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RISK COMMUNICATION, NOTIFICATION PROCEDURES, AND INFORMING THE PUBLIC IN MULTILATERAL ENVIRONMENTAL AGREEMENTS

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Abstract

This article endeavors to shed some light on a specific aspect of the trade and environment domain, namely risk communication. Risk analysis in the context of international trade is defined authoritatively by the Codex Alimentarius as “a process consisting of three components: risk assessment, risk management and risk communication.” The Public International Law and the Trade Law literatures are rich with analyses of the treatment of several aspects of risk, such as the role of science, risk assessment, risk management, and on the closely related issue of the role of precaution under WTO law. The issue of risk communication, however, has not received the attention it merits. We are attempting here to provide a policy and law framework of risk communication which is relevant primarily in the context of the relationship between multilateral environmental agreements and WTO law. A certain emphasis is put on the Cartagena Protocol on Biosafety and the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters because both are at the forefront in the introduction of detailed innovative procedures for informing governments and other stakeholders about potential risks which may be caused through certain environment-related activities. With this objective, we are putting particular attention on exploring notification procedures and related anticipatory and preventive provisions because they are at the heart of the international community’s strenuous efforts in coming to terms with the exceedingly complex issue of risk analysis through international, regional or global and in most cases consensus-based negotiations. We conclude by observing a gradual opening of some intergovernmental dispute settlement mechanisms toward improved access to non-governmental input, which makes a good understanding of the dynamics of risk communication more important than ever.

1. Introduction

The literature on trade and environment issues has come a long way since Steve Charnovitz presented the first rigorous overview of the then fledgling issue area in 1992.¹ Inspired by Charnovitz's innovative research, we shall attempt here in a similar spirit to "examine the issues" related to a sub-domain of the trade and environment studies, namely risk communication. Risk analysis in the context of international trade is defined authoritatively by the intergovernmental institution which provides the most detailed multilaterally negotiated definitions regarding the interface of food safety and international trade as follows:

Risk Analysis: A process consisting of three components: risk assessment, risk management and risk communication.²

The notion of risk represents an exceedingly complex challenge to Public International Law and Trade Law.³ There is a considerable amount of literature on the treatment of several aspects of risk, such as the role of science,⁴ risk assessment,⁵ or risk management,⁶ as well as on the highly dynamic and iterative relationship between these two,⁷ and on the closely related issue of the role of precaution under WTO law.⁸ More recently, an in-depth investigation has been carried out into a new and important aspect of this problematic, namely the anticipation of risk.⁹ Last but not least, the 'Trade & Environment Group' at the Law

¹ Charnovitz, Steve. 1992. GATT and the Environment: Examining the Issues. *International Environmental Affairs* 4 (3) Summer: 203-234.

² Codex Alimentarius Procedures Manual, 16th ed. 2006, 43.
ftp://ftp.fao.org/codex/Publications/ProcManuals/Manual_16e.pdf

³ See e.g. Christine Noiville. 2003. Du bon gouvernement des risques. Paris : Presses universitaires de France – Les voies du droit, 235 p.

⁴ See e.g. Christoforou, Theofanis. 2004. The Precautionary Principle, Risk Assessment, and the Comparative Role of Science in the Enary Principle, Risk Assessment, and the Comparative Role of Science in thC and the US Legal Systems. In *Green Giants, Environmental Policies of the US and the EU*, edited by Norman J. Vig and Michael G. Faure, 17-52. MIT Press, Cambridge, MA. Theofanis Christoforou. 2003. L'expertise scientifique au service du commerce international: analyses et perspectives. In *Droit de l'Organisation Mondiale du Commerce et protection de l'environnement*, sous la direction de Sandrine Maljean-Dubois, 461-485. Aix-en-Provence et Bruxelles: CERIC et Bruylant.

⁵ See e.g. Christoforou, Theofanis. 2003. The Precautioe European Community and the United States. In *Green Giants? Environmental Policies of the United States and the European Union*, edited by N. Vig and M. Faure. Cambridge, MA: MIT Press.

⁶ See e.g. Cottier, Thomas. 2001. Risk Management Experience in WTO Dispute Settlement. In *Globalization and the Environment – Risk Assessment and the WTO*, edited by David Robertson and Aynsley Kellow, 41-63. Cheltenham, UK and Northampton, Mass.: Edward Elgar Publ.

⁷ Christine Noiville et Nicolas de Sadeleer. 2001. La gestion des risques écologiques et sanitaires à l'épreuve des chiffres - le droit entre enjeux scientifiques et politiques. *Revue du Droit de l'Union Européen* 2: 389-450.

⁸ Gabrielle Marceau. 2005. Le principe de précaution dans la jurisprudence de l'OMC - Leçon inaugurale, Université de Genève, Faculté de droit. *EcoLomic Policy and Law* 2 (3): 1-20.

http://www.ecolomics-international.org/ecolomic_policy_and_law.htm

⁹ Makane Moïse Mbengue. 2007. "L'anticipation du risque environnemental et sanitaire : essai sur une théorie du risque en droit international". PhD thesis in Public International Law, defended at the Faculty of Law of the University of Geneva on June 6, 2007.

Faculty of the University of Geneva has reviewed the relationship between risk assessment, risk management and risk communication in the wider context of multilateral environmental agreements (MEAs) and the trading system in the opening chapter of the present *Special Edition*.¹⁰

Coming back to the Codex Alimentarius' definition of risk communication, we note that the issue of risk communication has largely been overlooked in the Public International Law literature. This article aims at providing a policy and law framework of risk communication which is relevant primarily in the context of the relationship between MEAs, especially those which address important issues related to science or scientific evidence, the Codex Alimentarius, whose mandate of ensuring food safety in the international trade of food, beverage and feed products is inherently science-oriented, and WTO law. We shall focus here on the identification of those rules and other provisions of public international law which are applicable or which are likely to be applied in the process of risk communication. For this we are putting particular emphasis on the Cartagena Protocol on Biosafety to the Convention on Biological Diversity because it may be considered as a pioneering and particularly detailed model for those MEAs for which risk communication is an essential issue.¹¹ Provisions spelling out such rules constitute the foundation of the Biosafety Protocol. It contains a very detailed procedure called Advanced Informed Agreement (AIA).¹²

The AIA procedure spells out the modalities of risk communication that states have to apply if they wish to export or import living modified organisms (LMOs)¹³ that the importer intends to use for planting.¹⁴ AIA procedures are often called Prior Informed Consent (PIC) procedures and represent some of the most stringent provisions in intergovernmental information systems related to the analysis of risk through officially negotiated and established institutions, channels and procedures. The PIC procedures in fact have been used for naming a convention, namely the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.¹⁵ Another MEA of particular importance for risk communication in a more comprehensive sense is the so-called Aarhus Convention¹⁶ which was adopted in 1998 in Aarhus, Denmark. The PIC or AIA procedures as the strictest and most elaborate form of intergovernmental notification procedures are in the process of being fine-tuned through ongoing negotiations. Notification procedures as such are the most traditional and legally well established element of the more innovative concept of risk communication.

As far as the Biosafety Protocol is concerned, it should be emphasized that those LMOs which are intended not for planting but directly for consumption by

¹⁰ Anne Petitpierre, Laurence Boisson de Chazournes, Makane Moïse Mbengue and Urs P. Thomas. 2006. Introduction to the Special Issue: WTO Law, Science and Risk Communication. SNSF Research Project 2nd Phase 2004-2006. *EcoLomic Policy and Law* 3 (1/2) 1-52. http://www.ecolomics-international.org/ecolomic_policy_and_law.htm

¹¹ For information on the Cartagena Protocol please consult the Website of its Secretariat at <http://www.cbd.int/biosafety/default.shtml>

¹² Biosafety Protocol Art. 7: Application of the Advance informed Agreement Procedure.

¹³ Unprocessed, i.e. reproducible GM food products such as raw fruit or seeds are included in this term which also extends to non-food GM organisms like trees.

¹⁴ The Protocol uses the term « intentional introduction into the environment » Art. 7.

¹⁵ Explanations on the Convention are available at <http://www.pic.int/home.php?type=t&id=5&sid=16>
The text of the Convention is available at <http://www.pic.int/en/ConventionText/ONU-GB.pdf>

¹⁶ Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, available at <http://www.unece.org/env/pp/documents/cep43e.pdf>.

humans or animals - or for processing – are subject to a considerably less severe procedure.¹⁷ The trade volume in these GM food crops and other products, including for instance biofuels, is obviously immeasurably larger than that which is intended for planting, a fact which had an enormous impact on the negotiation and the conclusion of the Protocol.¹⁸ Not only in the AIA procedure, here too, risk communication represents an important component of the international regulations under the Cartagena Protocol. Thus, Parties to the Protocol are obliged to notify the Secretariat's Biosafety Clearing-House as well as other relevant international organizations and potentially affected states, if this appears appropriate, of any incident causing a risk that may require such communications. Specifically, such communications are required

...when it knows of an occurrence under its jurisdiction resulting in a release that leads, or may lead, to an unintentional transboundary movement of a living modified organism that is likely to have significant adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health in such States.¹⁹

A key element of the strength of the Biosafety Protocol consists in the explicit importance given to information sharing through its Biosafety Clearing-House (BCH). This Internet-based body represents the heart of the communication aspects of the Protocol at the center of the trade and environment interface. Furthermore, the Protocol spells out the importance of the BCH and mandates it to:

1. (...) (a) Facilitate the exchange of scientific, technical, environmental and legal information on, and experience with, living modified organisms (...)
2. The Biosafety Clearing-House shall serve as a means through which information is made available for the purposes of paragraph 1 above. It shall provide access to information made available by the Parties relevant to the implementation of the Protocol. It shall also provide access, where possible, to other international biosafety information exchange mechanisms.
3. Without prejudice to the protection of confidential information, each Party shall make available to the Biosafety Clearing-House any information required to be made available to the Biosafety Clearing-House under this Protocol (...).²⁰

¹⁷ Biosafety Protocol Art. 11: Procedure for LMOs intended for Direct Use as Food or Feed, or for Processing (this decision procedure is usually abbreviated as LMO-FFP).

¹⁸ For authoritative analyses of the Cartagena Protocol see Christoph Bail, Robert Falkner and Helen Marquard, eds. 2002. *The Cartagena Protocol on Biosafety: Reconciling Trade in Biotechnology with Environment and Development?* London: Earthscan/RIIA, 579 p.

Mackenzie Ruth et al. 2003. *An Explanatory Guide to the Cartagena Protocol on Biosafety*. IUCN Environmental Policy and Law Paper No. 46. Gland/Geneva: IUCN, Field, WRI. 294 p.

<http://www.iucn.org/themes/law/pdfdocuments/Biosafety-guide.pdf>

See also for an analysis of the Protocol's wider context: Badr Zerhdoud. 2005. *Le Régime juridique international des biotechnologies: entre libre-échange et protection de l'environnement*.

EcoLomic Policy and Law 2 (5/6), 64 p. http://www.ecolomics-international.org/ecolomic_policy_and_law.htm

A detailed analysis of the Cartagena Protocol's recent third Meeting of the Parties (COP-MOP 3), Curitiba, 2006) is provided by Mireia Martinez Barrabez in the present *Special Edition* at http://www.ecolomics-international.org/ecolomic_policy_and_law.htm

¹⁹ Biosafety Protocol Art. 17.1.: Unintentional Transboundary Movements and Emergency Measures.

²⁰ *Ibid.* Art. 20

To conclude, we should mention that the scope of application of risk communication is essentially limited in the Protocol to the 'horizontal' level, i.e. to communications among states, contrary to risk communications with any other stakeholders or the public at large which are not really taken into consideration except in a rather hortatory and vague sense through its encouragement and endorsement of public awareness and participation regarding LMOs,²¹ as long as the confidentiality of the information in question is respected.²²

After these introductory considerations we shall now attempt to establish a classification of the rules which exist under Public International Law with regard to risk communication. We have found that they can be divided into three categories, two of which precede the actual communication of risk, and one which provides a conceptual underpinning: (1) intergovernmental notification; (2) information of the public and risk communication; (3) the role of *ongoing monitoring* as an underpinning of risk communication.

2. The Three Components of the Risk Communication Framework

2.1. Notification Procedures and Risk Communication

Notification is the most common risk communication technique used at the intergovernmental level with a long tradition in Public International Law. One might call this the "information of the state" which is the counterpart to the "information of the public." If a risk assessment process indicates a cross-boundary risk of damage, then the state at the origin of this activity must give notification of the risk and of its evaluation to the state which could be affected. Furthermore, it must communicate the technical details and all other relevant content that is available and on which the evaluation is based upon.

Public International Law is based on the principle that the technical information deriving from a risk assessment includes not only what might be called the bare facts, i.e. technical measurements, statistics etc. but also their analysis as it is done and used by the country of origin for its own purposes with regard to transboundary risk assessment. Furthermore, the concept of 'available information' which is used in some international instruments must include also information which may become available at a later date, i.e. after the initially available analysis has been communicated to the states that might be affected by a certain risk. Generally speaking, international law requires that the state from which an activity originates is obliged to notify those states which may be affected by such an activity. These activities include both activities undertaken by the state and by private entities. The obligation to notify is a prerequisite for any system which aims to prevent cross-boundary damages or at least to reduce such risks to the minimum.

International instruments tend not to mention or emphasize the notion of "risk;" rather, risk is implied implicitly via projects which may be of a risky nature. Thus they often use terms such as "activities which may create a risk" or "planned measures." For instance the Revised Protocol on Shared Watercourses of the Southern African Development Community (SADC), adopted in Windhoek, Namibia, in 2000 goes to

²¹ Biosafety Protocol Art. 23: Public Awareness and Participation.

²² Biosafety Protocol Art. 21: Confidential Information

great length in explaining the meaning of the term and the ramifications of *Planned Measures*.²³

This tendency, however, does not really affect the prior notification of risk. What matters is that a country does provide an advance warning, with adequate timing, to other countries which might be affected or concerned if it plans to undertake a dangerous activity or to authorize the use of dangerous substances. It must not violate the principle of customary law *sic utere tuo ut alienum non laedas*, i.e. it must not damage the environment of another country or areas beyond the limits of national jurisdiction through the use of its own resources.²⁴

This obligation to inform or to notify other states of the risk of damages to which they are exposed has been recognized in the judgment of the International Court of Justice concerning the *Corfu Channel Case*.²⁵ In this historically important case the ICJ has ruled that the obligation to notify, i.e. to communicate a risk which may or may not be known is based on elementary humanitarian considerations. Many years later, OECD provided a historically important impetus for the elaboration of environmental notification procedures in Public International Law in 1974 with its *Recommendation of the Council on Principles concerning Transfrontier Pollution*.²⁶ It calls among other requirements for the application of the Polluter-Pays-Principle and for intergovernmental consultation before the commencement of construction projects which may represent a risk of cross-boundary pollution.^{27 28} A few years later, OECD again provided a significant contribution to the strengthening of notification procedures. The OECD Council, in its 1984 *Recommendation of the Council concerning Information Exchange related to Export of Banned or Severely Restricted Chemicals* prepared a set of guidelines for notifications with the aim of protecting 'man and the environment,'²⁹ and in 1986 it added economic and commercial considerations to be taken into consideration.³⁰

The principle of notification has been recognized also in other domains with transboundary effects. A particularly explicit and interesting example is contained in

²³ Article 4 Specific Provisions. 1. Planned Measures, para. a) – h) with numerous sub-sections, see http://www.sadc.int/english/documents/legal/protocols/shared_watercourse_revised.php

²⁴ Principle 2 of the 1992 Rio Declaration on Environment and Development stipulates : States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

²⁵ Quincy Wright, 1949. The Corfu Channel Case. *The American Journal of International Law*, Vol. 43, No. 3, pp. 491-494.

²⁶ <http://www.fao.org/docrep/005/W9549E/w9549e06.htm>

²⁷ E) The Principle of information and consultation

6. Prior to the initiation in a country of works or undertakings which might create a significant risk of transfrontier pollution, this country should provide early information to other countries which are or may be affected. It should provide these countries with relevant information and data, the transmission of which is not prohibited by legislative provisions or prescriptions or applicable international conventions, and should invite their comments.

<http://www.fao.org/docrep/005/W9549E/w9549e06.htm>

²⁸ This provision has been incorporated much later by FAO in its 1998 volume on *Sources of International Water Law* (reprinted in 2001), available at

<http://www.fao.org/docrep/005/W9549E/w9549e00.HTM>

²⁹ [http://webdomino1.oecd.org/horizontal/oecdacts.nsf/linkto/C\(84\)37](http://webdomino1.oecd.org/horizontal/oecdacts.nsf/linkto/C(84)37)

³⁰ OCDE, *L'OCDE et l'environnement*, Paris, 1986, p. 89, par. 4 de l'annexe.

the 1991 Convention on Environmental Impact Assessment in a Transboundary Context (the UNECE Espoo EIA Convention, adopted in Helsinki on 25 February, 1991). Art. 3 on Notification stipulates in para. 2 the procedure to apply.³¹ It then goes a step further and describes the steps to be followed in cases where a Party has not been notified but considers that there is a need for such a procedure:

When a Party considers that it would be affected by a significant adverse transboundary impact of a proposed activity listed in Appendix I, and when no notification has taken place in accordance with paragraph 1 of this Article, the concerned Parties shall, at the request of the affected Party, exchange sufficient information for the purposes of holding discussions on whether there is likely to be a significant adverse transboundary impact. If those Parties agree that there is likely to be a significant adverse transboundary impact, the provisions of this Convention shall apply accordingly. If those Parties cannot agree whether there is likely to be a significant adverse transboundary impact, any such Party may submit that question to an inquiry commission in accordance with the provisions of Appendix IV to advise on the likelihood of significant adverse transboundary impact, unless they agree on another method of settling this question.³²

In a related context a short time later, the Convention on the Transboundary Effects of Industrial Accidents (Helsinki, 17 March, 1992)³³ spells out the specifics of the procedures of the *Industrial Accidents Notification System*.³⁴ The adoption of the innovative notification procedures contained in these two Conventions was followed immediately by another milestone of Public International Law. The 1992 UN Conference on Environment and Development in Rio de Janeiro supported and gave additional weight to these achievements by confirming the globally applicable right of states to be notified on activities which may cause significant adverse transboundary environmental effects in Principle 19 of its Rio Declaration:

³¹ “This notification shall contain, inter alia: (a) Information on the proposed activity, including any available information on its possible transboundary impact; (b) The nature of the possible decision; and (c) An indication of a reasonable time within which a response under paragraph 3 of this Article is required, taking into account the nature of the proposed activity; and may include the information set out in paragraph 5 of this Article.”

The text of the Espoo EIA Convention is available at

<http://www.unece.org/env/eia/documents/conventiontextenglish.pdf>

³² *Ibid.* Art. 3, para. 7.

³³ The text of the Convention on the Transboundary Effects of Industrial Accidents is available at

<http://sedac.ciesin.org/entri/texts/industrial.accidents.1992.html>

³⁴ Article 10

Industrial Accident Notification Systems

1. The Parties shall, with the aim of obtaining and transmitting industrial accident notifications containing

information needed to counteract transboundary effects, provide for the establishment and operation of compatible and efficient industrial accident notification systems at appropriate levels.

2. In the event of an industrial accident, or imminent threat thereof, which causes or is capable of causing transboundary effects, the Party of origin shall ensure that affected Parties are, without delay, notified at appropriate levels through the industrial accident notification systems. Such notification shall include the elements contained in Annex IX hereto.

3. The Parties concerned shall ensure that, in the event of an industrial accident or imminent threat thereof, the contingency plans prepared in accordance with Article 8 are activated as soon as possible and to the extent appropriate to the circumstances.

States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.³⁵

Countries are free to decide how their neighbors are to be informed in order to fulfill these obligations. In general they communicate directly among themselves through diplomatic channels. In some cases it may happen that the country of origin of a given activity – in spite of its efforts and diligence – has not been able to anticipate the impact of an activity on other countries before commencing it. In such cases it has to catch up with its obligation to notify as soon as it becomes aware of such risks and has determined which other countries may be affected by this activity. A key purpose of risk communication in the framework of notification procedures consists in making it possible for an affected country to respond to the country of origin of the activity within a reasonable period of time. This time period may, for instance in the case of the Cartagena Protocol, amount to six to nine months depending on the specifics of the procedural steps. To take another example of notification deadlines, the above-mentioned SADC Revised Protocol on Shared Watercourses provides for a period of six months which may be extended by another six months in case this should not be adequate.³⁶ Generally speaking, this delay should allow a country that might be affected by detrimental consequences to draw its own conclusions, and it is based on the assumption of good cooperation and good faith.

2.2. Informing the Public and the Question of Risk Communication

We can presently see the emergence of some new tendencies in Public International Law in general, and in international environmental law in particular. These tendencies tend to bring into the decision-making process those stakeholders whose life, health, property and environment are potentially affected by a certain risk. This is done by giving them the opportunity to express their point of view, and to be heard by the authorities who will make the final decision. It is particularly in the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters³⁷ that we can see detailed provisions empowering the stakeholders facing environmental risks. The Aarhus Convention finds its roots in Principle 10 of the 1992 Rio Declaration on Environment and Development, of which it represents the realization in legal terms:

³⁵ <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

³⁶ Art. 4 Specific Provisions. (c) Period for reply to notification.

(i) Unless otherwise agreed, a State Party providing a notification under paragraph (b) shall allow the notified States a period of six months within which to study and evaluate the possible effects of the planned measures and to communicate the findings to it;

(ii) This period shall, at the request of a notified State for which the evaluation of the planned measures poses difficulty, be extended for a period of six months.

Available at

http://www.sadc.int/english/documents/legal/protocols/shared_watercourse_revised.php

³⁷ The Aarhus Convention was adopted at Aarhus, Denmark, on 25 June 1998, the text is available at <http://www.unece.org/env/pp/documents/cep43e.pdf>

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.³⁸

Several MEAs contain provisions on the need to inform the public. For instance the Espoo Convention on Environmental Impact Assessment (EIA) in a Transboundary Context, adopted in Espoo, Finland in 1991,³⁹ states in Art. 3 (8):

The concerned Parties shall ensure that the public of the affected Party in the areas likely to be affected be informed of, and be provided with possibilities for making comments or objections on, the proposed activity, and for the transmittal of these comments or objections to the competent authority of the Party of origin, either directly to this authority or, where appropriate, through the Party of origin.⁴⁰

In a similar vein, the UN Framework Convention on Climate Change dedicates its Art. 6 to “Education, Training and Public Awareness.”⁴¹ Thus, Public International Law requires more and more that states, to the extent possible, provide information to their public and to the public of other states which may be affected on the risk of their activities, and on the damage which may result as a consequence. This process of risk communication has two fundamental components. First of all, states must inform the “public” of an activity it considers, of the risk that it engenders, and of the damage which might be caused. Furthermore, states must gather and take into consideration the opinion of the public.

It should be noted here that we are still at an early stage of negotiating agreements on risk communication which leaves important conceptual clarifications for a later date. For instance, what channels of communication are to be used for this process? Is it sufficient if the scientists of ministries and governmental institutions communicate with their counterparts in academia? Or, on the other end of the spectrum, does the risk communication process require a presentation of the issues at stake that makes them understandable to the public at large, for instance through talk shows and the mass media? Whoever or whatever is meant exactly by the rather vague term “public” often is not specified. The Aarhus Convention, however, represents an important exception to this observation, it specifies who is meant, in fact it differentiates between the public in general and the “concerned public” in order to make it very clear who has access to the rights which are enshrined in its three so-called pillars, i.e. access to information, public participation, and access to justice in environmental matters:

4. “The public” means one or more natural or legal persons, and, in accordance with national legislation or practice, their associations, organizations or groups;

³⁸ <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm> .

³⁹ Information on the Convention is available at <http://www.unece.org/env/eia/eia.htm> .

⁴⁰ <http://www.unece.org/env/eia/documents/conventiontextenglish.pdf> .

⁴¹ <http://unfccc.int/resource/docs/convkp/conveng.pdf>

5. "The public concerned" means the public affected or likely to be affected by, or having an interest in, the environmental decision-making; for the purposes of this definition, non-governmental organizations promoting environmental protection and meeting any requirements under national law shall be deemed to have an interest.⁴²

A distinction is made sometimes between two kinds of "publics." Public in a narrow sense refers to informed and involved individuals, or interest groups including NGOs and experts, whereas the public at large is constituted of non-organized individuals who are not affiliated to any group with regard to a risk in question. The participation of both kinds of publics can be encouraged through the organization of public meetings, conferences or hearings. Such events ought to be emphasized, as well as opportunities to consult the public. It is important to make sure that the public is indeed informed about policies, strategies and programs which are organized by the authorities. In some cases, however, the public's involvement in risk assessment may be hampered by confidentiality requirements related to corporate interests. Frequently, perhaps as a consequence of such sensitivities, the extent of the public's involvement in the elaboration of a policy, a legal framework or a research program is in reality quite limited. It should be noted here that the Aarhus Convention's distinctive mention of "the public concerned" makes it very clear and emphasizes that environmental NGOs play a particularly important role in this framework.⁴³

In today's day and age risk communication is assuming a more and more important place in the public discourse due to the rapidly increasing pace of scientific, technical and generally societal innovation as the sociologist and futurologist Alwyn Toffler has correctly foreseen and analyzed already back in 1970 in his widely translated bestseller *Future Shock*.⁴⁴ The fact that this phenomenon is not so recent anymore justifies a short historical digression which demonstrates the serious consequences of an incompetent and ill-fated risk communication process, namely the case of asbestos. Evidence of the linkage between the handling of asbestos and fatal lung diseases among British asbestos workers emerged already at the end of the 19th century.⁴⁵ In Switzerland (home of the asbestos product *Eternit*), evidence of the disastrous health consequences of the inhalation of asbestos fibers was reported in 1927, and in 1939 the Swiss insurance for work-related health problems recognized the disease for the first time.⁴⁶ Nevertheless, at the 1964 Swiss National Exhibition in Lausanne asbestos was touted as an exceedingly useful and valuable material for a large number of applications. The Swiss authorities prohibited asbestos as a construction material only in 1990.⁴⁷

⁴² Aarhus Convention Art. 2 Definitions, para. 4 and 5, available at <http://www.unece.org/env/pp/documents/cep43e.pdf>

⁴³ Vera Rodenhoff. 2002. The Aarhus Convention and its Implications for the 'Institutions' of the European Community. *RECIEL* 11 (3): 343-357, (345). See also Elisa Morgera. 2005. An Update on the Aarhus Convention and its Continued Global Relevance. *RECIEL* 14 (29): 138-148, as well as Maria Lee and Carolyn Abbot. 2003. Legislation - The Usual Suspects? Public Participation Under the Aarhus Convention. *The Modern Law Review* 66 (1): 80-108.

⁴⁴ Toffler, Alvin. 1970. *Future Shock*. Random House.

⁴⁵ Gary Gardner. 2006. First Do No Harm. *World*Watch* January-February, 30-31, (31)

⁴⁶ Urs Fitze. 2006. Impossible de démontrer l'innocuité du rayonnement. *Environnement* 2 (Office fédéral de l'environnement). 47-49 (47).

⁴⁷ Bernhard Raos. 2003. Lebensgefährliche Nachlässigkeit. *Beobachter* 28-31 (28).

Industrialized countries have been maintaining detailed disease and fatality statistics on asbestos-related diseases for decades, and they have spent billions of dollars over the past few years to remove very widely used asbestos-containing construction materials from buildings. In light of countless human tragedies due to asbestos-related diseases across the world it is truly difficult to comprehend why governments have not acted decades earlier and why scientific and medical researchers have not made far greater efforts to communicate the risks that were known for a long time to be inherent in the handling of this material without very elaborate protective measures. Last but not least we should mention here that the WTO's Dispute Settlement Body has ruled that Member states may ban imports of asbestos and asbestos-containing products due to health reasons, and that they are not equivalent ("like") to substitute products which have been on the market for a long time.⁴⁸

To return to our discussion of risk communication in the regulation of international trade, as we can see, risk communication is closely related to the risk assessment and the risk management processes conducted domestically and between states. The information which is to be made available to the public includes details on the activity in question as well as the nature and the potential seriousness of a risk that is related to the activity. For example, in the case of trade in GMO products, the importing country has to assume certain obligations regarding its domestic public which it must inform on the risks incurred. After having received the appropriate notification and technical details from the exporting country, it must, using appropriate means, inform those domestic stakeholders which could be affected by the GMOs before it answers the notification.

The data, the facts, and the contextualized knowledge which the public is entitled to receive as part of the "information of the public" process imply that the latter must be in a position to participate in the decision-making process which is related to risk assessment and risk management. In other words, simply communicating the risk by itself is not enough, the communication must necessarily be accompanied by an active and effective participation of the public at all levels of the risk analysis in an activity such as international trade in GMOs. This means that the assessment, the management and the communication of risk are interdependent, interactive and iterative as Christine Noiville and Nicolas de Sadeleer emphasize in a ground breaking article that analyses in great depth the highly complex nature of these interactions.⁴⁹ We should recall in this context the ruling of the WTO's Appellate Body with regard to the dispute *EC-Hormones* which criticized the Panel for taking an approach that it considered wrongly as being focused entirely on quantitative analysis and opened the way for a much more comprehensive approach:

... to the extent that the Panel purports to exclude from the scope of a risk assessment in the sense of Article 5.1, all matters not susceptible of quantitative analysis by the empirical or experimental laboratory methods commonly associated with the physical sciences, we believe that the Panel is in error. (...) It is essential to bear in mind that the risk that is to be evaluated in a risk

⁴⁸ European Communities - Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/AB/R, 12 March 2001.

⁴⁹ Noiville, Christine et Nicolas de Sadeleer. 2001. La gestion des risques écologiques et sanitaires à l'épreuve des chiffres - le droit entre enjeux scientifiques et politiques. *Revue du Droit de l'Union Européen* 2: 389-450.

assessment under Article 5.1 is not only risk ascertainable in a science laboratory operating under strictly controlled conditions, but also risk in human societies as they actually exist, in other words, the actual potential for adverse effects on human health in the real world where people live and work and die.⁵⁰

As far as risk management is concerned, a government cannot take, fully informed, a risk-related measure or decision without having, in a preceding phase, communicated to the public the risks which are related to the activity in question, and without having given the public the opportunity to express its acceptance or otherwise of this activity. Some other instruments addressing international environmental issues in fact take into consideration this dialectic relationship between on one hand risk assessment and management, and on the other hand risk communication. An interesting example in this regard is offered by the UNECE's *Convention on the Protection and Use of Transboundary Watercourses and International Lakes*:

In order to promote decisions by the central, regional or local authorities which are fully informed, members should facilitate the participation of the public, which could suffer from accidental pollution, in hearings and preliminary inquiries, as well as in the presentation of the objectives of the decisions that are proposed. (...) The countries in which an incident has happened should take all appropriate measures in order to supply sufficient information in order to allow the exercise of those rights which domestic law accords with regard to the objectives of this code. This applies to legal entities as well as to individuals which are exposed to an important risk of exposure to accidental pollution of transboundary water bodies.⁵¹

There are numerous modalities which govern the participation in the decision-making process. Let us mention for instance the right to examine the general and specific information based on which decisions are taken and the right to either confirm or contest their exactitude; the analysis, the validation or the questioning of the ramifications of relevant policies; bringing opposing viewpoints before administrative tribunals or other jurisdictions, or to the attention of the media, relevant NGOs, or loose *ad hoc* grass-roots groupings all represent means of participation in the decision-taking process. These modes of participation in the decision-making process may indeed reduce or prevent transboundary damages to the environment.

The ways of implementing the legal obligation to "communicate the risk" is usually left to national authorities. It is up to them to choose the ways and means of disseminating relevant information according to the requirements of domestic policies

⁵⁰ EC Measures Concerning Meat and Meat Products (Hormones), Report of the Appellate Body, WT/DS26/AB/R, WT/DS48/AB/R, 16 January 1998.

⁵¹ Code of Conduct on Accidental Pollution of Transboundary Inland Waters, Art. VII. Para. 1 & 2. Our translation of the original French version: «Pour promouvoir une prise de décisions en connaissance de cause par les autorités centrales, régionales ou locales dans les délibérations relatives à une pollution accidentelle des eaux intérieures transfrontières, les pays devraient faciliter la participation du public qui pourrait subir un préjudice aux auditions et enquêtes préliminaires et la présentation d'objections concernant les décisions proposées [...] Les pays dans lesquels se produit un incident devraient prendre toutes les mesures appropriées pour fournir aux personnes physiques et morales exposées à un risque important de pollution accidentelle des eaux intérieures transfrontières des renseignements suffisants pour leur permettre d'exercer les droits qui leur sont accordés en droit interne conformément aux objectifs du présent Code».

