tuna Products* (1994), paras 5.26 and 5.42.

products in different countries;²⁸ for example if one state requires a turtle excluder device to be used for the shrimps to be imported and another requires a dolphin excluder device, how should the exporter catch the shrimps?

Again the relationship between the measure and life or health must be necessary in the sense that all reasonable alternative options to the measure have been exhausted.²⁹ The reasonability of alternative options depends on the risk a product poses to life or health of animals or plants. For the risk in turn there might exist scientific evidence, or there might exist none. The level of uncertainty with respect to the evidence of a risk must be discerned from the level of risk a state is ready to incur. The latter expresses a state's level of risk aversion which depends on the ascertained standards of proof.³⁰

2.2.1 Measures based on scientific Evidence

In order to apply adequately the GATT provisions, in particular article XX(b) GATT, one has to consult the Sanitary and Phytosanitary Agreement (SPS) corresponding to its preamble. Pursuant to article 2(2) SPS the measures to protect animal or plant life or health shall be based on scientific principles, and shall not be maintained without sufficient scientific evidence; whereupon 'scientific' means appearing to have an exact, objective, factual, systematic or methodological base.³¹ The wording and interpretation of the SPS clarifies that the WTO has an institutional interest in efficient trade regulation: Efficiencies are created if the relationships surrounding products and trade are scientifically understood.³² Thus, scientific evidence is deemed to enhance trust in international trade.³³

Unproblematic are then measures that conform to established standards. Such measures count pursuant to article 3(2) SPS as necessary to protect life and health. Members to the WTO are even allowed to raise the level of protection beyond international standards pursuant to article 3(3) SPS if they provide a scientific justification for that. The scientific justification entails a sound risk assessment which counterbalances the precautionary discretion of states in order to warrant consistency in the choice of levels of protection in comparable situations.³⁴

The risk assessment is regulated in article 5(1) SPS and must be 'appropriate to the circumstances'. The assessment is appropriate when it refers to scientific evidence that could as well falsify a prior conclusion of the same risk assessment. It can be either quantitative or qualitative and in principle permits a free choice regarding the acceptable risk level, including zero-risk.³⁵ The assessment comprises an evaluation both of the likelihood of a harm's entry without adopting the measure, and of the likelihood of a harm's entry with the measure adopted.³⁶

²⁸ WT/DS58/AB *United States – Import Prohibition of Certain Shrimp and Shrimp Products* (1998) para 7.61.

²⁹ WT/DS21, WT/DS29 *United States – Measures concerning the Importation, Marketing and Sale of Tuna and Tuna Products* (1994), para 5.26.

³⁰ Weiss (2003) p.138.

³¹ WT/DS26/AB/R, WT/DS48/AB/R *EC – Measures concerning Meat and Meat Products (Hormones)* (1998), footnote 172.

³² Walker (1998) p.288.

³³ Howse (2000) p.2338.

³⁴ WT/DS26/AB/R, WT/DS48/AB/R *EC – Measures concerning Meat and Meat Products (Hormones)* (1998), para 177.

³⁵ WT/DS26/AB/R, WT/DS48/AB/R *EC – Measures concerning Meat and Meat Products (Hormones)* (1998), para 186; WT/DS18/R *Australia – Measures affecting Importing of Salmon* (1998), para 121;

WT/DS135/AB/R *EC – Measures affecting Asbestos and Asbestos-containing Products* (2001), para 168.

³⁶ WT/DS18/R *Australia – Measures affecting Importing of Salmon* (1998), paras 126-135.

Because the risk assessment shall amount to rational decision-making,³⁷ the risk needs to be ascertainable. A purely ‘theoretical uncertainty is not the kind of risk’³⁸ that qualifies for the risk assessment under article 5(1) SPS. Here, ‘theoretical uncertainty’ means an uncertainty which is ‘inherent in the scientific method and which stems from the inherent limits of experiments, methodologies, or instruments deployed’.³⁹ In other words, unknown elements or elements that cannot be identified and nevertheless shall constitute a hypothetical risk will not stand the scrutiny under SPS.⁴⁰ The ascertainability is controversial because ‘scientific uncertainty is endemic’.⁴¹ In the complex subject matter of environment the measurement of effects entails a high theoretical uncertainty and anyhow the effects may be so serious that a protecting measure cannot be postponed until science provides enough evidence.⁴²

In this controversy, however, one must keep in mind that the ascertainability of a risk is only required in situations where there is scientific evidence for a risk. Now this evidence must not follow from theoretical implications but from controllable elements of a scientific theory. The requirement then is not more than a reminder to perform the assessment thoroughly in order to base the measure on sound science. Else the measure could hardly be related to a purely hypothetical risk. After all, the relationship between the measure and the risk must again be reasonable.⁴³ The reasonableness is supposed to be demonstrated by a proportionality test:⁴⁴ Is the risk low then no strict measure is allowed. Such a test however conflicts with the concession of free choice with regard to the risk level.⁴⁵

The conflict in turn is mitigated by the ruling that equally a ‘divergent opinion coming from a qualified or respected source’⁴⁶ may testify a reasonable relationship between measure and risk. Besides, the panels must when determining the reasonableness of a relationship consider that it is reasonable to adopt precautionary measures if a state faces risks of irreversible harm. Consequently the panels concede precaution ‘where risks are irreversible’.⁴⁷ All in all, the panels’ flexible interpretation of article 5(1) SPS offers members to the WTO sufficient room for the adoption of precautionary measures with respect to animal or plant life or health.⁴⁸

2.2.2 Measures without sufficient scientific Evidence

Where scientific evidence is insufficient so that a sound risk assessment becomes impossible, article 5(7) SPS allows to adopt precautionary measures, provided that the measure is based on other pertinent information. The adopter of the measure must additionally seek to obtain scientific evidence which justifies the measure, and must subject the measure to a critical review within a reasonable period of time. This article amounts to a stayed scientific justifica-

³⁷ Gruszczynski (2007) p.378.

³⁸ WT/DS26/AB/R, WT/DS48/AB/R *EC – Measures concerning Meat and Meat Products (Hormones)* (1998), para 186.

³⁹ WT/DS245/AB/R *Japan – Measures affecting the Importation of Apples* (2003), para 241.

⁴⁰ Gruszczynski (2007) p.393.

⁴¹ Stilwell (2005) p.544.

⁴² Hey (2000) p.244; Sokes (2002) p.364.

⁴³ WT/DS26/AB/R, WT/DS48/AB/R *EC – Measures concerning Meat and Meat Products (Hormones)* (1998), para 189.

⁴⁴ WT/DS76/AB/R *Japan – Measures affecting Agriculture Products* (1999), para 79.

⁴⁵ Pauwelyn (1999) p.646.

⁴⁶ WT/DS26/AB/R, WT/DS48/AB/R *EC – Measures concerning Meat and Meat Products (Hormones)* (1998), para 194.

⁴⁷ WT/DS26/AB/R, WT/DS48/AB/R *EC – Measures concerning Meat and Meat Products (Hormones)* (1998), para 124.

⁴⁸ Ruessman (2002) p.936.

tion of a protecting measure and reflects the precautionary principle most clearly within the WTO agreements without being fully applicable or even prevailing over explicit provisions of the SPS.⁴⁹ Therefore the gateway to precaution extends here quasi to a triumphal arch.⁵⁰

2.3 Measures of arbitrary Discrimination

Because the elements surrounding the adoption of a precautionary measure under SPS must always meet the requirements of article XX GATT the measure must pass in any case the so-called chapeau of the article. This introductory provision requires that a unilaterally adopted measure does not constitute a means of arbitrary or unjustified discrimination or a disguised restriction of international trade. This requirement is also implemented in principle 12 of the *Rio-Declaration on Environment and Development* (1992) which says that trade ‘policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.’

An arbitrary discrimination is prevented by consistent recourse to diplomacy prior to the adoption of a measure.⁵¹ And when investigating a disguised restriction of international trade the panels have to take into account, too, the political situation which might pressure a government to act with less scientific evidence, i.e. with a higher level of precaution.⁵² Such a political situation were indicated with respect to the European Union’s policy concerning growth hormones administered to cattle because the population of Europe was still alienated as a consequence of the mad cow disease scandal. Basically, panels have to apply good faith with regard to the exercise of the right to choose the level of acceptable risk or protection respectively.⁵³

3 Trade-related sustainable Development

The WTO agreements are finally far from being isolated and self-contained.⁵⁴ Their application potentially includes all international law, in particular international environmental law. The agreements cannot incorporate the strong version of the precautionary principle but offer their own effective precautionary approach, an approach that promotes trade and preserves the ability of states to protect the environment.⁵⁵ Its efficacy is warranted by science which not only conceptualizes a given risk but also vouches for the adequacy of measures to achieve the desired protection of the environment. But notably science refrains from a societal evaluation of a risk. This task is left to the member states: they can choose their individual level of risk aversion. Therewith the science based approach of the WTO towards the environment receives its democratic legitimacy.

Within the WTO agreements the principle of liberalization faces limits of precaution which are erected by scientific evidence and societal vision. Any effort to push for a stronger role of the precautionary principle would undermine the limits and give way to protectionism which

⁴⁹ WT/DS26/AB/R, WT/DS48/AB/R EC – *Measures concerning Meat and Meat Products (Hormones)* (1998), paras 124-125.

⁵⁰ Cheyne (2007) p.162.

⁵¹ WT/DS58 *United States – Import Prohibition of Certain Shrimp and Shrimp Products* (1998), para 167.

⁵² WT/DS135/AB/R EC – *Measures affecting Asbestos and Asbestos-containing Products* (2001), paras 8.238-8.239.

⁵³ WT/DS58 *United States – Import Prohibition of Certain Shrimp and Shrimp Products* (1998), para 158.

⁵⁴ Pauwelyn (2001) p.577.

⁵⁵ Stilwell (2005) p.237.

damaged both trade and environment.⁵⁶ The science-based regulation of the SPS reconciles the promotion of trade and the protection of environment and thus truly epitomizes sustainable development.⁵⁷ Or in one sentence: GATTzilla addresses environmental protection neatly.

4 References

- Atik, Jeffrey. Uncorking International Trade, filling the Cup of International Economic Law. In: *The American University International Law Review* 15 (2000), 1231-1248.
- Charnovitz, Steve. The Law of environmental 'PPMs' in the WTO: Debunking the Myth of Illegality. In: *Yale Journal of International Law* 27 (2002), 59-110.
- Cheyne, Ilona. Gateways to the Precautionary Principle in WTO Law. In: *Journal of Environmental Law* 19 (2007), 155-172.
- Cho, Sungjoon. Linkage of free Trade and social Regulation: Moving beyond the entropic Dilemma. In: *Chicago Journal of international Law* 5 (2005), 625-674.
- Evans, Malcolm D. (ed). *International Law*. 2nd ed. Oxford: 2006.
- Griller, Stefan (ed). *At the Crossroad: The World Trade System and the Doha Round*. Heidelberg: 2008.
- Gruszczynsky, Lukasz. Science in the Process of Risk Regulation under the WTO Agreement on Sanitary and Phytosanitary Measures. In: *German Law Journal* 7 (2006), 371-398.
- Guzman, Andrew T.. Global Governance and the WTO. In: *Harvard International Law Journal* 45 (2004), 303-351.
- Haas, Peter M.. Epistemic Communities and international Policy Coordination. In: *International Organization* 46 (1992), 1-35.
- Harashima, Yohei. Trade and Environment Negotiations in the WTO. In: *International Environmental Agreements* 8 (2008), 17-34.
- Hey, Ellen. Considerations regarding the Hormones Case, the Precautionary Principle and international Dispute Settlement Procedures. In: *Leiden Journal of International Law* 13 (2000), 239-248.
- Howse, Robert. Democracy, Science, and Free Trade. In: *Michigan Law Review* 98 (2000), 2329-2357.
- Iida, Keisuke. Is WTO Dispute Settlement effective? In: *Global Governance* 10 (2004), 207-225.
- Lang, Andrew T.. Reflecting on 'Linkage': Cognitive and institutional Change in the international Trading System. In: *The modern Law Review* 20/4 (2007), 523-549.
- Lang, Winfried. Trade and Environment: Progress in the World Trade Organization? In: *Environmental Policy and Law* 4 (1997), 275-284.
- Loibl, Gerhard. International Economic Law. In: Evans (2006), 689-718.
- Macrory, Patrick F.; Appleton, Arthur E.; Plummer, Michael G. (ed). *WTO: Legal, economic and political Analysis*. Heidelberg: 2005.

⁵⁶ Ruessman (2002) p.908.

⁵⁷ Orellana (2006) p.56.

- Maruyama, Warren H.. A new Pillar of the WTO: Sound Science. In: *The international Lawyer* 38 (1998), 651-677.
- Miller, Henry; Conko, Gregory. The Protocol's Illusion. In: *Nature Biotechnology* 18 (2000), 360.
- Orellana, Marcos A.. The Role of Science in Investment Arbitrations concerning Public Health and the Environment. In: *Yearbook of International Environmental Law* 17 (2006), 51-83.
- Pauwelyn, Joost. The WTO Agreement on Sanitary and Phytosanitary Measures as applied in the first three SPS Disputes. In: *Journal of International Economic Law* 2/4 (1999), 641-664.
- Pauwelyn, Joost. The Role of Public International Law in the WTO. In: *American Journal of International Law* 95 (2001), 535-578.
- Pauwelyn, Joost. How to win a WTO Dispute based on non-WTO Law? In: Griller (2008), 1-53.
- Redgwell, Catherine. International environmental Law. In: Evans (2006), 657-688.
- Ruessmann, Laurent. Putting the Precautionary Principle in its Place. In: *The American University International Law Review* 17 (2002), 909-949.
- Shaffer, Gregory C.. Democracy and the Law and Politics of the WTO's Treatment of Trade and Environment Matters. In: *Harvard Environmental Law Review* 25 (2001), 1-93.
- Stilwell, Matthew; Bohanes, Jan. Trade and the Environment. In: Macrory (2005), 513-569.
- Stonehouse, Peter D.. A Review of WTO and environmental Issues. In: *Journal of Agricultural and Environmental Ethics* 13 (2000), 121-144.
- Sykes, Alan O.. Domestic Regulation, Sovereignty and scientific Evidence Requirements: A pessimistic View. In: *Chicago Journal of International Law* 3 (2002), 353-368.
- Walker, Vern R.. Keeping the WTO from becoming the 'World Trans-science Organization'. In: *Cornell International Law Journal* 31 (1998), 251-320.
- Weiss, Charles. Scientific Uncertainty and Science-based Precaution. In: *International Environmental Agreements* 3 (2003), 137-166.
- Winham, Gilbert R.. International Regime Conflict in Trade and Environment. In: *World Trade Review* 2/2 (2003), 1-24.
- Young, Margaret A.. The WTO's Use of relevant Rules of International Law. In: *International and Comparative Law Quarterly* 56 (2007), 909-930.
- Yu, Douglas W.. Free Trade is green, Protectionism is not. In: *Conservation Biology* 8/4 (1994), 989-999.