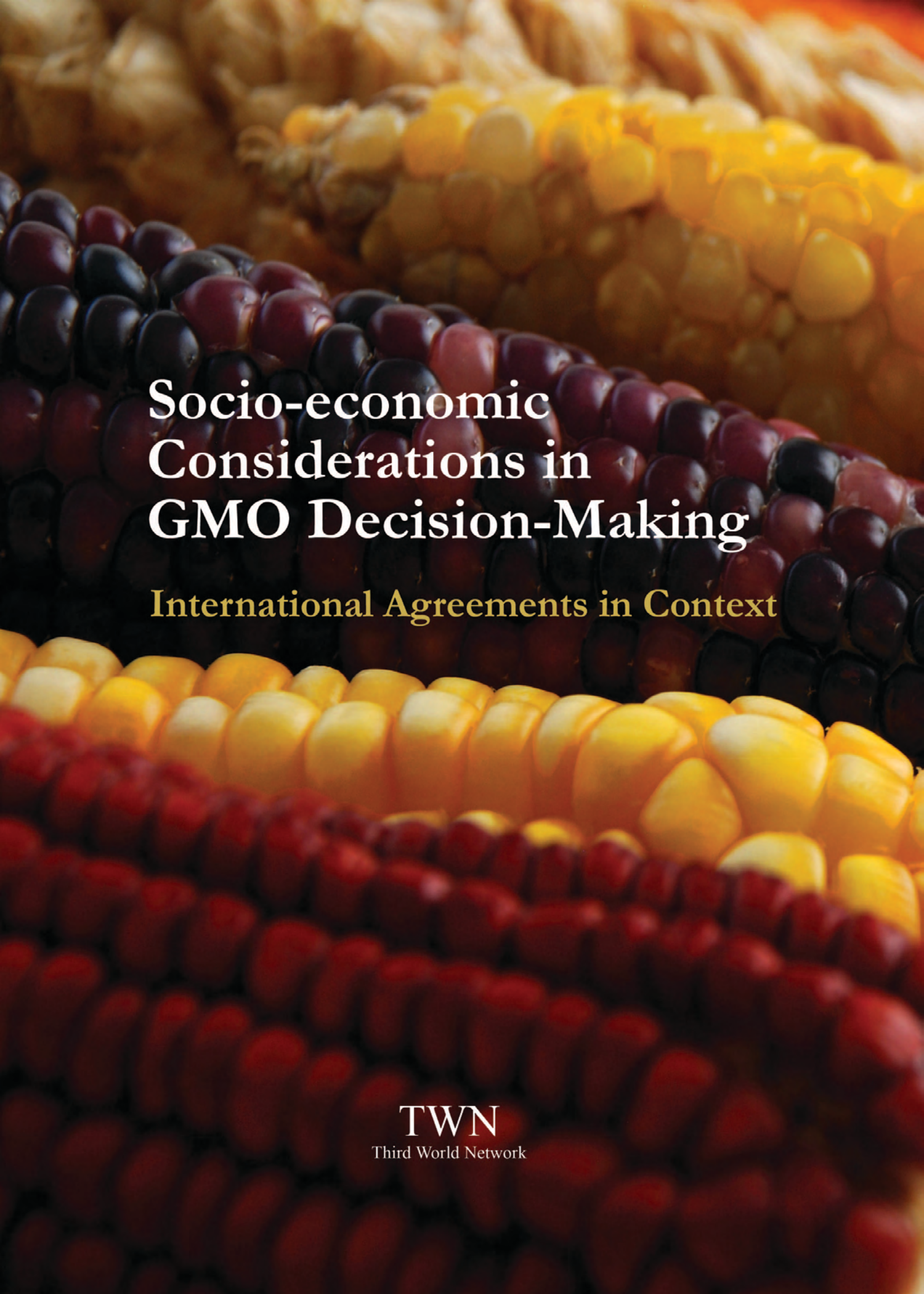

Socio-economic Considerations in GMO Decision-Making

International Agreements in Context

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is published by
Third World Network
131 Jalan Macalister
10400 Penang, Malaysia
www.twn.my

Cover design: Lim Jee Yuan

Printed by Jutaprint
2 Solok Sungei Pinang 3, Sg. Pinang
11600 Penang, Malaysia

ISBN: 978-967-0747-02-6

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Introduction

MORE than a decade since the Cartagena Protocol on Biosafety entered into force, it has become even clearer that the socio-economic dimension needs to be an integral part of a sound and comprehensive assessment of genetically modified organisms (GMOs) (or living modified organisms (LMOs), as they are referred to in the Protocol).

Although major developed countries had rejected the inclusion of socio-economic issues in the Cartagena Protocol negotiations, almost all developing countries had insisted that this dimension could not be left out. A number of countries have since incorporated socio-economic, and even cultural and ethical, considerations into their national laws that regulate modern biotechnology.

Although the contentious issue resulted in a compromise text in Article 26 of the Cartagena Protocol, the knowledge and experience gained since then are valuable in the interpretation and implementation of Article 26 and related provisions. It should also be borne in mind that the Cartagena Protocol sets minimum standards and Parties have the right to take action that is more protective of the conservation and sustainable use of biological diversity that that called for under the Protocol, provided that such action is consistent with the objective and provisions of the Protocol and is in accordance with that Party's other obligations under international law.

In this respect, the work of the Ad Hoc Technical Expert Group (AHTEG) on Socio-economic Considerations, established by the sixth meeting of the Conference of the Parties serving as the Meeting of the Parties to the Cartagena Protocol on Biosafety (COP-MOP), is important and should be extended, in order to assist Parties in implementing Article 26.

Article 26 establishes the right of Parties to take into account socio-economic considerations arising from the impact of LMOs on the conservation and sustainable use of biodiversity, especially with regard to the value of biodiversity to indigenous and local communities, in reaching a decision on import under the Protocol or under domestic measures implementing the Protocol. In doing so, Parties will have to be consistent with their international obligations (for example, under international agreements other than the Protocol).

The issue of consistency with international obligations has long dogged the discussions on socio-economic considerations under the Protocol. These obligations, largely conceived of as being trade-related, for example, in relation to the agreements of the World Trade Organization (WTO), may regrettably have had a "chilling" effect on Parties seeking to take into account socio-economic considerations in their decision-making processes on LMOs.

A more detailed and deeper understanding of the nature of trade-related obligations (and rights), and what policy space there is within these to take into account socio-economic considerations, is clearly needed. The spectre of "trade obligation violations" cannot and should not prevent Parties from dealing with urgent issues that impact on the conservation and sustainable use of biodiversity, and the human societies that are affected as a result.

In addition, many of the Parties to the Cartagena Protocol are also Parties to international agreements related to human rights, indigenous peoples' rights, food and agriculture, and the environment, within which socio-economic rights and considerations feature prominently. Attention to these issues and ensuring that the obligations in other non-trade-related international agreements are also adequately incorporated in

LMO decision-making, will contribute to the efforts to make the various regimes – environment, health, trade and human rights – truly compatible.

Third World Network is pleased to present this compilation of discussion papers on socio-economic considerations, specifically focusing on aspects related to consistency with international obligations. As the AHTEG has recommended that COP-MOP 7 request the Executive Secretary to facilitate the exchange of views, information and experiences including, inter alia, international obligations that may have relevant socio-economic considerations, and to commission a study on international agreements that may have relevance to socio-economic considerations, we hope that this compilation can contribute substantively to those discussions.

Socio-economic considerations related to LMOs: From the Convention on Biological Diversity to the Cartagena Protocol on Biosafety

Ossama A. El-kawy and Georgina Catacora-Vargas

Introduction

DURING the negotiation of the Cartagena Protocol on Biosafety's text, the inclusion of socio-economic considerations in relation to living modified organisms (LMOs) was one of the highly debated issues. Most developing countries were of the view that it was necessary to include them as one of the pillars to conduct risk assessment and risk management. Conversely, most developed countries were against this, arguing that socio-economic considerations are issues of national domestic concern, hence, they have limited relevance for an international biosafety treaty. In the end, socio-economic considerations were included in broad terms in Article 26 of the Cartagena Protocol.

Article 26.1 of the Protocol states that Parties, in making decisions on imports of LMOs under the Protocol or under its domestic measures implementing the Protocol, may take into account "socio-economic considerations arising from the impacts of living modified organisms on the conservation and sustainable use of biological diversity". The reference to decision-making infers that a number of provisions of the Protocol are linked to Article 26 (Catacora-Vargas 2012). However, to what extent it is mandatory to take socio-economic considerations on board is a question that is still debated, although socio-economic aspects related to biodiversity are broadly addressed in the Protocol's parent treaty, the Convention on Biological Diversity (CBD).

In the following sections, we will provide insights on how socio-economic considerations related to the conservation and sustainable use of biodiversity are rooted in the CBD and, accordingly, inherited by the Protocol. The aim of this analysis is to highlight the relationship between these two instruments and to provide a more comprehensive understanding of socio-economic aspects in light of this international biosafety instrument.

The Convention on Biological Diversity: Biosafety and socio-economic provisions

The CBD was adopted in May 1992 and entered into force in December 1992. Generally speaking, the CBD has the objectives of contributing to: (i) the conservation and sustainable use of biological diversity and its components, and (ii) fair and equitable sharing of benefits from the use of genetic resources (Secretariat of the CBD 1992).

The CBD is a milestone international treaty on biological diversity conservation, encompassing also relevant development aspects such as socio-economic drivers of conservation and sustainable use, access to and transfer of technology (including biotechnology) and information, technical cooperation, distribution of benefits, and technology safety assessment, among others (Glowka et al. 1994; Secretariat of the CBD 1992).

The CBD recognizes the close interrelationship between biological diversity and indigenous and local communities, in particular their role in the conservation and sustainable use of biological diversity. This recognition is enshrined in the preamble of the Convention and in its provisions.

Articles 7 to 10 of the CBD establish clear and mandatory biosafety and socio-economic provisions for Parties:

- Article 7 establishes the mandate, *in particular for the purposes of Articles 8-10*, to establish a system for identification and monitoring of components of biological diversity that are important for its conservation and sustainable use. In addition, there is a mandate to identify and monitor the effect of processes and categories of activities (which would include modern biotechnology) which have or are likely to have significant adverse effects on the conservation and sustainable use of biological diversity. An indicative list, clearly including socio-economic aspects, of categories of components of biological diversity to be considered is set out in Annex I of the CBD.
- Article 8(g), together with Articles 19.3 and 19.4, relate to LMOs, and gave origin to the Cartagena Protocol on Biosafety. It implies that Parties should establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology that are likely to have adverse effects on the conservation and sustainable use of biological diversity, taking also into account the risks to human health.
- Article 8(j) provides that Parties need to put in place measures to: (i) respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities relevant for the conservation of biological diversity; (ii) promote their wider application under the approval and involvement of the corresponding knowledge holders; and (iii) encourage equitable sharing of benefits arising from the use of biological diversity.
- Article 10 specifically provides for the sustainable use of the components of biological diversity. Both "sustainable" and "use" are intrinsically socio-economic issues (Catacora-Vargas 2012), captured by specific elements – such as protection and encouragement of customary use, consistency with traditional cultural practices – spelt out in the CBD's Article 10.

The Cartagena Protocol on Biosafety linked to the Convention on Biological Diversity

In Article 19.3 of the CBD, the Convention's Parties are called upon to consider the need for and modalities of a protocol for the safe transfer, handling and use of LMOs resulting from biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity. In order to address this mandate, the Conference of the Parties (COP) to the CBD decided, at its second meeting, to develop a protocol on biosafety, specifically focusing on transboundary movement of LMOs. In 1996, the CBD's COP established an Open-ended Ad Hoc Working Group on Biosafety to develop a draft protocol, which was adopted as the Cartagena Protocol on Biosafety (CPB) in January 2000 and entered into force on 11 September 2003 (MacKenzie et al. 2003; CBD 2012).

The CPB, as any other protocol, is related to its parent treaty, the CBD, through substantive, procedural and institutional links; accordingly, it must comply with the Convention's provisions when implemented. Moreover, Parties to the Protocol have to also be Parties to the CBD (Article 32 of the CBD). Thus, the CPB cannot be read separately from the CBD, but both should be read in conjunction with each other since the Protocol implements the Convention.

Under the Protocol, according to its Articles 10, 11 and 15, Parties are required, in reaching decisions on LMOs, to take into account potential effects of the LMO concerned on the conservation and sustainable use of biological diversity, taking into account risks to human health.

Socio-economic considerations in the Cartagena Protocol on Biosafety

As mentioned previously, the Protocol includes an explicit provision on socio-economic issues in its Article 26.1, which states that "the Parties, in reaching a decision on import under this Protocol or under its domestic measures implementing the Protocol, may take into account, consistent with their international obligations, socio-economic considerations arising from the impact of living modified organisms on the conservation and sustainable use of biological diversity, especially with regard to the value of biological diversity to indigenous and local communities" (Secretariat of the CBD 2000).

Article 26.1, therefore, establishes and justifies the right of a Party to take into account impacts on its social or economic conditions for purposes of making decisions on imports of LMOs or in implementing domestic measures under the Protocol. Article 26 identifies the types of socio-economic considerations that Parties may take into account in reaching decisions on imports. It also highlights one particular socio-economic consideration, namely the "value of biological diversity to indigenous and local communities" (Catacora-Vargas 2012; MacKenzie et al. 2003).

However, socio-economic considerations within the Protocol are not restricted to Article 26. One of the most important socio-economic issues addressed in the Protocol is explicitly stated in all the relevant provisions of the CPB, particularly its Article 1 (Objective) and Article 4 (Scope) which emphasize the need to take into account the risks to human health when considering the possible adverse effects of LMOs. The issue of public health in itself has a strong socio-economic dimension.

The CPB also highlights the right of a Party to take actions that are more protective than its provisions when needed in order to advance the conservation and sustainable use of biological diversity, provided that such actions are consistent with the Protocol and in accordance with other international obligations (Article 2.4). Article 26.1 also points out the need for consistency with other instruments of international law, which could relate to human rights, other multilateral environmental commitments, food and agriculture, as well as trade. Several of these contain numerous socio-economic obligations, rights and other elements that are anchored in international law by legally binding agreements that should not be violated by Parties or other actors. Some examples are the International Covenant on Economic, Social and Cultural Rights (ICESCR), the Indigenous and Tribal Peoples Convention (ILO Convention No. 169) and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (see Table 1).

In addition, most trade-related agreements establish an ultimate and cross-cutting objective that is remarkably socio-economic in nature: human wellbeing. Among international treaties, consistency with the World Trade Organization's (WTO) agreements has been of particular concern. Yet, the General Agreement on Tariffs and Trade (GATT), the Agreement on Technical Barriers to Trade (TBT) and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) under the WTO umbrella do not prevent the application of socio-economic considerations to justify a measure. On the contrary, they are valid so long as they are formulated with the appropriate justifications, are defendable under available information, are consistent with national regulations and do not lead to arbitrary or unjustifiable distinctions (WTOa n.d.; WTOb n.d.). The fulfilment of these conditions arguably makes socio-economic considerations on biosafety WTO-consistent.

Conclusion

Socio-economic considerations in the Cartagena Protocol on Biosafety are rooted in its parent treaty, the Convention on Biological Diversity. Both the CBD and the CPB, as legally binding international instruments, must be implemented in a complementary and consistent fashion. Article 26 of the CPB has broad language that justifies the right of Parties to consider socio-economic issues when taking a decision on import of LMOs or under domestic measures implementing the Protocol. Complementing this article, the text of the CPB includes other provisions with strong socio-economic bases, such as human health, from the Protocol's objective all through its operational text.

Both the CBD and the CPB mandate consistency with other international agreements when implementing them. These international agreements go beyond trade-related instruments, and all of them (including WTO agreements) include and recognize socio-economic aspects.

Hence, Article 26 of the Protocol should not be interpreted in a way that contradicts the aim and objectives of the CBD, the whole body of the CPB, or the rights and obligations under any other existing international agreements.

Table 1. Other relevant legally binding treaties/agreements including socio-economic considerations that may be taken into account when implementing Article 26.1 of the Cartagena Protocol on Biosafety

Treaty/agreement	Relevant article	Socio-economic consideration
Indigenous and Tribal Peoples Convention (ILO Convention No. 169)	Article 14.1	– Respecting, protecting and fulfilling the right of: • Ownership and possession of the peoples concerned over the lands which they traditionally occupy. • The peoples concerned to use lands not exclusively occupied by them, but to which they have traditionally had access for their subsistence and traditional activities.
	Article 15.3	– Respecting, protecting and fulfilling the rights of the peoples concerned to the natural resources pertaining to their lands, including the right to participate in the use, management and conservation of these resources.
International Covenant on Economic, Social and Cultural Rights (ICESCR)	Article 7	– Respecting, protecting and fulfilling the right to the enjoyment of just and favourable conditions of work.
	Article 11	– Respecting, protecting and fulfilling: • The right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. • The fundamental right of everyone to be free from hunger. – Disseminating knowledge of the principles of nutrition and developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources; and – Ensuring an equitable distribution of world food supplies in relation to need.
	Article 12	– Respecting, protecting and fulfilling the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.
International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)	Article 5	– Promoting an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture; – Promoting or supporting farmers and local communities' efforts to manage and conserve on-farm their plant genetic resources for food and agriculture; – Promoting *in situ* conservation of wild crop relatives and wild plants for food production, including in protected areas, by supporting, inter alia, the efforts of indigenous and local communities; – Improving the sustainable use of plant genetic resources for food and agriculture; and – Minimizing or, if possible, eliminating threats to plant genetic resources for food and agriculture.
	Article 6.1	– Promoting the sustainable use of plant genetic resources for food and agriculture.
	Article 9.2	– Protecting and promoting Farmers' Rights, including, as appropriate: • Protection of traditional knowledge relevant to plant genetic resources for food and agriculture; • The right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and

		• The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.
	Article 9.3	– The rights of farmers to save, use, exchange and sell farm-saved seed/propagating material.
The World Trade Organization (WTO) General Agreement on Tariffs and Trade (GATT) 1994	Article XX	– The right to take justifiable non-discriminating measures, inter alia: • Necessary to protect public morals; • Necessary to protect human, animal or plant life or health; • Relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.
	Article XXXVI	– The raising of standards of living and the progressive development of the economies of all contracting parties. – The concept of enabling less-developed contracting parties to use appropriate special measures to promote their trade and development.
The World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS)	Annex A.1	– Protecting animal or plant life or health from risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms; – Protecting human or animal life or health from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs; – Protecting human life or health from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or – Preventing or limiting other damage from the entry, establishment or spread of pests.

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The relevance of socio-economic impact assessments in the framework of the Convention on Biological Diversity

Juan Lopez Villar

Introduction to socio-economic impact assessment

IN order to assess the potential environmental impacts of a certain project, policy, plan or programme, different instruments have been designed and implemented around the world. Two of the most common are the environmental impact assessment (EIA) and the strategic environmental assessment (SEA).

The concept of including the environment in impact assessments has to be understood in a broad manner. Such a concept evolved from an initial focus on biophysical components to a wider definition including the physical-chemical, biological, visual, cultural and socio-economic components of the total environment.[1] It is precisely in this context that the concept of socio-economic impact assessment has appeared, which has been defined as a component of the EIA consisting of a "systematic analysis … to identify and evaluate the potential socio-economic and cultural impacts of a proposed development on the lives and circumstances of people, their families and their communities".[2]

This paper will look at the key elements and criteria relevant for socio-economic impact assessment in the framework of three voluntary guidelines adopted by the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) that focus on EIA and SEA, as well as a special regime of impact assessment addressing sacred sites and lands and waters traditionally occupied or used by indigenous and local communities.

The CBD is the parent convention of the Cartagena Protocol on Biosafety, and Parties to the Cartagena Protocol are Parties to the CBD. The Cartagena Protocol is thus closely related to the CBD through substantive, procedural and institutional links. The CBD provides the general framework under which the Cartagena Protocol operates; therefore Guidelines adopted by the CBD Parties have a clear relevance for discussions under the Protocol.

The next section in particular will analyze two of those voluntary guidelines directly related with EIA and SEA.

Analysis of the Guidelines that incorporate biodiversity-related issues into environmental impact assessment and in strategic environmental assessment

In 2002, the COP adopted Decision VI/7, which contained "guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or process and in strategic environmental assessment". Four years later, in 2006, via Decision VIII/28, the COP adopted the "voluntary guidelines on biodiversity-inclusive environmental impact assessment". The Guidelines adopted in Decision VIII/28 are an elaboration and refinement of the Guidelines previously endorsed by COP 6. Both sets of Guidelines have as their main objective the need to better integrate biodiversity-related considerations into the EIA process and, in the case of Decision VI/7, also in SEA.

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[1] International Association for Impact Assessment. http://www.iaia.org

[2] Introduction to socio-economic assessment. http://www.reviewboard.ca/upload/ref_library/SEIA_Guidelines_Chapter_2.pdf

Inclusion of socio-economic considerations in the definition of EIA and SEA

The definition of EIA and SEA used within the Guidelines makes a clear link between environmental and socio-economic impacts. EIA is defined as a "process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse". A strategic environmental assessment is defined as a "formalized, systematic and comprehensive process of identifying and evaluating the environmental consequences of proposed policies, plans or programmes to ensure that they are fully included and appropriately addressed at the earliest possible stage of decision-making on a par with economic and social considerations".

While in the EIA definition the words "taking into account inter-related socio-economic impacts" are used, in the SEA definition the reference is made stronger by putting at par, i.e., at the same level, environmental consequences with economic and social considerations. In order to adequately take into account inter-related socio-economic impacts in an EIA, it is necessary that such impacts are included properly in the different stages of the EIA, which will be described in the next section.

Stages of the EIA

Both Guidelines put emphasis on describing the different stages of the EIA and how biodiversity issues are addressed at such stages. In the following subsections, seven main stages will be described, following the list shown in Table 1.

Screening

The first phase, screening, is vital to determine potential socio-economic impacts, as it aims to determine which proposals should be subject to EIA and to indicate the level of assessment needed. In case the screening indicates that it is unlikely that harmful environmental impacts may occur, it would exclude the EIA process for a certain activity.

In this phase, critical questions need to be formulated to determine the potential impact of a certain project/activity. The Guidelines provide some examples of such questions that can be formulated to assess whether a certain activity is considered subject to an EIA or not. For instance, on the topic of sustainable use of biodiversity, the Guidelines identify certain questions related to the impact on socio-economic factors. Both questions quoted below exemplify how the loss of biodiversity and inter-related services that have socio-economic value and importance, are relevant questions to be formulated at the screening stage:

Table 1. Stages of the EIA process

(a)	*Screening* to determine which projects or developments require a full or partial impact assessment study;
(b)	*Scoping* to identify which potential impacts are relevant to assess (based on legislative requirements, international conventions, expert knowledge and public involvement), to identify alternative solutions that avoid, mitigate or compensate adverse impacts on biodiversity (including the option of not proceeding with the development, finding alternative designs or sites which avoid the impacts, incorporating safeguards in the design of the project, or providing compensation for adverse impacts), and finally to derive terms of reference for the impact assessment;
(c)	*Assessment and evaluation of impacts and development of alternatives*, to predict and identify the likely environmental impacts of a proposed project or development, including the detailed elaboration of alternatives;
(d)	*Reporting*: the environmental impact statement (EIS) or EIA report, including an environmental management plan (EMP), and a non-technical summary for the general audience;
(e)	*Review* of the environmental impact statement, based on the terms of reference (scoping) and public (including authority) participation;
(f)	*Decision-making* on whether to approve the project or not, and under what conditions; and
(g)	*Monitoring, compliance, enforcement and environmental auditing*. Monitor whether the predicted impacts and proposed mitigation measures occur as defined in the EMP. Verify the compliance of proponent with the EMP, to ensure that unpredicted impacts or failed mitigation measures are identified and addressed in a timely fashion.

Source: Voluntary guidelines on biodiversity-inclusive environmental impact assessment

a) "Does the intended activity affect the sustainable human exploitation of (an) ecosystem(s) or land-use type(s) in such manner that the exploitation becomes destructive or non-sustainable (i.e., the loss of ecosystem services of social and/or economic value)?"
b) "Does the intended activity cause a local loss of varieties/cultivars/breeds of cultivated plants and/or domesticated animals and their relatives, genes or genomes of social, scientific and economic importance?"

The Guidelines adopted at COP 6 established a series of indicative activities where an EIA could be considered mandatory during the screening phase. One of those indicative activities mentioning socio-economic factors is the "activities that at the genetic level may directly or indirectly cause a local loss of legally protected varieties/cultivars/breeds of cultivated plants and/or domesticated animals and their relatives, genes or genomes of social, scientific and economic importance". An example of such activities, according to the Guidelines, would be the introduction of living modified organisms (LMOs) that can produce a transfer of transgenes to other cultivated plants and/or domesticated animals. It is clear then that EIA can be a relevant methodology for assessing socio-economic impacts related to LMOs.

Scoping

After the screening phase, the EIA usually undertakes a scoping phase where the focus of the impact assessment study is defined and key issues that should be studied in more detail are identified. Socio-economic impacts could be a potential issue to be considered for further study in this phase, including the possibility of mitigation measures in order to achieve the project objectives while at the same time avoiding negative impacts or reducing them to acceptable levels. This directly implies that in the process of identification of mitigation measures, socio-economic considerations can play a relevant role. Adverse socio-economic impacts can be considered and in turn alternative sites or other project proposal elements might be designed to avoid such impacts, including not proceeding with the development of a certain project.

If the project screening indicates that a certain activity is likely to have adverse impacts on biodiversity, the Guidelines provide examples of the type of information that should be gathered in the scoping phase. One of them is to identify, in consultation with stakeholders, "the current and potential ecosystem services provided by the affected ecosystems or land-use types and determine the values these functions represent for society". Social benefits and uses of ecosystem services are given important consideration and the main beneficiaries and those adversely affected from an ecosystem services perspective need to be identified, with a particular focus on vulnerable stakeholders.

The Guidelines further adopted at COP 8 provide a number of practical recommendations when addressing biodiversity-related issues. While in the past focus was given to protected species and protected areas, growing interest and attention is now given to (i) sustainable use of ecosystem services; (ii) ecosystem-level diversity; (iii) non-protected biodiversity; and (iv) ecological processes and their spatial scale.[3] This new focus certainly broadens the scope of biodiversity-related issues and allows further room for including socio-economic impacts, being those that are direct, indirect or cumulative.

Though the legal requirements on public participation within an EIA may vary among countries, in general, public participation at the scoping level is recognized as essential. This represents an important possibility for affected people and interest groups to lay out all the biodiversity-related socio-economic impacts affecting a community in a comprehensive manner.

[3] See Decision VIII/28 (2006), "Voluntary guidelines on biodiversity-inclusive environmental impact assessment".

Assessment

The third phase of the EIA is the assessment and evaluation of impacts. The impacts to be identified during this phase are not only direct impacts, but also indirect and cumulative impacts. The Guidelines endorsed at COP 6 explicitly underline that socio-economic impacts should be taken into account when an impact assessment is done to predict and identify the likely environmental impacts of a proposed project or development.[4]

One of the criteria that need to be determined during the assessment is whether the impacts of a certain project are socially acceptable or not. The Guidelines adopted at COP 8 explicitly require the assessment to determine the acceptability for society as a whole: "assessing impacts usually involves a detailed analysis of their nature, magnitude, extent and duration, and a judgement of their significance, i.e., whether the impacts are acceptable to stakeholders and society as a whole, require mitigation and/or compensation, or are unacceptable".

Reporting

An environmental impact statement will then be done, which aims, among other objectives, to assist the proponent of a certain project to plan, design and implement the proposal in a way "that eliminates or minimizes the negative effect on the biophysical and socio-economic environments and maximizes the benefits to all parties". Once again, the Guidelines highlight that negative socio-economic impacts should be explicitly considered as a consequence that needs to be eliminated or minimized.

Review of the environmental impact statement

In this phase, the review of the environmental impact statement is critical to guarantee that the information for decision makers is accurate and sufficient. At this stage the involvement of the public is important, including the full and effective participation of indigenous and local communities. Effective participation would mean that the concerns and comments of all stakeholders are properly considered and included in the final report presented to the decision makers.

Decision-making

The final decision is fundamentally a political choice; however, it is key that there are clear criteria to guide trade-offs between socio-economic and environmental issues. Such criteria to guide decision-making on biodiversity and ecosystem services can be found in international, regional, national and local laws, policies, plans, strategies and programmes. The final decision should seek a solution that is sustainable not only at the environmental level but also at socio-economic level. This is reflected in the Guidelines adopted at COP 8, which conclude that the decision "should seek to strike a balance between conservation and sustainable use for economically viable and socially and ecologically sustainable solutions".

Monitoring, compliance, enforcement and environmental auditing

"EIA follow-up" is the heading used to define the set of mechanisms that make sure that the recommendations from the environmental impact statement or the environmental management plan are implemented adequately. These would include activities related to monitoring, compliance, enforcement and environmental auditing.

[4] See guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment (Decision VI/7). In these guidelines the third phase is defined in the following way: "Impact assessment to predict and identify the likely environmental impacts of a proposed project or development taking into account inter-related consequences of the project proposal, *and the socio-economic impacts*;" (emphasis added).

Akwé: Kon Voluntary Guidelines

The "Akwé: Kon Voluntary Guidelines for the conduct of cultural, environmental and social impact assessment regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities" were adopted by the CBD COP 7 in Decision VII/16.

The rationale for these Guidelines stems from the great concern over the loss of indigenous and local communities' traditional knowledge, innovations and practices and the long-term negative impacts of many developments proposed on or likely to impact sacred sites, and lands/waters occupied or used by them. They are particularly relevant for the discussions on socio-economic considerations under the Cartagena Protocol on Biosafety as Article 26.1 of the Protocol, setting out the right of Parties to take into account socio-economic considerations, especially recognizes the value of biological diversity to indigenous and local communities.

Procedural mechanisms

The Akwé: Kon Voluntary Guidelines establish a single impact assessment process that integrates environmental, cultural and social impacts. The steps of the process are very similar to those of the EIA, as described earlier in this paper, i.e., screening, scoping, impact assessment, etc.

It must be noted that for this particular issue involving sacred sites and lands/waters occupied or used by indigenous and local communities, particular attention is given to the process and the need for effective access to information and public participation. This is why the Guidelines incorporate as part of the abovementioned steps – typical of the EIA and SEA – a series of specific steps for impact assessment for a development proposed to take place on, or which is likely to impact on, sacred sites, and on lands and waters traditionally occupied or used by indigenous and local communities (see Table 2). Such developments could include the release of LMOs in these areas.

Table 2. Specific steps for impact assessment for a development proposed to take place on, or which is likely to impact on, sacred sites, and on lands and waters traditionally occupied or used by indigenous and local communities

(a)	Notification and public consultation of the proposed development by the proponent;
(b)	Identification of indigenous and local communities and relevant stakeholders likely to be affected by the proposed development;
(c)	Establishment of effective mechanisms for indigenous and local community participation, including for the participation of women, the youth, the elderly and other vulnerable groups, in the impact assessment processes;
(d)	Establishment of an agreed process for recording the views and concerns of the members of the indigenous or local community whose interests are likely to be impacted by a proposed development;
(e)	Establishment of a process whereby local and indigenous communities may have the option to accept or oppose a proposed development that may impact on their community;
(f)	Identification and provision of sufficient human, financial, technical and legal resources for effective indigenous and local community participation in all phases of impact assessment procedures;
(g)	Establishment of an environmental management or monitoring plan (EMP), including contingency plans regarding possible adverse cultural, environmental and social impacts resulting from a proposed development;
(h)	Identification of actors responsible for liability, redress, insurance and compensation;
(i)	Conclusion, as appropriate, of agreements, or action plans, on mutually agreed terms, between the proponent of the proposed development and the affected indigenous and local communities, for the implementation of measures to prevent or mitigate any negative impacts of the proposed development; and
(j)	Establishment of a review and appeals process.

Source: *Akwé: Kon Voluntary Guidelines*

The terms of engagement with indigenous and local communities strongly underline the need for adequate information and an effective public participation process involving all the relevant groups, including those who are more vulnerable. The process needs to be recorded, as should the views and concerns of the members of the indigenous and local communities, and sufficient capacity needs to be provided to those groups to guarantee effective participation in all stages of the impact assessment process. Mechanisms for liability, insurance and compensation should be identified, and a process of review and appeal needs to be established.

The importance attached to adequate information and participation of the most relevant stakeholders, i.e., indigenous and local communities, is key to the incorporation of views on potential socio-economic impacts by the representatives of the communities in the process. Such views should be adequately taken into account by the relevant competent authorities.

Integration of cultural, environmental and social impact assessment

The Akwé: Kon Voluntary Guidelines recognize that they should operate as a complement and in conjunction with the Guidelines adopted at COP 6, described in the previous section. While the Akwé: Kon Voluntary Guidelines define also the EIA and the SEA in the initial parts of the text, underlining that both instruments need to take into account inter-related socio-economic impacts of a proposed project, development or policy, the approach to impact assessment taken by the Akwé: Kon Voluntary Guidelines is different from the previous Guidelines.

While the approach of the previous Guidelines is to focus on "environmental impact assessment taking into account socio-economic impacts", i.e., integrating socio-economic impacts within the EIA, the Akwé: Kon Voluntary Guidelines move a step further by integrating cultural, environmental and social impact assessments as a single process. The Akwé: Kon Voluntary Guidelines introduce three integrated impact assessments: one for the cultural impacts, another for the environmental impacts and a final one for the social impacts. It is evident from the drafting of the text that all three assessments are necessary to adequately assess the impact of projects on sacred sites and lands/waters occupied or used by indigenous and local communities. They are not part of a "pick and choose" list; instead, a clear message arises from the Guidelines that it is a necessity to perform the three impact assessments to adequately protect the rights of indigenous and local communities.

Social impact assessment

This section describes the mechanism of social impact assessment (SIA) as described in the Akwé: Kon Voluntary Guidelines, taking into account that the particular focus of this document is socio-economic impacts.

An SIA is normally performed as part of or in addition to an EIA, but as of now has not yet been as widely adopted as an EIA. The Guidelines define an SIA as a "process of evaluating the likely impacts, both beneficial and adverse, of a proposed development that may affect the rights, which have an economic, social, cultural, civic and political dimension, as well as the well-being, vitality and viability, of an affected community – that is, the quality of life of a community".

At the same time, the Guidelines underline the importance of developing socio-economic indicators consistent with the views of indigenous and local communities. Such indicators should be based on "income distribution, physical and social integrity and protection of individuals and communities, employment levels and opportunities, health and welfare, education, and availability and standards of housing and accommodation, infrastructure, services".

In determining the scope of a social impact assessment, the elements described in Table 3 should be considered. One of the basic elements that lies at the point of departure of a social impact assessment is the baseline studies that determine the social situation of the community by looking at the demographic factors, asset distribution, traditional systems of production, etc. Other socio-economic elements relevant for the social impact assessment are the need to assess the economic advantages of a certain project, looking at potential payment for environmental services, job creation, diversification of income opportunities, etc. Looking at issues related to adequate distribution of benefits from a certain project and social cohesion will also be very relevant elements to take into account in the social impact assessment.

Table 3. Elements of the scope of the social impact assessment	
Main element	**Key features**
Baseline studies	Demographic factors; housing and human settlements; health status of the community; level of employment, areas of employment, skills, level of in-infrastructure and services; level and distribution of income; asset distribution; traditional systems of production; views of indigenous and local communities regarding their future and ways to bring about future aspirations.
Economic considerations	Assessment of tangible benefits for the communities such as payment for environmental services, job creation within safe and hazard-free environments, viable revenue from levying of appropriate fees, access to markets and diversification of income-generating opportunities for small and medium-sized businesses.
Possible impacts on traditional systems of land tenure and other uses of natural resources	Developments that particularly will involve changes to traditional practices for food production, or involve the introduction of commercial cultivation and harvesting of a particular wild species.
Gender considerations	Need to examine potential impacts of a proposed development on women in the affected community with due regard to their role as providers of food and nurturers of family, community decision-makers and heads of household.
Generational considerations	Impacts that may potentially interfere with opportunities for elders to pass on their knowledge to youth.
Health and safety aspects	Pollution, sexual exploitation, disruption to habitats of medicinal species, and use of chemicals.
Effects on social cohesion	Examine whether particular individuals or groups are unjustly advantaged or disadvantaged.

Source: *Akwé: Kon Voluntary Guidelines*

In addition to the elements listed above, a series of general considerations are also listed by the Guidelines for competent authorities to take into account when carrying out social impact assessments. Some of the most relevant considerations are the need to require prior informed consent of the affected indigenous and local communities, and gender considerations.

Conclusions

In recent years, impact assessments, such as EIA, have moved from a "biophysical" impacts approach towards incorporating other impacts such as cultural and socio-economic impacts. In this context, there has been, at the same time, an increasingly closer link between socio-economic and environmental impact assessments.

In the framework of the CBD, three Guidelines have been adopted since 2002 which deal with impact assessments. Two of them, which are very similar in concept and design – the Guidelines adopted by COP 6 and COP 8 – have as a primary aim the adequate incorporation of biodiversity-related considerations into EIA and SEA. In both these Guidelines, socio-economic impact assessments are considered necessary as part of the existing EIA or SEA, and the inclusion of socio-economic considerations is explicit in the main stages of the EIA/SEA processes. Despite the role of socio-economic factors in the EIA/SEA process, the criteria and elements for how socio-economic impacts need to be taken into account are not described in detail, so there is still limited experience in implementing in practice such socio-economic impact assessments.

While there is room for gaining more knowledge on how to take into account relevant socio-economic impacts within an EIA/SEA, it is clear that these are relevant methodologies that could be adapted to

accommodate the assessment of socio-economic impacts of LMOs by countries that have such types of regulatory measures already in place. For instance, at the scoping stage of an EIA, one of the key exercises that should be done is to identify alternative solutions that avoid, mitigate or compensate adverse impacts on biodiversity. In the case of a proposed LMO release, socio-economic considerations may be used to identify alternatives and mitigation measures for the proposed release, which could include the refusal to proceed with the release of that LMO.

The Akwé: Kon Voluntary Guidelines are an instrument that bridges a gap in that direction, by producing a unique document that guides action in future impact assessments regarding sacred territories and lands/waters occupied or used by indigenous and local communities. This instrument aims to incorporate cultural, environmental and social considerations of indigenous and local communities into new or existing impact assessment procedures. The approach of the Akwé: Kon Voluntary Guidelines provides a clear guide to Parties and other countries that desire to incorporate social and cultural assessments into existing impact assessment instruments like an EIA, but at the same time opens the door for new mechanisms based on an impact assessment that integrates social, cultural and environmental impact assessments.

Finally, as we have seen in the preceding section, the Akwé: Kon Voluntary Guidelines also provide very useful guidance regarding the process, criteria and elements that need to be taken into account in order to carry out a socio-economic impact assessment. The Akwé: Kon Voluntary Guidelines underline that adequate access to information and public participation are key to ensuring a fair process that, inter alia, would guarantee that the main socio-economic impacts are taken into consideration in decision-making that should involve all the relevant groups, including those who are more vulnerable. The process needs to be recorded, as should the views and concerns of the relevant stakeholders, particularly the members of the indigenous and local communities, and sufficient capacity needs to be provided to those groups to guarantee effective participation in all stages of the impact assessment procedures.

Relevant international law obligations that include socio-economic considerations, in the context of Article 26.1 of the Cartagena Protocol on Biosafety

Juan Lopez Villar

Introduction

SOCIO-ECONOMIC elements constitute the basis and/or are a relevant component of several international legal/policy instruments, such as those related to human rights, indigenous rights, food and agriculture, and the environment. Some of those instruments are legally binding, such as the International Covenant on Economic, Social and Cultural Rights (ICESCR), ILO Convention No. 169, the Convention on Biological Diversity (CBD), and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Parties to those treaties should abide by the substantive international socio-economic-related obligations contained in their respective legal texts.

Parties to the Cartagena Protocol on Biosafety (CPB) may take into account socio-economic considerations in decision-making processes related to living modified organisms (LMOs). Therefore, international obligations that have a socio-economic nature and/or that contain relevant socio-economic elements are of special interest to any Party that desires to consider socio-economic impacts in LMO decision-making processes.

Furthermore, in the framework of Article 26.1 of the CPB, socio-economic considerations used in decision-making processes need to be consistent with international obligations. While initially those international obligations have been thought of as largely being of a trade nature – i.e., World Trade Organization (WTO) and related agreements – it is equally valid to pay attention to obligations originating from human rights and environment treaties. This paper will focus on those non-trade international socio-economic obligations that will be identified below. In a subsequent section, such obligations will be linked to the respective elements of socio-economic considerations currently discussed under the process related to Article 26.1 of the CPB. Finally, a series of observations will be made on this matter in the concluding section.

Relevant international law obligations related to socio-economic rights

Main instruments in human rights law

Socio-economic rights are solidly anchored in the most prominent international human rights treaties and declarations, and are recognized as an integral part of the human rights framework. The main international texts referring to socio-economic rights are the Universal Declaration of Human Rights of 1948 and the International Covenant on Economic, Social and Cultural Rights of 1966.

The UN General Assembly in 1948 adopted the Universal Declaration of Human Rights (UDHR), which is one of the most important sources of socio-economic rights. The Declaration includes numerous socio-economic rights such as the right to social security, the right to work, the right to rest and leisure, the right to an adequate standard of living and the right to education. Article 22 says that "everyone, as a member of society, has the right to social security and is entitled to realization … of the economic, social and cultural rights indispensable for his dignity and the free development of his personality". Article 25 on the right to an adequate standard of living is particularly relevant for our further discussions on socio-economic considerations. This article considers that an adequate standard of living "for the health and well-

being of himself and of his family" includes food, clothing, housing, medical care and necessary social services.

While the Universal Declaration is a non-legally binding instrument, in 1966 the UN General Assembly adopted the International Covenant on Economic, Social and Cultural Rights. The Covenant is a legally binding instrument and constitutes the legal pillar on socio-economic rights. As of 2013, the Covenant has 160 parties. It recognizes the following socio-economic rights, which basically can be interpreted to cover the basic needs of human beings:[1] self-determination (Art. 1); equality for men and women (Art. 3); work and favourable conditions of work (Arts. 6 and 7); form and join trade unions (Art. 8); social security (Art. 9); protection of the family, mothers and children (Art. 10); an adequate standard of living, including adequate food, clothing and housing (Art. 11); the highest attainable level of health and health care (Art. 12); education (Art. 13); and free and compulsory primary education (Art. 14).

Several other international human rights mechanisms contain socio-economic rights. The Convention on the Rights of the Child protects many such rights including the right to health, the right to social security, the right to an adequate standard of living and the right to education. The Convention on the Elimination of All Forms of Racial Discrimination prohibits discrimination on the basis of racial or ethnic origin in relation to several socio-economic rights. Similarly, the Convention on the Elimination of All Forms of Discrimination against Women includes a series of socio-economic rights for women.

Besides these instruments, at the regional level, several human rights instruments have addressed socio-economic rights, including the African Charter of Human and People's Rights, the Additional Protocol in the Area of Economic, Social and Cultural Rights to the American Convention on Human Rights, and the European Social Charter.

International obligations of States derived from socio-economic rights

Socio-economic rights impose three different types of obligations on States: the obligations to respect, protect and fulfil these rights. If a State Party fails to comply with a treaty obligation concerning socio-economic rights, it would be a situation of violation of that treaty.[2] Violations of socio-economic rights make a State as responsible for them as if they were violations of civil and political rights.[3]

According to the 1997 Maastricht Guidelines on Violations of Economic, Social and Cultural Rights, the obligation to *respect* requires States to refrain from interfering with the enjoyment of socio-economic rights. The obligation to *protect* requires States to prevent violations of such rights by third parties. The obligation to *fulfil* requires States to take appropriate legislative, administrative, budgetary, judicial and other measures towards the full realization of such rights.[4]

An example of how these obligations apply in practice is provided in Table 1 in the concrete case of the right to food.

There exist minimum core obligations that apply irrespective of the availability of resources of the country in question. This means, for example, that "a State party in which any significant number of individuals is deprived of essential foodstuffs, of essential primary health care, of basic shelter and housing, or of the most basic forms of education is, prima facie, violating the [ICESCR]".[5]

Finally, it must be noted that in May 2013 the Optional Protocol to the ICESCR entered into force, which grants individuals, or groups of individuals under the jurisdiction of a State Party, the right to submit communications about alleged violations of any socio-economic and cultural right.[6]

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1 Kjellin K. 2007. Socio-economic rights. What relevance in an era of globalization?; UNDP. 2009. The MDGs through socio-economic rights.

2 UN. 2005. Economic, social and cultural rights. Handbook for national human rights institutions. http://www.ohchr.org/Documents/Publications/training12en.pdf

3 Maastricht Guidelines on Violations of Economic, Social and Cultural Rights, Maastricht, 22-26 January 1997. http://www1.umn.edu/humanrts/instree/Maastrichtguidelines_.html

4 Ibidem.

5 Ibidem.

6 Optional Protocol to the ICESCR. http://www2.ohchr.org/english/law/docs/A.RES.63.117_en.pdf

Table 1. Obligations of Parties under the right to food[7]		
Obligation	**Meaning of obligation**	**Example**
Respect	The State should respect people's access to food and should abstain from taking measures that may negatively affect or diminish the food security of populations.	The practice of selling large tracts of land through investment agreements aimed at exporting food production may be a violation of the right to food in certain specific contexts.
Protect	States have the obligation to protect people's effective access to food against negative actions from individuals or private companies.	Undertake labour inspections to evaluate the conditions of work and assess compliance with labour law (fair salaries, social security).
Fulfil	The State should fulfil the right to food by putting in place adequate policies, programmes and projects as well as legal frameworks that aim at guaranteeing the right to food.	Implementation of a legal framework that guarantees farmers' rights to save, use, exchange and sell farm-saved seed/propagating material.

International law on indigenous peoples' rights

Indigenous peoples' rights have been codified in several legally binding and non-binding instruments under the UN framework, notably the Indigenous and Tribal Peoples Convention and the United Nations Declaration on the Rights of Indigenous Peoples.

Indigenous and Tribal Peoples Convention (ILO Convention No. 169)

In 1989, under the umbrella of the International Labour Organization (ILO), the Indigenous and Tribal Peoples Convention was adopted. It recognizes numerous socio-economic rights, such as the right to social security and health, right to work, and education. It is the major binding treaty concerning indigenous peoples; however, it has not received wide support and as of now has been ratified by only 22 countries.[8]

In addition to the rights mentioned above, the Convention gives strong emphasis to the right over indigenous territories, i.e., the right of ownership and possession of the peoples concerned over the lands which they traditionally occupy.[9] This right is of great importance in this Convention and a major right with significant value at the social and economic level for the indigenous communities involved. Territory is at the core of most indigenous peoples' economies and livelihood strategies, and therefore the loss of their ancestral lands threatens their very survival as distinct communities and peoples.[10] Further to this, ILO Convention No. 169 explains that indigenous peoples have "the right to decide their own priorities for the process of development as it affects their lives, beliefs, institutions and spiritual well-being and the lands they occupy or otherwise use, and to exercise control, to the extent possible, over their own economic, social and cultural development".[11]

The right to land is also intrinsically linked to the safeguarding of indigenous peoples' rights over the natural resources that exist in their lands. Both rights are clearly protected in the Convention.

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7 Table partly based on FAO. 2011. Land tenure, investments and the right to food. Right to Food Issues Brief 2. FAO, Rome.

8 Mauro F and Hardison PD. 2000. Traditional knowledge of indigenous and local communities: international debate and policy initiatives. *Ecological Applications*, Vol. 10, No. 5. See list of ratifications of the Indigenous and Tribal Peoples Convention at: http://www.ilo.org/dyn/normlex/en/f?p=1000:11300:0::NO::P11300_INSTRUMENT_ID:312314

9 Article 14, Indigenous and Tribal Peoples Convention.

10 ILO. 2009. Indigenous and tribal peoples' rights in practice. A guide to ILO Convention no. 169. http://www.ilo.org/wcmsp5/groups/public/—ed_norm/—normes/documents/publication/wcms_106474.pdf

11 Article 7.1, Indigenous and Tribal Peoples Convention.

United Nations Declaration on the Rights of Indigenous Peoples

In 2007, the UN General Assembly adopted the Declaration on the Rights of Indigenous Peoples. It is not a legally binding instrument, but is very explicit in the recognition and meaning of some of the key socio-economic rights for indigenous peoples: "Indigenous peoples have the right, without discrimination, to the improvement of their economic and social conditions, including, inter alia, in the areas of education, employment, vocational training and retraining, housing, sanitation, health and social security." In addition, it is underlined that States shall take effective/special measures to ensure continuing improvement of the economic and social conditions of indigenous peoples.

Similar to ILO Convention No. 169, the right to land is strongly affirmed in the Declaration, which states in Article 26 that indigenous peoples "have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired".

The relevance of socio-economic rights established in international law on the rights of indigenous peoples, in the context of Article 26.1 of the Cartagena Protocol on Biosafety

On the basis of the rights established in the preceding instruments, indigenous communities should be able to argue that their socio-economic considerations be included in decision-making processes related to LMOs.

Article 26.1 of the CPB underlines the importance of the value of biodiversity to indigenous communities, particularly in the face of the potential impacts on such value due to the import of LMOs. In cases where LMOs are to be released in the lands or beside the territories of indigenous communities, the competent authorities in the country or countries where such communities are based may, under Article 26.1, take socio-economic considerations into account. One way in which socio-economic considerations could be raised by indigenous communities is via the establishment of sound processes of access to information and public participation by the competent authorities. Such considerations may be those related to social intrinsic values such as sacred, spiritual and religious factors; health-related, such as the impact of pesticides associated with a particular LMO; economic-related, such as the loss of value of a natural resource due to contamination from LMOs; environment-related, such as threats to the value of local plant genetic resources from the introduction of an LMO; or land-related, such as those related to the sale of large tracts of land for farming LMOs as monocultures.

Other relevant treaties in the field of food and agriculture and biodiversity

The International Treaty on Plant Genetic Resources for Food and Agriculture

Plant genetic resources for food and agriculture (PGRFA) play a key role in world food security and economic development. For instance, PGRFA can support the production of more and better food for rural and urban consumers, provide healthy and more nutritious food, and enhance income generation and rural development.[12]

The International Treaty on Plant Genetic Resources for Food and Agriculture establishes a series of obligations for Parties that directly or indirectly involve socio-economic factors. The obligations under Articles 5, 6 and 9, which are important to protect, inter alia, the social and economic value of plant genetic resources for food and agriculture, will be described in the forthcoming paragraphs.

Conservation of PGRFA

Under Article 5 of the ITPGRFA, Parties have a generic obligation to promote an integrated approach to the exploration, conservation and sustainable use of PGRFA. Parties shall also take steps to minimize or, if possible, eliminate threats to plant genetic resources. For example, potential threats may arise associated with the introduction of a particular LMO into the environment, as well as due to possible contamination of local plant genetic resources.

[12] FAO. 2010. *The Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture*.

Under the same article, a series of specific obligations is established. These are very relevant to the social and economic value of PGRFA for local and indigenous communities, such as the obligation to promote or support, as appropriate, farmers and local communities' efforts to manage and conserve on-farm their PGRFA.

Wild sources of plants for food production are often key to complementing staple foods and to obtaining a balanced diet. Particularly in times of food insecurity, famine or conflict, wild sources of food are key for the poorest segments of a certain society.[13] On this topic, the ITPGRFA establishes another obligation to promote *in situ* conservation of wild crop relatives and wild plants for food production, and it considers that one of the best activities that can be carried out to achieve these objectives is to support the efforts of indigenous and local communities.

Sustainable use of PGRFA

Article 6 establishes a generic obligation for Parties to develop and maintain appropriate policy and legal measures that promote the sustainable use of PGRFA. The sustainable use of plant genetic resources involves the development of varieties adequately adapted, inter alia, to social and economic conditions of a particular context. This article is key to short- and long-term food security as PGRFA "support the livelihood of every person on earth". If those resources are adequately managed they should not be depleted and therefore there should be no intrinsic incompatibility between conservation and utilization.[14]

Farmers' rights

Finally, Article 9 establishes the most critical element in what concerns the ITPGRFA's relevance to socio-economic issues: farmers' rights. First of all, the article makes a strong statement that underlines that local and indigenous communities and farmers have made and will continue to make an enormous contribution to the conservation and development of plant genetic resources, which constitute the basis of food and agriculture production throughout the world. The article then establishes obligations for Parties, underlining that they should take measures to promote and protect farmers' rights, as appropriate and according to their national legislation.

The ITPGRFA recognizes that farmers' rights cannot be interpreted in such a way that their rights to save, use, exchange and sell farm-saved seed/propagating material can be limited, subject to national law and as appropriate. The use of the qualification of national law and "as appropriate" limits the full and clear international obligation derived from this article on the right to save, use, exchange and sell farm-saved seed/propagating material. However, Parties have the right to adopt such rights at the national level, and some countries have already done so, for instance India.[15]

Despite the recognition in Article 9 that farmers' rights are key to the preservation of agricultural biodiversity, it is weak as the provision remains vague, and its implementation is highly uneven across the Parties.[16] Unfortunately, the protection afforded is inadequate, given the current situation where the standards on and enforcement at the international level of plant breeders' rights and biotech industry patents are very high and strict.

The right to food and its relation with farmers' rights

The right to food is set out in Article 11 of the ICESCR as part of the right to an adequate standard of living. The right to adequate food is realized "when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement".[17] The right to adequate food implies also the "availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture".[18]

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13 IUCN. 2005. Explanatory Guide to the International Treaty on Plant Genetic Resources for Food and Agriculture.

14 Ibidem.

15 Ibidem.

16 UN General Assembly. 2009. The right to food. Seed policies and the right to food: enhancing agrobiodiversity and encouraging innovation. Note by the Secretary-General.

17 CESCR. 1999. Substantive issues arising in the implementation of the International Covenant on Economic, Social and Cultural Rights. General comment 12. The right to adequate food.

18 FAO. 2005. Voluntary guidelines to support the progressive realization of the right to adequate food in the context of national food security.

From a right-to-food perspective, guaranteeing access to natural resources, including PGRFA, for the most vulnerable populations, including local and indigenous communities, is a first essential step towards realizing the human right to food. To ensure such access, government policies and legal frameworks should address territorial rights over natural resources. The protection of PGRFA and security of land tenure are critical for the realization of the right to food.[19]

The overwhelming majority of farmers in most developing countries still rely on traditional farmers' seed systems in order to grow their crops. For thousands of years, reasonable levels of food production were achieved via a vast portfolio of genetic diversity managed by farming communities. However, this crop genetic diversity is under severe threat due to several factors. Intellectual property rights are an important obstacle to the adoption of policies that encourage the maintenance of agricultural biodiversity and reliance on farmers' varieties. In particular, patents granted on plants or on genes or DNA sequences may become a direct barrier to farmers' innovation. In this context, there is a need for an adequate balance between the rights of plant breeders and the need of farmers. An increasing recognition of farmers' rights is vital to preserve agricultural biodiversity.[20]

In this context, it is necessary to reinforce the link between the right to adequate food, solidly established in the Universal Declaration of Human Rights and the ICESCR, and farmers' rights. In recent years, there has been a growing interest in linking both rights closely. A study submitted to the UN Economic and Social Council called on the human rights community to pay more attention to farmers' rights in the continued promotion of the right to food because in its opinion, "our future food supply and its sustainability may depend on such rights being established on a firm footing".[21] Farmers are the main caretakers of most PGRFA of our planet, and therefore the future of food cannot be disassociated from the future of our farmers. The right to food is solidly established in the UDHR and ICESCR and is intrinsically linked to farmers' rights. Violations of farmers' rights then can constitute a direct/indirect violation of the human right to food.[22]

The Convention on Biological Diversity

The Convention on Biological Diversity imposes several obligations on Parties in order to protect the knowledge, innovations and practices of indigenous and local communities in the conservation and sustainable use of biodiversity. Article 8(j) states that, subject to national legislation, Parties shall "respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices".

Article 26.1 of the CPB is closely interrelated with Article 8(j) of the CBD and makes a reference to the content of the latter in the wording "especially with regard to the value of biological diversity to indigenous and local communities". Several socio-economic considerations with respect to the value of biodiversity to indigenous and local communities have been identified in relation to the potential impact of LMOs on such

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19 FAO. 2011. Land tenure, investments and the right to food. Right to Food Issues Brief 2. http://www.fao.org/docrep/016/i2418e/i2418e.pdf

20 UN General Assembly. 2009. Seed policies and the right to food: enhancing agrobiodiversity, encouraging innovation. Background document to the report (A/64/170) presented by Prof. Olivier De Schutter.

21 UN Economic and Social Council. 1999. The realization of economic, social and cultural rights. The right to adequate food and to be free from hunger. Updated study on the right to food, submitted by Mr. Asbjørn Eide in accordance with Sub-Commission decision 1998/106. E/CN.4/Sub.2/1999/12. 28 June.

22 The UN Human Rights Council Advisory Committee has gone a step further by proposing a Declaration on the Rights of Peasants and recommended that the Human Rights Council create a new special procedure to improve the promotion and protection of the rights of peasants. Peasants would include smallholder farmers, landless workers, fisher-folk, hunters and gatherers. See UN Human Rights Council. 2012. Final study of the Human Rights Council Advisory Committee on the advancement of the rights of peasants and other people working in rural areas. A/HRC/19/75.

Box 1. Crop genetic diversity under severe threat

As a result of the pressure towards more uniform crops and species-specific learning – the species about which knowledge has developed becomes more attractive to cultivate – efforts have been put into the development of a limited number of standard, high-yielding varieties, so that barely more than 150 species are now cultivated; most of humankind now lives off no more than 12 plant species, with the four biggest staple crops (wheat, rice, maize and potato) taking the lion's share. It is estimated that about 75 percent of plant genetic diversity has been lost, as farmers worldwide have abandoned their local varieties for genetically uniform varieties that produce higher yields under certain conditions. In addition, genetic diversity within crops is decreasing. In 1992-93 for instance, 71 percent of the commercial corn crop in the United States came from six varieties, 65 percent of the rice from only four varieties, 75 percent of the potato crop came from four varieties, 50 percent of the soybean crop from six varieties, and 50 percent of the wheat from nine varieties.

Source: *UN General Assembly. 2009. Seed policies and the right to food*

communities' biodiversity. These socio-economic considerations may include, inter alia, the impact that imports or domestic LMO measures may have on the following:

– "the continued existence and range of diversity of the biological resources in the areas inhabited or used by indigenous or local communities;
– the loss of access to genetic and other natural resources, previously available to indigenous or local communities in their territories; or
– the loss of cultural traditions, knowledge, and practices in a particular indigenous or local community as a result of the loss of biological diversity in their territory".[23]

Traditional knowledge of such communities contains, inter alia, key social and economic values that need to be protected, such as the knowledge that is useful to preserve traditional medicines. In no case should the introduction of LMOs threaten such knowledge, innovation and practices, and socio-economic considerations related to those elements should be especially taken into account.

In addition to Article 8(j), Article 10 of the CBD also identifies some elements that may have a direct/indirect impact at social and economic levels. This article obliges Parties, "as far as possible and appropriate", inter alia, to "protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements".

The Aarhus Convention

The Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, the so-called Aarhus Convention, was adopted on 25 June 1998 and entered into force on 30 October 2001. The Convention was adopted in the framework of the UN Economic Commission for Europe, and its Parties are mostly West and East European countries, countries of the Caucasus region and those of Central Asia.

The Convention adopts a rights-based approach, and recognizes that adequate protection of the environment is essential to human well-being and the enjoyment of basic human rights. It also recognizes the right of every person "to live in an environment adequate to his or her health and well-being".[24] Such rights are closely related to socio-economic rights, such as the right to an adequate standard of living in Article 11 of the ICESCR, and they constitute the essence of this Convention.

[23] IUCN. 2003. An explanatory guide to the Cartagena Protocol on Biosafety. IUCN Environmental Policy and Law Paper no. 46.

[24] See preamble of the Aarhus Convention: http://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf

To assert the rights mentioned above, the Convention focuses on three pillars: access to information, public participation in decision-making and access to justice in environmental matters.[25] The Parties to the Convention are required to make the necessary provisions so that public authorities contribute to such rights becoming effective. In 2005, the Parties adopted an amendment to the Convention (not yet in force) on genetically modified organisms (GMOs), which further specifies obligations for Parties to provide for early and effective information and public participation prior to making decisions on whether to permit the deliberate release into the environment and placing on the market of GMOs.

Access to information and public participation are key mechanisms that allow for the adequate consideration of socio-economic factors in decision-making. If there is no adequate information provided on a certain project and the public is not allowed to participate in the decisions made on such a project, fundamental rights will be violated and the essential elements of the Aarhus Convention and other treaties will be hampered.

Consistency with international obligations in relation to socio-economic considerations

The Cartagena Protocol on Biosafety allows Parties to take into account socio-economic considerations arising from the impact of LMOs on the conservation and sustainable use of biodiversity, especially with regard to the value of biodiversity to indigenous and local communities and consistent with international obligations. Article 26 does not give precise details about what the socio-economic considerations are or how exactly these considerations can be taken into account. However, they may be taken into account when reaching a decision on import under the Protocol or under a domestic measure implementing the Protocol. This could include conducting risk assessment and management processes, and also within public participation processes, particularly in the case of field trials and uses of certain LMOs that are undertaken in the territories owned or occupied by indigenous and local communities.

Socio-economic considerations applied in the framework of Article 26.1 need to be consistent with international obligations. Some of these international obligations can be extracted from human rights law, indigenous rights law, food and agriculture law and environmental law, and should be taken into account when considering socio-economic factors in decision-making processes. Further to this, Parties, when designing policies, regulatory frameworks, guidelines and/or programmes related to LMOs and socio-economic considerations in the framework of Article 26.1, should incorporate in their design the substantive international obligations arising from human rights and indigenous rights legislation, the ITPGRFA and the CBD, particularly if they are Parties to those instruments.

Since the adoption of the Protocol, a process has been initiated to gain knowledge on what are socio-economic considerations, their elements and how to use these in practice. Some of the elements of socio-economic considerations have been identified by the Secretariat of the CBD on the basis of stakeholder discussions.[26] Elements described in the discussions include, for example, impacts on food security, on employment and work, on land ownership, on food diversity and on farmers' rights. No agreement exists as of now within the Cartagena Protocol process about which are the socio-economic considerations that should be taken into account in the context of Article 26.1, and some stakeholders oppose the integration of

[25] The key features of the three pillars are the following:
- Access to environmental information: the right of everyone to receive environmental information that is held by public authorities.
- Public participation in environmental decision-making: Arrangements are to be made by public authorities to enable the public affected and environmental non-governmental organizations to comment on proposed measures such as projects, plans or programmes relating to the environment. These comments have to be taken into due account in decision-making, and information to be provided on the final decisions and the reasons for it.
- Access to justice: the right to review procedures to challenge public decisions that have been made without respecting the two aforementioned rights or environmental law in general.

[26] UNEP. 2013. Socio-economic considerations. Summary of the online discussions of March-April 2013. UNEP/CBD/BS/REGCONF-SEC/2/INF/1.

socio-economic considerations such as health, farmers' rights and land issues. For the purpose of this paper and in light of the international obligations that Parties have apart from WTO obligations, a list of relevant socio-economic considerations that can arise from legitimate socio-economic-related obligations that Parties might have on the basis of other legally binding mechanisms, has been identified.

Therefore, Table 2 summarizes the international obligations that are of a socio-economic nature and/or contain relevant socio-economic factors, and can serve as a guide for Parties and interested stakeholders. The table puts together key international obligations of Parties in the context of human rights, indigenous rights, food and agriculture and biodiversity laws, together with a non-exhaustive list of some of the main elements of socio-economic considerations related to LMOs, as identified on the basis of stakeholder discussions within the CPB framework.

The table, in its first three columns, identifies the main obligations, the nature of the obligation and the forum in which a particular obligation is situated. The nature of obligations is diverse. Some are strong binding obligations, other obligations are qualified and therefore conditioned on certain specific criteria, and still other obligations are softer by providing a wide margin of discretion to the States in their implementation. The last column on the right includes some elements of socio-economic considerations that could be included into decision-making-related processes in the context of Article 26.1 of the CPB, and situates them in the specific international obligation that can back up the legitimacy of their use in a decision-making process. The elements of socio-economic considerations consist of impacts on food security; impacts on employment and work; impacts on land issues; impacts on food diversity; impacts on farmers' rights; impacts on the conservation and sustainable use of PGRFA; impacts on knowledge, innovations and practices of indigenous and local communities; and impacts on health standards.

Final remarks and observations

Parties to the Cartagena Protocol on Biosafety may take into account socio-economic considerations in LMO decision-making processes. Such considerations need to be consistent with international obligations, which can include obligations related to human rights, environment, and food and agriculture. Numerous socio-economic rights and elements are anchored in international law related to the abovementioned fields in instruments such as the ICESCR, ILO Convention No. 169, the ITPGRFA and the CBD. Such rights and elements carry a series of international obligations that should not be violated by Parties or other actors. The current analysis identified, first of all, some of the main socio-economic-related international obligations, focusing particularly on the four legally binding treaties mentioned above. These obligations are then linked to elements of socio-economic considerations, including those identified within the discussions that have taken place under Article 26.1 of the CPB.

In this context and in the light of the analysis in the preceding sections, and particularly on the basis of Table 2, the following observations are made:

a) Parties to the Cartagena Protocol may have multiple international obligations to ensure consistency with, when taking into account socio-economic considerations. These include obligations set out by human rights, indigenous peoples' rights, food and agriculture, and environmental laws and norms, in addition to trade-related obligations.
b) The adequate incorporation of legitimate socio-economic considerations, backed up by international obligations inserted in international legally binding treaties in the field of human rights, indigenous rights, food and agriculture and environment, in LMO impact assessment processes will assist Parties to the Cartagena Protocol to take into account socio-economic considerations consistent with their international obligations.
c) There needs to be adequate consideration within LMO decision-making-related processes of legitimate elements of socio-economic considerations closely linked to the obligations cited above, for instance impacts on food security, impacts on employment and work, and potential health impacts from changes in exposure to agriculture inputs associated with LMOs. This will help ensure that Parties to the Cartagena Protocol do not incur potential human rights violations of particularly the right to food, the right to work, and the right to the enjoyment of the highest attainable standard of health. In addition, impacts on farmers' rights under Article 9 of the ITPGRFA should also be adequately incorporated with a human rights approach that closely interlinks such rights with the right to food.

Table 2. Relevant international obligations that include socio-economic considerations that may be taken into account when implementing Article 26.1 of the Cartagena Protocol on Biosafety

Forum	Nature of obligation	Substantial obligation	Elements of socio-economic considerations
Human rights	Respect, protect and fulfil	Right to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions (Art. 11.1, ICESCR)	Food security
		Right of everyone to be free from hunger (Art. 11.2, ICESCR)	
		Right to work, which includes the right of everyone to the opportunity to gain his living by work he freely chooses or accepts (Art. 6.1, ICESCR)	Impacts on employment and work
		Right of everyone to the enjoyment of just and favourable conditions of work (Art. 7, ICESCR)	
		The right of everyone to the enjoyment of the highest attainable standard of physical and mental health (Art. 12, ICESCR)	Impacts from changes in exposure to agricultural imputs
Indigenous rights	Shall be recognized	Rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy (Art. 14.1, C 169)	Impact on land ownership Social, economic, cultural impacts of land use changes
	Shall be established	Adequate procedures within the national legal system to resolve land claims (Art. 14.3, C 169)	
	Shall be specially safeguarded	The rights of the peoples concerned to the natural resources pertaining to their lands. These rights include the right to participate in the use, management and conservation of these resources (Art. 15.1, C 169).	
ITPGRFA	Shall, subject to national legislation, and in cooperation with other Contracting Parties where appropriate	Promote an integrated approach to the exploration, conservation and sustainable use of PGRFA (Art. 5.1, ITPGRFA)	Impacts on food diversity Contamination/coexistence
	Shall in particular, and as appropriate	a) Survey and inventory PGRFA; b) Promote the collection of PGRFA and relevant associated information on those plant genetic resources that are under threat or are of potential use; c) Promote or support, as appropriate, farmers and local communities' efforts to manage and conserve on-farm their plant genetic resources for food and agriculture; d) Promote *in situ* conservation of wild crop relatives and wild plants for food production, including in protected areas, by supporting, inter alia, the efforts of indigenous and local communities (Art. 5.1, ITPGRFA)	

	Shall, as appropriate	Take steps to minimize or, if possible, eliminate threats to PGRFA (Art. 5.2, ITPGRFA)	
	Shall	Develop and maintain appropriate policy and legal measures that promote the sustainable use of plant genetic resources for food and agriculture (Art. 6, ITPGRFA)	Impact on farmers' rights Impact on farmers' migration to the towns
	Should, as appropriate and subject to its national legislation	Take measures to protect and promote farmers' rights, including: a) Protection of traditional knowledge relevant to PGRFA b) The right to equitably participate in sharing benefits arising from the utilization of PGRFA c) The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA (Art. 9.2, ITPGRFA)	
	Nothing in this Article shall be interpreted, subject to national law and as appropriate	To limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material (Art. 9.3, ITPGRFA)	
CBD	Shall as far as possible and as appropriate and subject to its national legislation	Respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity (Art. 8(j), CBD)	Impact on knowledge and technology innovation Impacts on preservation of traditional knowledge useful for the preservation of biodiversity and traditional medicines
		Promote the wide application of knowledge, innovations and practices of indigenous and local communities with the approval and involvement of the holders of such knowledge, innovations and practices	
		Encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices	

Analysis of WTO provisions and case law relevant to the application of socio-economic considerations, in the context of Article 26.1 of the Cartagena Protocol on Biosafety

Juan Lopez Villar

Introduction

ONE of the key aims of the World Trade Organization (WTO) agreements is to have trade without discrimination, which implies, inter alia, that WTO Members cannot discriminate between other trading Members,[1] and, secondly, that Members are obliged to treat imported and locally produced goods equally.[2] Measures which "discriminate" would be in potential breach of WTO provisions, and therefore vulnerable to a WTO complaint. However, such a potential breach would not always be illegitimate, neither would it always constitute a violation of a WTO treaty. The WTO framework allows its Members to invoke legitimate objectives and elements – such as environmental protection, health, national security, etc. – that would allow the Member to be inconsistent with fundamental provisions of certain agreements on the basis of legitimate justifications described in those agreements.

Trade in living modified organisms (LMOs) has been subject to a controversial debate, which has culminated in a couple of cases raised within the dispute settlement mechanism of the WTO. While there is considerable literature on the use of environmental and health considerations to justify a certain measure that affects trade in LMOs, less has been discussed about the possibility of using socio-economic considerations in decision-making related to LMOs, and how the WTO framework will accommodate measures based entirely or partially on such considerations. In this sense, it is important to first note that WTO Members have rights and obligations not only under the WTO but also, inter alia, under human rights, food and agriculture, and environmental treaties. Numerous such treaties contain socio-economic rights and considerations that Parties to those agreements shall and/or may take into account when establishing measures that may affect trade. For instance, in the framework of the Cartagena Protocol on Biosafety, socio-economic considerations may be taken into account in decision-making related to LMOs, as provided for in Article 26.1.

In this context, this paper aims to examine whether legitimate socio-economic considerations can be used by WTO Members to sustain a certain measure that may affect trade. The main questions that will be explored in the following sections are the following: Do the WTO agreements in any form consider socio-economic rights and considerations in their relevant provisions? If so, which are the relevant provisions of the agreements and how have they been interpreted to date? Once the paper clarifies these key questions, a critical analysis will be undertaken with the aim of clarifying the role of socio-economic considerations in decision making related to LMOs that may affect trade, and the possibility of accommodating such considerations within the WTO framework in case they have not been accommodated already. Finally, there will be a section with conclusions on possible options for how Parties to the Cartagena Protocol may take into account socio-economic considerations that impact on trade, in the framework of Article 26.1.

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1 Article I, GATT; Article II, GATS; Article 4, TRIPS Agreement.

2 Article III, GATT.

Main WTO agreements relevant to LMOs and products thereof

The issue of trade in LMOs and products thereof has been subject to a notorious debate, particularly since the US-Argentina-Canada complaint made against the European Communities (EC)[3] in the framework of the WTO in 2003. In light of what was observed in that particular case and according to relevant literature, measures that may affect trade in LMOs and products thereof would mostly fall under the relevant agreements related to trade in goods. Such agreements are notably the updated General Agreement on Tariffs and Trade (GATT) 1994[4] – the umbrella treaty for trade in goods – and its related agreements governing trade in goods, namely the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) and the Agreement on Technical Barriers to Trade (TBT).

The GATT rules apply when not superseded by a more specific WTO agreement. For measures related to food safety and animal and plant health, the rules of the SPS Agreement prevail over those of GATT 1994.[5] The consideration of sanitary and phytosanitary measures in trade disputes has gained exponential attention in recent years. While in over 40 years of the GATT 1947 dispute settlement procedures only one panel considered sanitary or phytosanitary trade disputes, in the first 15 years since the establishment of the WTO in 1995 almost 40 complaints were formally lodged in reference to the SPS Agreement.[6] Measures purely to protect consumer interests or animal welfare would not be covered in principle by the SPS Agreement. These concerns, however, may be addressed by other WTO agreements (i.e., the TBT Agreement or Article XX of GATT).[7]

Analysis of WTO substantive provisions and case law most relevant to the topic of LMOs and socio-economic considerations

The WTO clearly states that free trade is not an end in itself, but is tied to key human values and welfare goals inserted in its founding charter, the Marrakesh Agreement.[8] Countries that agreed to the Marrakesh Agreement in 1994 affirmed that the setting up of such a multilateral trade system was "for the benefit and welfare of their peoples".[9] The present section will explore how socio-economic-related rights and considerations may be taken into account in the provisions of the main WTO agreements relevant to this particular subject, i.e., the Marrakesh, SPS, TBT and GATT agreements.

Marrakesh Agreement

The socio-economic aim of providing benefit and welfare to their peoples was inserted in the preamble of the Marrakesh Agreement by stating the importance of raising the standards of living and ensuring full employment of their populations. The Marrakesh Agreement establishing the WTO considers in its first recital:

"Recognizing that their [i.e., the Parties to the Agreement] 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,"[10]

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3 Until 2009, the European Union (EU) was officially known in the WTO as the European Communities.

4 The updated GATT 1994 has to be read in conjunction with GATT 1947. See http://www.wto.org/english/res_e/booksp_e/analytic_index_e/gatt1994_01_e.htm#lig

5 WTO. The WTO agreements series. Sanitary and phytosanitary measures. Accessed 26 August 2013. https://www.wto.org/english/res_e/booksp_e/agrmntseries4_sps_e.pdf

6 Ibidem.

7 Ibidem.

8 WTO webpage. Accessed 26 August 2013. http://www.wto.org/english/tratop_e/envir_e/climate_intro_e.htm

9 Marrakesh Declaration of 1994. http://www.wto.org/english/docs_e/legal_e/marrakesh_decl_e.htm

10 Marrakesh Agreement Establishing the WTO. https://www.wto.org/english/docs_e/legal_e/04-wto_e.htm

Recall that both elements – standards of living and full employment – are clearly inserted in Articles 23 to 25 of the Universal Declaration of Human Rights (UDHR) and later in legally binding form in the International Covenant on Economic, Social and Cultural Rights (ICESCR), which guarantees the right of everyone to an adequate standard of living in Article 11 and the right to work in Articles 6 to 8.[11] In addition to this, some authors consider that the drafters of the Marrakesh Agreement establishing the WTO aimed to make clear reference to the UN Charter which contains clear socio-economic obligations, particularly its Article 55(a) which states that "the United Nations shall promote higher standards of living, full employment, and conditions of economic and social progress".[12]

It is clearly established that the WTO agreements in preambular language contain references to socio-economic considerations. The next question that arises is about the role of such clauses. According to established international law, the preamble does not place any binding obligations on Parties to take any specific action, for example on the right to food which is part of the right to an adequate standard of living, or obligations on labour standards. However, it is important to recall the Vienna Convention on the Law of Treaties, which asserts that the preamble can be used for interpretation purposes.[13] This is particularly important for the dispute settlement bodies of the WTO – namely the Panels and the Appellate Body – which, when interpreting the WTO agreements, should be obliged to take the preamble into account and take decisions with positive conclusions in respect of the right to an adequate standard of living and labour rights.

Case law of the WTO also shows that the preamble should be taken into consideration in the exercise of interpretation of its related treaties. The Appellate Body in the *US–Shrimp* case asserted the following: "As this preambular language reflects the intentions of negotiators of the WTO Agreement, we believe it must add colour, texture and shading to our interpretation of the agreements annexed to the WTO Agreement, in this case, the GATT 1994."[14]

GATT

GATT establishes rules for governments on the trade in goods, and has three main criteria that guide its action. First of all, it requires "most-favoured-nation treatment" among GATT Members, meaning that trade measures cannot discriminate according to the country of origin or destination.[15] Secondly, it requires "national treatment", meaning that imported products cannot be treated less favourably than domestic products.[16] Finally, GATT also forbids quantitative restrictions, such as quotas, import bans and export bans.[17] Exceptions to these rules are provided in Article XX of GATT, as described below.

The following sections will analyze the opportunities for using socio-economic considerations, in the context of the preambular and main provisions of GATT.

Raising standards of living is a key objective

Similar to the preamble of the Marrakesh Agreement, the preamble of GATT also makes reference to socio-economic rights, and explicitly inserts the objective that trade and economic relations should be conducted with a view to raising standards of living and ensuring full employment. This is further underlined in Article XXXVI, in the section on Trade and Development, where it is recalled that one of the basic objectives of GATT is to raise the standards of living in the contracting parties, with a particular urgency for less-developed countries. It is also explicitly recognized that there is a wide gap in standards of living between less-developed countries and other countries.

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11 See the discussion on the UDHR and the ICESCR in the paper "Relevant international law obligations that include socio-economic considerations, in the context of Article 26.1 of the Cartagena Protocol on Biosafety" in this volume.

12 Lumina C. 2008. Free trade or just trade? The WTO, human rights and development. *Law, Democracy and Development*, Vol. 12.

13 Article 31.2, Vienna Convention on the Law of Treaties: "The context for the purpose of the interpretation of a treaty shall comprise, in addition to the text ... its preamble and annexes."

14 WTO. 1998. United States – Import prohibition of certain shrimp and shrimp products. WT/DS58/AB/R, para. 153.

15 Article I, GATT.

16 Article III, GATT.

17 Article XI, GATT.

Article XX

Article XX of GATT introduces general exceptions to the main principles of the agreement.[18] There are 10 exceptions, but for the purpose of this paper only the three measures that seem to be the most relevant to socio-economic considerations and the topic of LMOs are analyzed. These measures are, firstly, those which are necessary to protect public morals; secondly, those which are necessary to protect human, animal or plant life or health; and finally, those which relate to the conservation of exhaustible natural resources.

When applying Article XX, firstly, there will be a need to verify whether the GATT-inconsistent measure falls within one of the exceptions under Article XX. Secondly, it should be confirmed whether the measure meets the requirements of the chapeau.[19] The chapeau states that measures adopted on the basis of Article XX cannot be applied in a manner that would constitute "a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade".

Violation of the indications given in the chapeau, i.e., if the measure is arbitrary, unjustifiable or a disguised restriction on international trade, would be enough to render the measure in violation of GATT, even if the general exception is considered justified.[20] WTO case law has provided indications of what an unjustifiable, arbitrary or a disguised restriction means, which need to be taken into account when applying any measure under Article XX. For instance, "unjustifiable" would mean a certain discrimination that could have been foreseen and that was not merely "inadvertent or unavoidable",[21] and in addition there are criteria involving a "serious effort to negotiate",[22] and the need for the measure to show flexibility.[23] The meaning of arbitrary and disguised restriction has been examined in numerous cases and any defendant using this clause has to look at the interpretations given for the different elements of the chapeau.[24]

Article XX would apply in principle only to GATT; however, due to the fact that other WTO agreements do not have such a clause, e.g., the TBT agreement, some authors and defendants have argued that Article XX should be permitted to operate as a defence for violations of WTO agreements other than GATT.[25] In the *EC–Biotech* case for instance, the EC argued that if the challenged measures were found inconsistent with the TBT Agreement, they could be rehabilitated under Article XX of GATT.[26] In this particular case, however, the Panel did not have to decide whether Article XX could be used to overcome a violation of the TBT Agreement, because this latter agreement was judged to be inapplicable.[27]

It is very important to note that as of now the rate of success of defendants that have used the Article XX clause within WTO dispute settlement processes is not very favourable to the defendants. In the real practice of WTO dispute settlement litigation where the Article XX exceptions have been used, it is observed that out of more than 30 WTO cases, only in one of those cases – *EC–Asbestos* – were all the conditions for application of a GATT or GATS[28] general exception considered satisfied.[29] In this context, the next sections will examine the most up-to-date trends and opinions with regard to Article XX, focusing on the general exceptions that are most likely to be based totally/partially and/or directly/indirectly on socio-economic considerations.

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18 See the three key provisions of GATT in the first paragraph of the section on "GATT".

19 WTO. *US–Shrimp* case. Appellate Body.

20 WTO. 2002. GATT/WTO dispute settlement practice relating to GATT Article XX paragraphs (b), (d) and (g). WT/CTE/W/203.

21 *US–Gasoline*, Appellate Body Report, DSR 1996, p. 27.

22 *US–Shrimp,* Appellate Body Report, para. 166.

23 *US–Shrimp*, Panel Report, para. 5.46.

24 WTO. 2002. GATT/WTO dispute settlement practice relating to GATT Article XX paragraphs (b), (d) and (g). WT/CTE/W/203.

25 Feld DS and Switzer S. 2012. Whither Article XX? Regulatory autonomy under non-GATT agreements after *China–Raw Materials. The Yale Journal of International Law*, Vol. 38.

26 *EC–Biotech* case, Panel Report, para. 4.357.

27 *EC–Biotech* case, Panel Report, para. 7.2524.

28 There is an equivalent general exceptions clause for trade in services, in Article XIV of the General Agreement on Trade in Services (GATS).

29 Public Citizen. (n.d.). Only one of 35 attempts to use the GATT article XX/GATS article XIV "general exception" has ever succeeded.

Article XX(a): Measures necessary to protect public morals

Some authors have viewed the public morals clause as a mechanism to incorporate human rights and labour standards into the WTO, while others see it as a potential tool for protectionism.[30] As of today the public morals clause remains largely unexplored, with WTO Members' obligations still unclear. Taking into account the greater heterogeneity of the WTO membership, it is highly possible that the public morals exception could play a growing role in international trade issues,[31] as shown in the *EC–Seals* complaint, where animal welfare was at the centre of an EU ban on trade related to seal products. When the case was launched, the expectations for Article XX(a) to be invoked as a valid defence were high, as discussed by Howse and Langille (2012) in the *Yale Journal of International Law*:

"Moral, ethical and philosophical reasons should be considered adequate to justify trade-restrictive measures. If the WTO does not recognize these types of justifications, it risks imposing a secular, materialist vision of politics on all its member states. Instead the WTO should respect pluralism, allowing countries to justify their trade-related actions through noninstrumental reasoning that may seem compelling to certain countries or peoples, even if frivolous or perhaps superstitious to others. The fact that one group of veterinarians in one country has come to the conclusion that the killing of seals by a particular method is humane or not cruel need not preclude another country or people from interpreting differently, according to their own moral commitments and attitudes."[32]

The Panel in *EC–Seals* concluded in 2013 that the European Commission proposal did "provide evidence that the public concerns about seal welfare constitute a moral issue for EU citizens".[33] The Appellate Body in 2014 upheld the Panel's findings that the EU Seal Regime was "necessary to protect public morals" within the meaning of Article XX(a) of GATT 1994. Despite this, the Appellate Body concluded that the EU Seal Regime did not meet the requirements of the chapeau of Article XX.

On the particular subject of LMOs in relation to the general exception in Article XX(a), it is widely recognized that some applications of modern biotechnology have the potential to undermine social and cultural values, and besides health and environmental risks, ethical, moral and religious considerations have been brought to the public debate. For example, the insertion of the genes of certain animals or humans may be unacceptable to certain sectors of a particular society, and therefore it may be considered against the public morals in a particular country. While this exception has never been used in the case of LMOs, a potential scenario where a country uses, inter alia, this exception cannot be excluded.

The term "public morals" is not defined in GATT and neither has it been interpreted by any Panel or the Appellate Body. Social considerations are key in this exception, as social factors are an important value that will determine what the public morals are in a certain society. According to the Panel in the *US–Gambling* case, "public morals denotes standards of right and wrong conduct maintained by or on behalf of a community or nation", which "can vary in time and space, depending upon a range of factors, including prevailing social, cultural, ethical and religious values".[34] The Panel indicated that WTO Members have considerable discretion in determining what practices would constitute a violation of the moral code of the community.[35] Further to this, the Appellate Body has stated on several occasions that WTO Members, in applying similar societal concepts, have the right to determine the level of protection that they consider appropriate.[36]

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30 Marwell JC. 2006. Trade and morality: the WTO public morals exception after *Gambling. New York University Law Review*, Vol. 81.

31 Ibidem.

32 Howse R and Langille J. 2012. Permitting pluralism: the seal products dispute and why the WTO should accept trade restrictions justified by noninstrumental moral values. *The Yale Journal of International Law*, Vol. 37.

33 *EC–Seals*, Appellate Body, para. 5.154.

34 *United States – Measures affecting the cross-border supply of gambling and betting services*, Panel Report.

35 Howse and Langille, op. cit.

36 See Appellate Body Reports on *Korea – Various Measures on Beef* , para. 176, and *EC–Asbestos*, para. 168.

Article XX(b): Measures necessary to protect human, animal or plant life or health

For a measure to be justified under Article XX(b), it has to comply with the following criteria: (i) that the policy in respect of the measure is designed to protect human, animal or plant life or health; (ii) that the GATT-inconsistent measure is necessary to fulfil the policy objective; and (iii) that the measure was applied in conformity with the requirements of the chapeau of Article XX.

Article XX(b) is an illustration of the tensions that may exist between international trade on the one hand, and public health and environmental concerns on the other hand.[37] An adequate standard of health is a socio-economic right recognized under the ICESCR and the UDHR. Some of the potential socio-economic considerations considered within the framework of Article 26.1 of the Cartagena Protocol include health-related impacts, for example those resulting from changes in the use of pesticides and herbicides.[38]

Article XX(b) has a close relationship with the SPS Agreement. According to the SPS Agreement, it aims to "elaborate rules for the application of the provisions of GATT 1994 which relate to the use of SPS measures, in particular provisions of Article XX(b)".[39] Some authors argue that due to this provision, the SPS Agreement is an implementation of Article XX(b), and that both rules should be "regarded as constituting one package of rules and be read together".[40] This interpretation was argued in the *EC–Hormones* case in the sense "that the SPS agreement only applies, as Article XX(b) of GATT does, if, and only if, a prior violation of a GATT provision has been established". However, the Panel in *EC–Hormones* rejected such a conclusion.[41]

Necessity test for Articles XX(a) and (b)

The measure qualifying for exceptions under Articles XX(a) and (b) must be necessary. In the *Korea–Beef* case, the Appellate Body stated that a necessary measure was closer to the pole of "indispensable" rather than to the opposite pole of simply "making a contribution to".[42] In addition to this, a provision would be "necessary" in the absence of reasonably available alternatives. In the *China–Audiovisual Products* case, the Appellate Body confirmed the findings of the Panel that found that because less restrictive alternatives were available, the measures in question were not "necessary" to protect public morals.[43]

The less restrictive alternative measures must be argued by the complaining party, and it will not be enough for it to merely list possible less trade-restrictive alternatives; it must show that the alternative in question provides an equivalent contribution to the defending member's legitimate objective.[44] This is not an easy test and case law in *US–Gambling* and *Brazil–Tyres* has recognized "the difficulty of scientifically proving that a measure is the least restrictive alternative" to a certain objective.[45]

In this context the necessity test has become an important hurdle for parties trying to justify measures under the GATT Article XX or GATS Article XIV exceptions. As Table 1 shows, out of six cases dealing with the necessity test, only one succeeded in winning the case completely. In another two cases, while the measures were considered necessary, they failed to pass the chapeau test of Article XX.[46]

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37 *Brazil–Recycled Tyre*s, Appellate Body, para. 210.

38 Thorn C. 2011. Cartagena Protocol on Biosafety: WTO-consistency of import restrictions that take into account socio-economic considerations.

39 Preamble, SPS Agreement, 8th recital.

40 Matsushita M. 2003. Some issues of the SPS Agreement. In Cottier T et al. (eds.), *The Role of the Judge in International Trade Regulation: Experience and Lessons for the WTO*. University of Michigan Press.

41 See WTO webpage, accessed September 2013: https://www.wto.org/english/res_e/booksp_e/analytic_index_e/sps_01_e.htm#fntext9

42 *Korea–Various Measures on Beef*, Appellate Body, para. 161.

43 *China–Publications and Audiovisual Products*, Appellate Body, para. 243-249.

44 *US–Clove Cigarettes*, Panel, para. 7423-7428.

45 Howse and Langille, op. cit.

46 Doyle C. 2011. Gimme shelter: the "necessary" element of GATT Article XX in the context of the *China–Audiovisual Products* case. *Boston University International Law Journal*, Vol. 29.

Table 1. Key dispute settlement cases involving the necessity test		
Case	**Provision**	**"Necessary" outcome**
US–Gasoline	XX(b), (d)	Negative
Korea–Beef	XX(d)	Negative
EC–Asbestos	XX(b)	Positive, measures justified
US–Gambling	GATS XIV(a)	Positive, but measures eventually failed chapeau analysis
Brazil–Tyres	XX(b)	Positive, but measures eventually failed chapeau analysis
China–Audiovisual Products	XX(a)	Negative, failed to rebut alternative measures

Source: *Doyle C. 2011. Gimme shelter: the "necessary" element of GATT Article XX in the context of the* China-Audiovisual Products *case.* Boston University International Law Journal*, Vol. 29.*

Article XX(g): Measures relating to the conservation of exhaustible natural resources

For a measure to be justified under Article XX(g), the following requirements have to be met: (i) the measure is concerned with the conservation of exhaustible natural resources; (ii) the measure must be related to the conservation of natural resources; (iii) the measure must be effective in conjunction with restrictions on domestic production or consumption; and (iv) the measure must be in conformity with the chapeau of Article XX.

Living and non-living organisms have been included within the notion of "exhaustible natural resources".[47] For a measure to be exempted under Article XX(g), the measure must relate to the conservation of exhaustible natural resources. First of all, the term "relate to" is defined as "having some connection with, being connected to". The Appellate Body in *US–Shrimp* found that, for a measure to relate to conservation in the sense of Article XX(g), there must be "a close and genuine relationship of ends and means".[48] Secondly, the Appellate Body considered that the word "conservation", in turn, means "the preservation of the environment, especially of natural resources".[49] A strict interpretation of the word "conservation" would imply that related activities in the field of biodiversity such as "sustainable use" of natural resources might be excluded in this particular exception.

Finally Article XX(g) contains another requirement where the measure at stake be "made effective in conjunction with restrictions on domestic production or consumption". This is illustrated in the *US–Canadian Tuna* case where the Panel refused US arguments on the basis that they did not provide any evidence that domestic consumption of tuna and tuna products had been restricted in the US.[50]

SPS Agreement

Definition and nature of SPS measures

Any measure used by a WTO Member that is considered an SPS measure will fall under the SPS Agreement. According to Annex A.1, for the purposes of the SPS Agreement, SPS measures are defined as any measures applied:

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

47 *US–Shrimp*, Appellate Body Report, para. 131.
48 *US–Shrimp*, Appellate Body Report, para. 136.
49 *China–Raw Materials*, Appellate Body Report, para. 355.
50 *US–Canadian Tuna*, Panel Report, para. 4.11.

Measures related to LMOs are often related to health issues. Measures for strictly protecting the environment, to protect consumer interests, or for the welfare of animals should not in principle be covered by the SPS Agreement. These concerns, however, would be addressed by other WTO agreements (i.e., the TBT Agreement or Article XX of GATT 1994).[51] Despite this, the Panel in *EC–Biotech* has provided a broad definition of SPS measures, and legislation such as EC Directives 90/220 and 2001/18, which have as one of their main purposes the protection of the environment, were considered within the scope of the SPS Agreement because, inter alia, they were applied to protect animals and plants as part of their purpose of protecting the environment.

In the light of this broad interpretation and due to the fact that most LMO cases have a health-related purpose or factor, many authors consider that such measures would in the majority of cases be considered a sanitary and phytosanitary measure within the framework of the SPS Agreement.

Measures related to LMOs that would fall under the SPS Agreement

Once a WTO complaint on the basis of the SPS Agreement is made against a measure related to LMOs, one of the first tasks to undertake is to see whether such a measure indeed falls within the framework of the SPS Agreement, i.e., whether such a measure is an SPS measure within the meaning of Annex A of the Agreement. This was particularly important in the context of the *EC–Biotech* case (see Box 1). In that case the EC tried to avoid defending the measures at stake as if they were SPS measures. The reasons were self-evident. At the time of the Panel ruling in 2006, four cases involving the SPS Agreement had been considered by the Appellate Body, and in all cases, the defending member lost and was found to violate the SPS Agreement.[52]

Despite the EC arguing, in the particular case of *EC–Biotech*, that the LMOs in question should not be considered "pests" or "diseases" per se and therefore fell outside the scope of the SPS Agreement, the Panel saw it differently and for them, LMO measures established by the EC could be considered SPS measures, as defined in the preceding section.

The Panel analyzed several situations to determine whether genetically modified (GM) plants could be considered "pests" within the meaning of Annex A.1 of the SPS Agreement.[53] For example, it concluded that GM plants growing in fields of conventional plants might be considered to be undesirable plants and hence "pests", or "weeds", from the perspective of the farmer seeking to grow a crop other than the unwanted GM crop;[54] also, in situations of outcrossing, an LMO may be deemed to be a "pest" if the LMO is associated with "[a]dverse effects of gene flow or gene transfer including, for example [...] transfer of pesticide or pest resistance genes to compatible species".[55] The Panel also considered that "risks to animal or plant life or health resulting from a change in pesticide use may be viewed as arising indirectly from the entry, establishment or spread of resistant target (or non-target) organisms *qua* relevant pest". For the Panel, indirect effects would be included within the SPS framework, for instance environmental and other undesired effects of pests.[56]

As to whether LMOs are "diseases", the Panel considered that at stake was not whether an LMO was a disease or a disease-carrying organism, but rather what needed to be determined was whether adverse effects that might arise from the deliberate release of an LMO included disease to animals and plants. In the light of this argument and since the European Directives in question sought to protect animal or plant life or health from risks arising from, inter alia, diseases, then the measure was considered as falling within Annex A.1 of the SPS Agreement.[57]

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51 WTO. Accessed 9 September 2013. http://www.wto.org/english/tratop_e/sps_e/spsund_e.htm

52 CIEL. 2006. EC-Biotech: Overview and Analysis of the Panel's Interim Report. Center for International Environmental Law, Geneva.

53 *EC–Biotech* case. Para. 7.242.

54 Ibidem, para. 7.245.

55 Ibidem, para. 7.253.

56 Ibidem, para. 7.266.

57 Ibidem, para. 7.278.

Box 1. *EC–Biotech* case

On 13 May 2003, the United States requested consultations with the European Communities in relation to various measures taken by the EC and its Member States which the US claimed to be affecting agricultural and food imports from the US. The main measures at stake were the "moratorium" and several EC Member States' national marketing and import bans on biotech products even though those products had already been approved by the EC for import and marketing in the EC. Canada and Argentina launched similar complaints against the EC, and on 23 February 2004, the three countries jointly requested the WTO Director-General to compose a Panel, and a month later the Panel was composed.

In September 2006, the Panel issued three consolidated panel reports with its final decision in the dispute. The Panel's decision is recognized as much for what it did not rule on, as for what it actually did. The Panel left many key biotech issues unanswered, such as whether LMOs are "like products" to their conventional counterparts or the precautionary principle. However, it addressed important issues related to the application of WTO law, such as the scope of the SPS Agreement, and provided guidance on several obligations contained in that agreement.

The complainants alleged numerous violations of the SPS Agreement, but also of GATT and the TBT Agreement. The Panel did not look at claims under GATT and the TBT Agreement and focused on the SPS Agreement.

The Panel found that the EC applied a general de facto moratorium on the approval of biotech products between June 1999 and August 2003, and by applying this moratorium, the EC had acted inconsistently with its obligations under Annex C.1(a), first clause, and Article 8 of the SPS Agreement because the de facto moratorium led to undue delays in the completion of EC approval procedures. The Panel, however, found that the EC had not acted inconsistently with its obligations under other provisions raised by the complainants.

As to the product-specific EC measures, the Panel found that the EC had acted inconsistently with its obligations under Annex C.1(a), first clause, and Article 8 of the SPS Agreement in regard to the approval procedures concerning 24 out of 27 biotech products identified by the complaining parties, because there were undue delays in the completion of the approval procedures for each of these products. However, the Panel considered that the EC had not acted inconsistently with its obligations under other provisions.

In conclusion, the EC was in practice inconsistent basically because of "undue delay" in the processes under the SPS Agreement.

"Other damage" in Annex A.1(d) includes economic damage

Annex A.1 includes "other damage" in the wording of paragraph (d). In *EC–Biotech,* the Panel confirmed that economic damage can be included as other damage, which leaves the door open for socio-economic considerations, particularly those related to coexistence, to be considered within the framework of the SPS Agreement.

In the *EC–Biotech* case, Austria in its safeguard measure on T25 and Bt 176 maize argued that there was a need for preventing the spread of pollen to surrounding areas cultivated with conventional maize, explicitly considering it as a coexistence measure. The Panel interpreted that this element was derived from concerns over the possible loss of economic value to farmers, who due to the existence of unwanted out-crossed plants in their fields could no longer market their crops as non-GM crops.[58] Such coexistence measures, which are one of the socio-economic considerations most cited by stakeholders as being included in the framework of Article 26.1 of the Cartagena Protocol, could be included within the framework of Annex A.1(d) since "other damage" includes economic damage and, secondly, plants growing where they are undesired can be considered as "pests".[59]

[58] Ibidem, para. 7.2575.

[59] Ibidem, para. 7.2576.

The risk assessment in Annex A.4

Members of the WTO have to base any SPS measures on a risk assessment.[60] Annex A.4 defines risk assessment and includes economic consequences in its definition. In this respect, it states that risk assessment is "the evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences".

In the *EC–Biotech* case, most of the studies presented in the safeguards measures established by several EC countries were rejected by the Panel mostly because it considered that such studies did not meet the definition of risk assessment in Annex A.4. The particular element identified in most cases as missing was the evaluation of "likelihood".[61]

In addition to the consideration of health factors in the risk assessment, when undertaking a risk assessment on animal or plant health it is compulsory that members take into account relevant economic factors as listed in Article 5.3 of the SPS Agreement:

a) The potential damage in terms of loss of production or sales in the event of the entry, establishment or spread of a pest or disease;
b) The costs of control or eradication in the territory of the importing Member; and
c) The relative cost-effectiveness of alternative approaches to limiting risks.

The lack of establishment of economic consequences, inter alia, in a risk assessment would diminish the chances of that risk assessment passing the test of Annex A.4. This, for instance, occurred in the *EC–Biotech* case where a study incorporated by France was not accepted as fulfilling the criteria of a risk assessment in accordance with the SPS Agreement, inter alia, for not analyzing the potential economic consequences.[62]

Standards, guidelines and recommendations from relevant international organizations

The risk assessment needs to take into account risk assessment techniques developed by relevant international organizations. A country has the possibility to adopt its own standards, but it is less likely to be challenged in the WTO if it applies international standards, guidelines and recommendations.[63] The standards explicitly mentioned in Annex A of the SPS Agreement are those set by Codex Alimentarius, the International Office of Epizootics (now called the World Organisation for Animal Health) and the International Plant Protection Convention (IPPC).

While the WTO explicitly recognizes the possibility of adopting other standards, guidelines and recommendations, for matters not covered by the above organizations, in practice the dispute settlement bodies have adopted a very strict view on this matter, even disregarding internationally recognized mechanisms related to environmental matters such as the Convention on Biological Diversity (CBD) and the Cartagena Protocol. For instance, the Panel in *EC–Biotech* rejected the claim of the EC that it was required to take into account either the CBD or the Protocol because several WTO Members, including the complaining parties to the dispute, were not parties to those agreements.[64] Paradoxically, the Panel contradicted itself in the same *EC–Biotech* case, where a treaty – the IPPC – not ratified at the time of the establishment of the complaint was used anyway by the Panel.[65] In *EC–Biotech,* the Panel argued that a related standard to the IPPC treaty

60 Article 5.1, SPS Agreement.
61 *EC–Biotech* case, Panel Report, para. 7.3046.
62 Ibidem, para. 7.3120.
63 WTO. Understanding the WTO. https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm4_e.htm
64 *EC–Biotech*, para. 7.73-7.75.
65 *EC–Biotech*, para. 7.253.

could be used in the argumentation of the Panel because it could aid them in establishing the meaning and scope of certain terms used in the SPS Agreement.[66]

Pest- or disease-free areas and areas of low pest or disease prevalence

Article 6 of the SPS Agreement allows Members to establish pest- or disease-free areas. The key concept here is the recognition that an exporting region is "disease-free" or "pest-free" (or has a low incidence of pests or diseases). This concept, also called "regionalization", has been specifically referred to in cases related to bovine spongiform encephalopathy (BSE, or mad cow disease), avian flu, foot and mouth disease, fruit fly, classical swine fever and others.[67]

Since LMOs have the potential to become pests and/or cause diseases, the possibility that exporting parties under the WTO could define an area within the country as free of a certain LMO, whose potential or real adverse effect has been acknowledged, cannot be excluded.

TBT Agreement

The TBT Agreement aims to ensure that technical regulations, standards, testing and certification procedures do not create unnecessary obstacles to trade. It recognizes that no government should be prevented from adopting technical regulations and standards to fulfil a legitimate objective.[68] The TBT Agreement provides a non-exhaustive list of legitimate objectives that includes protection of human health or safety, animal or plant life or health, or the environment. For a measure to fall under the TBT Agreement, there must be a document that lays down, sets out or stipulates product characteristics including administrative provisions, with which compliance is mandatory.[69]

The TBT Agreement states that if relevant international standards are available, WTO Members shall use them as the basis of their technical regulations, unless such a standard is inappropriate for reasons such as fundamental climatic or other geographical factors.[70] In that case, and also in cases where no international standard is available, the WTO Member in question shall give an advance notification of such technical regulations it plans to adopt and provide the other WTO Members a reasonable time to get acquainted with them.[71]

Developing countries need to adopt standards that are compatible with their development needs. As recognized in the TBT Agreement, "developing country Members should not be expected to use international standards as a basis for their technical regulations or standards, including test methods, which are not appropriate to their development, financial and trade needs".[72]

The TBT Agreement in principle would not apply to measures of a non-instrumental character that are intended to express intrinsic moral or societal beliefs.[73] Howse and Langille (2012) argue this because of the use of the word "technical" to qualify the kind of measures that fit within the ambit of the TBT Agreement as well as the exclusion of "public morals" from the list of "legitimate objectives". On the basis of this, for example, the same authors conclude that in the *EC–Seals* case, the EU ban in question should not be measured against the TBT Agreement, which is inherently unsuited to assessing non-instrumental moral regulation.

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66 In *EC–Biotech* the Panel referred in several paragraphs to the International Standard for Phytosanitary Measures No. 11, *Pest Risk Analysis for Quarantine Pests Including Analysis of Environmental Risks* (FAO, Rome, 2004 (adopted April 2004)), Annex 3, p. 36. The Panel stated that "The European Communities has pointed out that the 1997 IPPC on the basis of which ISPM No. 11 was published had not been ratified by the European Communities on the date of establishment of this Panel. We note in this regard that we are neither applying ISPM No. 11 as such nor treating it as dispositive of the meaning of terms used in Annex A(1) of the *SPS Agreement*. However, we think we may refer to it if we find that it is informative and aids us in establishing the meaning and scope of the terms used in Annex A(1)". See status of ratification of the IPPC in: http://www.fao.org/fileadmin/user_upload/legal/docs/1_004s-e.pdf

67 WTO. Accessed 10 August 2013. http://www.wto.org/english/news_e/news06_e/sps_feb06_e.htm

68 Article 2.2, TBT Agreement.

69 Annex 1, TBT Agreement.

70 Article 5.4, TBT Agreement.

71 Article 5, TBT Agreement.

72 Article 12.4, TBT Agreement.

73 Howse and Langille, op. cit.

Opportunities and challenges for including socio-economic considerations within the WTO framework

What type of measures related to LMOs and socio-economic considerations may be applied?

This section will analyze four types of measures that could be constructed around the topic of LMOs and socio-economic considerations in the framework of Article 26.1 of the Cartagena Protocol on Biosafety, and that in addition could be based on the WTO provisions analyzed in the preceding sections. These measures are related to: (i) social intrinsic values; (ii) health; (iii) economic factors; and (iv) the environment.

Measures related to social intrinsic values

LMOs and products thereof that affect trade have the potential to bring into the WTO disputes on the basis of fundamental social, ethical and moral values that are at the core of a certain society. Article 26.1 of the Cartagena Protocol directly involves indigenous communities by stating that special consideration must be given to socio-economic considerations "arising from the impact of living modified organisms on the conservation and sustainable use of biological diversity, especially with regard to the value of biological diversity to indigenous and local communities". As indigenous communities often abide by moral and sacred values deeply anchored in their societies, and if a particular LMO goes against such values, restrictions or bans could potentially be constructed to protect them.

As seen above, GATT allows an exception on the basis of public morality in Article XX(a). As of now, however, no LMO-related measure has been invoked using Article XX(a), and no other measure has yet been successful on the basis of public morals. The report of the Appellate Body in *EC–Seals* in 2014 on the basis of animal welfare concerns has certainly shed light on the prospects of success in invoking this exception. Despite the Appellate Body finding that the "EU has not justified the EU Seal Regime under Article XX(a)",[74] in a positive light, it also considered that "the EU Seal Regime is provisionally deemed necessary within the meaning of Article XX(a)".[75]

With greater heterogeneity in the WTO, and the increasing number of non-tariff measures being implemented, there will be a need for a WTO that is more flexible in permitting a diversity of views. If the case for public morals is successful in WTO dispute litigation, it is possible that, since environmental and health obligations can be also recasted in terms of public morality, a very strict review of measures under the TBT or SPS Agreements might prompt countries to attempt to justify regulatory measures under public morals instead.[76] Out of 250 regional/bilateral free trade agreements registered at the WTO, nearly 100 contain public morals exceptions, and a growing debate on public morality in the WTO is likely to influence the practice under regional and bilateral agreements.[77]

Health-related socio-economic measures

The WTO has recognized that "health concerns can take precedence over trade issues. If necessary, governments may put aside WTO commitments in order to protect human life".[78] A "WTO-inconsistent" measure can be justified if it is proven that it was necessary to protect human, plant or animal health. Previous sections have reviewed Article XX(b) of GATT, the measures under the SPS Agreement, and also the list of legitimate objectives under the TBT Agreement. While the SPS Agreement places quite strict requirements on the measures that use health as a justification for its substantive provisions, i.e., based on a scientific justification, the TBT Agreement, on the other hand, applies to a wide range of technical requirements, and only notes that available scientific information may be one of the relevant elements of consideration in assessing risks.[79]

The LMO measures under the EC Directives in the *EC–Biotech* case were considered as falling under the SPS Agreement, and the TBT Agreement was "disregarded" in that particular case. As discussed above, the broad interpretation made in *EC–Biotech* means that LMO measures that have a direct/indirect relation to health would probably fall in the majority of situations under the SPS Agreement. This would also likely

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74 *EC–Seals*, Appellate Body, para. 6.1.d.iii.

75 *EC–Seals*, Appellate Body, para. 6.1.c.iii.

76 Marwell, op. cit.

77 Marwell, op. cit.

78 WTO webpage. Accessed in September 2013. http://www.wto.org/english/news_e/pres02_e/pr310_e.htm

79 WHO and WTO. 2002. WTO agreements and public health.

incorporate human-health-related impacts from pesticides/herbicides associated with LMOs in the framework of Annex A.1(c) of the SPS Agreement. The Panel in the *EC–Biotech* case stated that to the extent that EC Directives 90/220 and 2001/18 sought to avoid adverse effects on human health which arise from changes in management practices associated with the introduction into the environment of GMOs, the Panel considered that the Directives could be viewed as measures applied to protect human life or health from risks arising indirectly from the entry, establishment or spread of weeds *qua* "pests".[80]

The health impacts of chemical products in agriculture are gaining increasing prominence around the world and already have been put in the context of the socio-economic right to health. The right to health is of an intrinsically socio-economic nature and is protected under the ICESCR and has a prominent role in the UDHR. The human right to health has mostly focused on providing access to individuals to quality health care. A key feature of the realization of the right to health implies that each country should put in place health services that are available in any circumstances, accessible to everyone, of good quality and satisfactory.[81] While it is critical to ensure equal access to health care, the health impacts suffered by many marginalized people – for example, many local communities and indigenous peoples – stem from a diversity of direct, indirect and long-term impacts.

In the case, for instance, of a measure related to a particular LMO, potential health impacts can arise from the intrinsic characteristic of the LMO per se, but also indirectly from the associated package linked to the LMO, such as the impact on health that can be created by the use of chemical inputs. The impact of the use of chemical products associated with a particular LMO has been listed as a potential socio-economic consideration that may be raised by Parties in the framework of Article 26.1 of the Cartagena Protocol on Biosafety. The impact of pesticides on human health is very serious in many places around the world. For example, the *State of the World's Indigenous Peoples* report found that many indigenous communities suffer from illnesses as a consequence of pesticides which come, inter alia, from the contamination and depletion of their land and natural resources and on many occasions from forced displacement from their territories.[82] Such potential impacts may be taken into consideration by WTO Members when designing health measures related to LMOs.

Economic-related measures

As we saw above, the economic consequences of the introduction of a certain LMO and product thereof can fall under the SPS Agreement, as provided for in Article 5.3. According to WTO case law, economic damage can also be considered within the SPS Agreement as "other damage" in Annex A.1(d). Therefore, from WTO provisions and case law, it is clear that the SPS Agreement allows for the consideration of economic-related measures, which would include coexistence. The fact that such measures can fall under the WTO will of course not necessarily mean that they are considered consistent with the SPS Agreement. In addition, it must be noted that not necessarily all economic-related measures will fall under the SPS Agreement. While the WTO case law seems to have used a broad interpretation of "other damage" in Annex A.1 of the SPS Agreement, it may be possible that certain economic considerations fall under other WTO agreements.

An important issue to underline at this stage is whether economic-related measures would be able to be invoked alone in the framework of the SPS Agreement or need to come associated with clear health-related measures. So far, the WTO dispute settlement bodies have not ruled on the substance of a case where a measure related to LMOs was made exclusively on the basis of pure economic criteria. Although there are already, for instance, numerous coexistence rules existing around the globe, none have as of now been challenged at the WTO.

Among the socio-economic considerations of economic nature that could be raised is coexistence, but there are other important issues related to the right to food, such as food security issues, that may be invoked by a country. For example, with the cultivation of GM crops in developing countries particularly, household food security may be threatened by the conversion of land areas traditionally planted with food crops to production of commodity crops for industrial use and export.[83]

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80 *EC–Biotech*, para. 7.360.

81 Accessed in September 2013. http://www.humanium.org/en/fundamental-rights/health/

82 UN. 2009. *State of the World's Indigenous Peoples*. UN Department of Economic and Social Affairs.

83 UNEP. 2013. Socio-economic considerations. Summary of the online discussions of March-April 2013. UNEP/CBD/BS/REGCONF-SEC/2/INF/1.

Socio-economic measures related to environmental protection

Plant genetic resources may be an "exhaustible natural resource" in the sense of Article XX(g) of GATT. For instance, the potential reduction in biodiversity of the natural counterparts of a particular LMO may give rise to a measure justified under Article XX(g) to protect such exhaustible resources. In this case, socio-economic considerations related to the protection of biodiversity may be raised, for instance: (i) what would be the socio-economic impact of the introduction of an LMO in a centre of origin or diversity for the corresponding non-GM plant?; (ii) will the GM plant contribute to a greater expansion of monocultures?; and (iii) would the economy in the country that cultivates LMOs be negatively affected by reduced biodiversity?[84]

General interpretative function of protecting the objectives of raising the standard of living and full employment

The objectives described in the preamble of the Marrakesh Agreement and GATT of raising the standard of living and full employment are closely linked to the socio-economic rights to an adequate standard of living and the right to work anchored in the ICESCR. The relevance of such human rights treaties has been described in more detail elsewhere,[85] particularly with regard to the right to food, which is part of the right to an adequate standard of living.

While those objectives are only included in the preambular section, it is clear that they should play an important role in interpretation of the WTO agreements. As of now, the dispute settlement bodies have not made any interpretation in relation to both objectives in the framework of the WTO, but this cannot be excluded in the future. For instance, if Members provide evidence that, without the application of a certain measure, the standard of living of a certain local community or indigenous peoples would most probably be undermined by a certain LMO, it will be necessary for the dispute settlement bodies to interpret the particular rules in question in such a case in light of the objectives of the WTO agreements which call explicitly for raising the standard of living.

Some challenges in WTO practice to the application of socio-economic considerations of LMOs

As seen in previous sections, one element that does not provide enormous cause for optimism on the successful application of socio-economic considerations in the WTO framework derives from the historical record of success in applying what some Members would consider legitimate objectives in the practice of dispute settlement cases.

Measures falling under the SPS Agreement are adjudged very strictly by the dispute settlement bodies and the defendants' claims are often disregarded. While in the *EC–Biotech* case the Panel did not rule on key elements of the case, it did consider the risk assessment not valid within the definition of the Annex of the SPS Agreement, mainly because the likelihood criterion was not fulfilled in most of the documentation provided by the defendant. Another example lies in the Article XX exceptions under GATT, whose rate of success is very limited, as only one case has been successful out of more than 30 cases invoked by WTO Members. The necessity element of that article is also revoked in many cases.

Another important challenge derives from the technical difficulty of establishing a WTO-consistent measure within the WTO. Members which desire to construct LMO-related measures respecting the WTO agreements need to be very stringent in respecting all the elements and provisions of the WTO agreements, as well as the interpretations of the dispute settlement bodies, particularly those of the Appellate Body.

The selection of the purpose of the measure will be very important in order to determine under which agreement a potential conflict in the WTO will fall. As of now, defendants of LMO measures in the WTO, e.g., the EC in the *EC–Biotech* case, have tried to argue that the measures in question do not fall under the SPS Agreement due to its stricter nature.

Another important issue to take into account by Members that are involved in a dispute, or that would like to prepare measures that are solidly respectful of all the criteria established in WTO legislation and case law, is that efforts must be made to construct a measure that enters into details and respects the guidance existing within the WTO framework as much as possible. For example, in the case of a measure which uses

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84 Ibidem.

85 See "Relevant international law obligations that include socio-economic considerations, in the context of Article 26.1 of the Cartagena Protocol on Biosafety" in this volume.

the Article XX(a) exception: first of all, a defendant would have to prove that the measure falls within the scope of public morals, and secondly, it would have to show that it is "necessary". To provide evidence of necessity the Member would have to show that the measure is closer to "indispensable" than simply "making a contribution to", and in addition the complainant will have to fail to find "less-restrictive alternatives". Thirdly, the defendant would have to comply also with the chapeau of Article XX and show that the measure is not "arbitrary", "unjustifiable" or a "disguised restriction on international trade". Every element has a specific history and interpretation in WTO case law, and failure to fulfil one of these elements would imply that the exception of Article XX does not apply. A careful study of every single word and element is key to maximizing the chances of success within the WTO.

It is also important to note that the level of technical complexity and the additional costs derived can act as a barrier, particularly for developing countries, which are rarely able to bring disputes before the WTO precisely because of the level of technical expertise required and the cost required for engaging in disputes.[86]

Strategic design of LMO measures to comply with the WTO: The possibility of decoupling

A country that has established LMO measures that affect trade "adversely" will not necessarily face a WTO legal challenge. In the past 10 years there has been just one such case that has reached a Panel ruling. That case was *EC–Biotech* and the Panel concerned did not rule substantially on key issues such as the subject of "like products", nor on the precautionary principle. The EC was only held to have acted inconsistently because of "undue delay" in the processes under the SPS Agreement.

Parties to the Cartagena Protocol on Biosafety that are also WTO Members and considering implementing socio-economic measures that may affect trade should aim to construct measures respectful of the WTO agreements and case law, particularly that of the Appellate Body. When constructing measures related to LMOs and socio-economic considerations, the selection of the purpose of the measure is very important. For example, a country may choose a measure that covers moral, social, health, economic and environmental purposes. Such a measure could be affected by several provisions of the WTO and several agreements at the same time. If there is a health-related aspect, the case would most probably come under the dominant ambit of the SPS Agreement. As mentioned previously, the selection of the WTO "venue" matters, because a measure could fall under a stricter regime than another.

While the SPS Agreement has gained a reputation for being a difficult regime for defendants to win a case, the lessons from *EC–Biotech* also show that by improving the development of some specific elements, like the "likelihood" test in the risk assessment, the chances of obtaining a positive acceptance of a risk assessment would increase.

In any case, a country wishing to establish an LMO-related measure with different elements may consider decoupling those elements in different measures, in order to maximize the possibility of having more differentiated arguments under the WTO. Let's imagine a country that has a concern over a particular LMO that is targeted for introduction close to the territories of local and indigenous communities. The concerns of the country that has to import the LMO may derive from sacred beliefs related to the intrinsic social values and morality of the local and indigenous communities, and at the same time from health factors. If that country enacts a single measure covering all those factors – moral and health – the measure will certainly face the SPS Agreement test. Even if it passes the public morals test under GATT, the measure would still be inconsistent if it fails the test under the SPS or other agreements.

Strategically, the country could decide to decouple the elements in question into two specific measures, for example: Decree "A", prohibiting the introduction of LMOs or a particular LMO under certain circumstances on the basis of public morality and falling under the justification of Article XX(a) of GATT; and Decree "B" on food safety prohibiting LMOs under certain circumstances and/or a particular LMO on health-related grounds falling under the SPS Agreement. By decoupling the elements related to that particular LMO into two different measures, there would be a need for two rulings, one for each measure, in order to overcome the ban imposed by that country. While it is possible that the ban in both measures could be declared inconsistent with GATT and the SPS Agreement at the same time, such a decoupling in principle opens the door for more solid arguments to back the legitimate objectives of the ban under two different contexts.

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[86] Neeliah SA et al. 2011. The SPS Agreement: Barrier or catalyst?. *The Estey Centre Journal of International Law and Trade Policy*, Vol. 12.

Box 2. Would restricting/prohibiting GMO cultivation in the European Union, on the basis of socio-economic considerations, be compatible with WTO rules?

In 2010, the European Commission proposed a change to the EU's legislative framework on the deliberate release into the environment of genetically modified organisms (GMOs), Directive 2001/18/EC, by adding a new Article 26b that intended to grant Member States the possibility to restrict or prohibit the cultivation of GMOs on their territory[87] on the basis of socio-economic considerations. One of the reasons for the proposal to amend the EU GMO legislation was that the legislative framework did not "grant sufficient flexibility to Member States to decide on GMO cultivation after they have been authorized at EU level". The article read as follows:

"Member States may adopt measures restricting or prohibiting the cultivation of all or particular GMOs authorized in accordance with Part C of this Directive or Regulation (EC) No 1829/2003, and consisting of genetically modified varieties placed on the market in accordance with relevant EU legislation on the marketing of seed and plant propagating material, in all or part of their territory, provided that:

(a) Those measures are based on grounds *other than those related to the assessment of the adverse effect on health and environment*, which might arise from the deliberate release or the placing on the market of GMOs;

(b) That they are in conformity with the Treaties."[88] (emphasis added)

The negotiation process on this new article stopped in mid-2012, because a blocking minority formed by some large Member States prevented a vote in favour of the proposal. However, there are interesting analyses, particularly with respect to socio-economic considerations, that can be drawn from the legal opinions provided by the legal services of the European Council, European Commission and European Parliament about the potential compatibility of such proposals with WTO rules.[89]

The proposal is outside the scope of the SPS and TBT Agreements

The first consideration made by the legal service of the Council was that since the grounds of the measures were not linked to the assessment of adverse effects on health and environment, compliance with the SPS Agreement would not be an issue at stake.[90] This was also the case with the TBT Agreement, as the measures would not be laying down product characteristics.

GATT compatibility: the key debate if products are "like"

The Council legal service considered that measures under the proposed new Article 26b could be debated in the framework of some articles of the GATT treaty. Particularly in the context of Article III.4, the critical issue would be to discern if GM and non-GM products are "like" each other, the relevant criteria having been described in the context of the *EC–Asbestos* case.

The Commission supported the logic that GM products are not like non-GM products, by affirming: "The Commission's services note in any event that the fact that the GMO legislative framework establishes specific rules applicable to GM products rather underlines that these products are not 'like' equivalent non GM products. The Cartagena Protocol on Biosafety to the Convention on Biological Diversity is inspired from the same logic."[91]

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87 European Commission. 2010. Proposal for a regulation of the European Parliament and of the council amending Directive 2001/18/EC as regards the possibility for the Member States to restrict or prohibit the cultivation of GMOs in their territory. COM (2010) 375 final. Brussels, 13 July.

88 Ibidem, Article 1.

89 See Greiter A and Heissenberger A. 2012. Final Report. Development of justifications to restrict GMO cultivation according to the amendment of Directive 2001/18/EC as proposed by the European Commission in July 2010. Ministry of Health, Austria. http://bmg.gv.at/cms/home/attachments/7/8/2/CH1052/CMS1357809856131/uba_endbericht_20130109.pdf

90 Council of the European Union. 2010. Proposal for a Regulation of the European Parliament and of the Council amending Directive 2001/18/EC as regards the possibility for the Member States to restrict or prohibit the cultivation of GMOs in their territory. Opinion of the Legal Service. Brussels, 5 November.

91 European Commission. 2010. Considerations of legal issues on GMO cultivation raised in the opinion of the legal service of the Council of the European Union of 5 November 2010. SEC (2010) 1454 Final. Commission Staff Working Document. See also European Commission. 2011. Complementary considerations on legal issues on GMO cultivation raised in the opinions of the legal service of the Council of the European Union of 5 November 2010 and of the legal service of the European Parliament of 17 November 2010 – WTO Compatibility. SEC (2011) 551 final. Brussels, 29 April.

The Council did not pronounce on the issue of likeness per se, but argued that even if the products were considered "like", this would not necessarily mean that the measures would be WTO-inconsistent, and there could be justifications under different provisions, according to Article XX of GATT. The Council legal service discussed Article XX(a), which refers to measures necessary to protect public morals, in more detail, as at the time of the analysis measures related to the protection of human, animal or plant life and health (Article XX(b)) were completely excluded from the proposal. In relation to Article XX(a), the Council legal service recognized that "there would be inherent difficulties in demonstrating a morally consistent line on GM products, particularly, where they are permitted in different forms such as animal feed".[92]

However, at the same time, the Commission recognized that jurisprudence on these issues was "rather limited" and that it would be "very difficult to predict the outcome if a WTO challenge was made against a Member State measure which was taken pursuant to the proposal". Moreover, the Commission concluded that the proposal contained in Article 26b was compatible with WTO rules.

Indicative list of grounds for Member States to restrict or prohibit GMO cultivation

Following a request by the Member States, the Commission identified a list of grounds (of a socio-economic nature) that could be used to restrict or prohibit GMO cultivation in the EU based on the EU Treaty, the existing case law of the European Court of Justice or that could be inferred from the terms of the existing secondary legislation.[93] The list, which is not necessarily exhaustive and may be invoked by a Member State to justify a national measure restricting/prohibiting the cultivation of GMOs in a given area, is as follows:

a) Public morals
b) Public order
c) Avoiding GMO presence in other products (i.e., contributing to the preservation of organic and conventional farming systems; avoiding the presence of GMOs in other products such as particular food products under GM-free schemes)
d) Social policy objectives (e.g., keeping a certain type of rural development in given areas to maintain current levels of occupation)
e) Town and country planning/land use
f) Cultural policy (i.e., preservation of societal traditions in terms of traditional farming methods; preservation of cultural heritage linked to territorial production processes with particular characteristics)
g) General environmental policy objectives, other than assessment of the adverse effects of GMOs on environment (e.g., maintenance of a certain type of natural and landscape features; maintenance of certain habitats and ecosystems; maintenance of specific ecosystem functions and services).

This list was amended and shortened (deleting points (a) and (b)) during discussions at the Council level, but in principle was accepted by many Member States as a basis for invoking restrictions or bans on GMOs, if the proposed amendment were to enter into force.

Conclusions

Socio-economic rights and considerations should be protected under the WTO agreements

An analysis of the legal provisions of a selected group of WTO legal texts – the Marrakesh Agreement, GATT, the TBT Agreement and the SPS Agreement – shows that there is room for applying socio-economic considerations on the basis of the existing provisions of those texts. In fact, the analysis shows that socio-economic rights are at the heart of one of the objectives of the main WTO agreement on trade in goods, GATT, which aims to raise standards of living and ensure full employment. While the objectives are set up in the preambular part and therefore are not legally binding provisions, trade-related goods or practices that, for instance, clearly undermine the standard of living of a particular local or indigenous community would likely not be permitted. If a measure established by a WTO Member to safeguard the standard of living of a certain population is challenged, the dispute settlement bodies may construct a ruling interpretation according to the objectives of the Marrakesh Agreement and GATT and protect the objectives of those agreements.

[92] Council of the European Union, op. cit., para. 43.

[93] European Commission. 2011. Complementary considerations on legal issues on GMO cultivation raised in the opinions of the legal service of the Council of the European Union of 5 November 2010 and of the legal service of the European Parliament of 17 November 2010 – Indicative list of grounds for member States to restrict or prohibit GMO cultivation. SEC (2011) 184 final. Brussels, 8 February.

The need for careful design of socio-economic-related measures

Measures of a direct/indirect socio-economic nature may be applied in the context of the WTO under different agreements as previously discussed. Four different types of measures have been identified as the most relevant in the field of LMOs:

(i) **Measures related to social intrinsic values:** Measures that are solely based on social intrinsic values would fall mostly under GATT, and could possibly be defended under Article XX(a). The so-called public morals clause is still largely unexplored, but the analyses made in the *EC–Seals* Panel and Appellate Body rulings are likely to provide a positive signal as to the possible opening of the door for acceptance of intrinsic social values within the WTO framework in future cases.

(ii) **Health-related socio-economic measures:** Measures solely based on socio-economic considerations related to health would likely fall under the SPS Agreement, most probably in the light of the interpretation in *EC–Biotech*. This may include indirect impacts, for instance, those caused not by an LMO per se but by the associated chemical package. In the event such an interpretation fails, the TBT Agreement and GATT could probably accommodate such an LMO measure under Article XX(b) of GATT and Article 2.2 of the TBT Agreement on the basis of protecting human health.

(iii) **Economic-related measures:** LMO measures solely based on economic grounds could also in principle receive accommodation under Annex A.1(d) of the SPS Agreement and the "other damage" broad interpretation. Economic consequences may also be included within Article 5.3 of the SPS Agreement in relation to animal or plant health.

(iv) **Socio-economic measures related to environmental protection:** LMO measures solely based on the conservation of "exhaustible natural resources", inter alia, the conservation of plant genetic resources, including those measures purely based on socio-economic-related factors, may have a direct accommodation under Article XX(g) of GATT.

The listing above has been discussed as if those measures were designed solely on the basis of one particular element. However, the reality of the practice of constructing measures is that sometimes, a single measure incorporates numerous elements related to different disciplines, such as health, environmental, socio-economic, moral, etc. An LMO measure that affects trade needs to be crafted carefully. In the WTO framework, every word counts, and for a measure to be consistent with a particular provision it has to pass several tests that leave little room for interpretation. The design of a measure requires a careful strategic approach that could include the possibility of decoupling elements into different measures, instead of one single measure incorporating many elements.

Looking forward

The main challenge in ensuring the consistency of potential LMO measures based on socio-economic considerations does not lie in the intrinsic provisions of the WTO, but in the interpretation of the cases that might arise within the framework of the dispute settlement process. In the past 10 years only one case has reached a Panel ruling. In addition, there are already countries that have incorporated socio-economic considerations in their LMO decision-making processes and that have never been challenged in the WTO context.

Despite this, for WTO Members, it would be important to construct the measures to be as "WTO-consistent" as possible. While the challenges of successfully defending a measure based on socio-economic considerations cannot be underestimated, there is room for optimism. First of all, the legal texts of the WTO not only do not prevent the application of such considerations to justify a measure, but they also establish an overall objective of a marked socio-economic nature that has a not negligible interpretative value. Secondly, with the incorporation of more countries and the strengthening of developing-country Members, the growing heterogeneity in the WTO could contribute to diminishing the rigidness thus far applied by the dispute settlement bodies in most cases.

Finally, Parties to the Cartagena Protocol that would like to design an LMO-related measure that may affect trade on the basis of socio-economic considerations should carefully select the purpose of the measure and its design in the light of potential complaints within the WTO. On the basis of the purpose selected and the measure chosen, the design of such a measure or decoupling it into more than one measure, could be undertaken taking into account the interpretations of the respective WTO case law.

Codex Alimentarius Commission, OIE and IPPC: Can the WTO "three sisters" accommodate socio-economic considerations within their standard-setting work?

Juan Lopez Villar

Introduction

THE Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) of the World Trade Organization (WTO) contains provisions specifically referring to the Codex Alimentarius Commission (CAC), the World Organisation for Animal Health (OIE) and the International Plant Protection Convention (IPPC). These international standard-setting bodies are often referred to as the "three sisters".[1] Codex is responsible for food safety, the OIE works in the field of animal health, and the IPPC works in the field of plant health.[2] WTO Member States may adopt their own standards in these fields; however, they are less likely to be challenged legally in the WTO if they apply international standards, guidelines and recommendations established or developed by the three bodies mentioned above.[3]

While the WTO explicitly recognizes the possibility of adopting other standards, guidelines and recommendations, for matters not covered by the above organizations, in practice, the dispute settlement bodies have adopted a very strict view on this matter – even disregarding internationally recognized mechanisms related to environmental matters such as the Convention on Biological Diversity (CBD) and the Cartagena Protocol on Biosafety.[4] This paper analyzes the guidelines, principles, standards and recommendations of the "three sisters" with the objective of exploring whether considerations falling in the social and economic spheres can be brought legitimately within the framework of those three bodies.

Codex Alimentarius Commission

The Codex Alimentarius Commission is an intergovernmental body with more than 180 members, within the framework of the Joint FAO/WHO Food Standards Programme established by the Food and Agriculture Organization (FAO) of the United Nations and the World Health Organization (WHO). The CAC is the body responsible for compiling the standards, codes of practice, guidelines and recommendations that constitute the Codex Alimentarius, or food code. The Codex Alimentarius is defined as a "collection of standards, codes of practice, guidelines and other recommendations […] Some deal with detailed requirements related to a food or group of foods; others deal with the operation and management of production processes or the operation of government regulatory systems for food safety and consumer protection".[5]

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1 Australian Government. (n.d.). The WTO Sanitary and Phytosanitary Agreement. http://www.daff.gov.au/__data/assets/pdf_file/0007/146896/wto_sps_agreement_booklet.pdf

2 Foltea M. 2012. *International Organizations in WTO Dispute Settlement: How Much Institutional Sensitivity?* Cambridge University Press. See also Pollack MA and Shaffer GC. 2009. *When Cooperation Fails: The International Law and Politics of Genetically Modified Foods*. Oxford University Press.

3 WTO. Understanding the WTO. https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm4_e.htm

4 See *EC–Biotech* case under the WTO dispute settlement system, para. 7.73-7.75.

5 WHO-FAO. 2006. Understanding the Codex Alimentarius. ftp://ftp.fao.org/codex/Publications/understanding/Understanding_EN.pdf

The main goal of the Codex Alimentarius is to protect consumer health and ensure fair trade practices involving food. As with the IPPC and the OIE, the Codex's guidance documents are voluntary in nature, and countries may choose whether or not to adopt them as domestic law. However, the Codex standards are very relevant to international trade, as the WTO agreements, particularly the SPS Agreement, give significant weight to Codex standards, guidelines and guidance in the context of trade disputes.

Codex guidelines and principles on foods derived from modern biotechnology

The CAC has elaborated a few guidelines specifically on the subject of food derived from modern biotechnology. The most relevant to this discussion are a set of principles for the risk analysis of foods derived from modern biotechnology;[6] and three guidelines, one for food derived from genetically modified (GM) animals,[7] another for food derived from GM plants,[8] and a third one relating to food produced using GM microorganisms.[9]

A close look at the scope of elements that those key documents analyze and develop reveals that the key elements subject to guidance and standards are health-related factors. For instance, the document on the principles for the risk analysis of foods derived from modern biotechnology explicitly asserts that such principles do not address environmental, ethical, moral and socio-economic aspects of the research, development, production and marketing of foods derived from modern biotechnology. Similarly, the guideline in relation to food derived from GM animals, for instance, concentrates only on food safety and nutritional issues, and explicitly excludes from its scope animal welfare, ethical, moral and socio-economic aspects, and environmental risks. The guideline in relation to food produced using GM microorganisms states its intention to address nutritional and safety aspects of such foods, and explicitly excludes from its scope the environmental risks of releasing such food. Finally, the guideline related to food derived from GM plants focuses its scope on nutritional aspects and safety of foods; however, it is not as explicit as the other guidelines in excluding socio-economic factors and other elements.

Besides health factors, is there room in Codex for "other legitimate factors"?

The CAC asserts that "the overall objective of risk analysis applied to food safety is to ensure human health protection". However, other legitimate elements besides human health protection may also be taken into consideration in the risk analysis process.

Unintended effects

Despite the explicit approach in the abovementioned guidelines to exclude elements that are not related to health and food safety, the inclusion in the principles for risk analysis of the requirement to take into account not only intended effects, but also unintended effects,[10] opens the door for the inclusion of some factors related to environmental and socio-economic considerations. Haslberger from the World Health Organization FOS Program for Food Safety asserted in 2003 that thanks to those principles, risk assessments have been broadened "to encompass not only health-related effects of the food itself, but also the indirect

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6 CAC. 2003. Principles for the risk analysis of foods derived from modern biotechnology. CAC/GL 44-2003. Besides these principles and the three guidelines listed in the paragraph above, other guidelines and documents may be related to products derived through modern biotechnology, in particular to labelling. Some of those guides are cited in CAC. 2011. Compilation of Codex texts relevant to labelling of foods derived from modern biotechnology. CAC/GL 76-2011. Some of those are guidelines related to organically produced foods, guidelines for use of nutrition and health claims and others.

7 CAC. 2008. Guideline for the conduct of food safety assessment of foods derived from recombinant-DNA animals. CAC/GL 68-2008.

8 CAC. 2003. Guideline for the conduct of food safety assessment of foods derived from recombinant-DNA plants. CAC/GL 45-2003.

9 CAC. 2003. Guideline for the conduct of food safety assessment of foods produced using recombinant-DNA microorganisms. CAC/GL 46-2003.

10 See para. 11 of CAC. 2003. Principles for the risk analysis of foods derived from modern biotechnology. CAC/GL 44-2003.

Box 1. Unintended effects mediated via the environment

In addition to investigating health risks directly associated with food products, the broadening of the Codex risk assessment to include indirect effects now encompasses effects of novel foods on the environment that may have an indirect impact on human health. This concept has a precedent in agricultural practice and embraces the view of human "health as an integrating index of ecological and social sustainability" […]

Several recent findings argue that such environmental effects could/should be supported by evidence (e.g., the need to inhibit outcrossing from plants containing biopharmaceuticals) in health risk assessment of GM crops. The introgression of transgenic DNA into traditional landraces of maize in Mexico recently confirmed by the Mexican government, shows that gene flow may be commonplace for certain crops in certain locations, and the effects of foreign genes in certain backgrounds could pose health risks […] The risk of outcrossing and gene transfer could also affect crop biodiversity, especially that of landraces and may compromise the planting of crops by farmers who wish to remain GM-free. Indeed the coexistence of GM crop agriculture and organic agriculture is likely to be difficult for certain plants in specific areas.

Source: *Haslberger A. 2003. Codex guidelines for GM foods include the analysis of unintended effects.* Nature Biotechnology *21(7): 739-741.*

effects of food on human health, e.g., potential health risks derived from outcrossing".[11] This, for example, would also mean that impacts such as health-relevant decreases or increases of pesticide use derived from modern biotechnologies in comparison to other approaches for food production such as conventional and organic agriculture, may be taken into consideration.[12]

Other legitimate factors

Other opportunities arise from the document related to the general principles of risk analysis established by the CAC in 2007. The CAC specifies that risk management can consider "other legitimate factors relevant for the health protection of consumers and for the promotion of fair practices in food trade".[13] It lists a number of general principles to be considered when taking other factors into account,[14] and the CAC establishes a set of criteria for the consideration of other factors:

"– when health and safety matters are concerned, the *Statements of Principle Concerning the Role of Science* and the *Statements of Principle Relating to the Role of Food Safety Risk Assessment* should be followed;
– other legitimate factors relevant for health protection and fair trade practices may be identified in the risk management process, and risk managers should indicate how these factors affect the selection of risk management options and the development of standards, guidelines and related texts;
– consideration of other factors should not affect the scientific basis of risk analysis; in this process, the separation between risk assessment and risk management should be respected, in order to ensure the scientific integrity of the risk assessment;
– it should be recognized that some legitimate concerns of governments when establishing their national legislation are not generally applicable or relevant world-wide;
– only those other factors which can be accepted on a world-wide basis, or on a regional basis in the case of regional standards and related texts, should be taken into account in the framework of Codex;

[11] Haslberger A. 2003. Codex guidelines for GM foods include the analysis of unintended effects. *Nature Biotechnology* 21(7): 739-741.

[12] Ibidem.

[13] Codex Alimentarius. 2007. Working principles for risk analysis for food safety for application by governments. CAC/GL 62-2007.

[14] Codex Alimentarius Commission. Statements of principle concerning the role of science in the Codex decision-making process and the extent to which other factors are taken into account. See http://www.fao.org/waicent/faoinfo/food-safety-quality/cd_hygiene/cnt/cnt_en/sec_2/docs_2.1/Science%20in%20Codex.pdf

– the consideration of specific other factors in the development of risk management recommendations of the Codex Alimentarius Commission and its subsidiary bodies should be clearly documented, including the rationale for their integration, on a case-by-case basis;
– the feasibility of risk management options due to the nature and particular constraints of the production or processing methods, transport and storage, especially in developing countries, may be considered; concerns related to economic interests and trade issues in general should be substantiated by quantifiable data;
– the integration of other legitimate factors in risk management should not create unjustified barriers to trade; particular attention should be given to the impact on developing countries of the inclusion of such other factors".[15]

The criteria do not explicitly list any example of the considerations that would be allowed, apart from health considerations. They underline that the "scientific" nature of the risk analysis should be respected, but clearly accept that there could exist legitimate factors relevant for health protection and fair trade practices identified during the risk management process.

For instance, it could be argued that within the framework of "other legitimate factors", socio-economic considerations related to the coexistence of different modes of food production could be justified under Codex. The CAC has established specific guidelines on organic food where it is very clearly underlined that genetically modified materials cannot be deemed to be organic: "all materials and/or the products produced from genetically engineered/modified organisms are not compatible with the principles of organic production (either the growing, manufacturing, or processing) and therefore are not accepted under these guidelines".[16]

Some authors have already considered that socio-economic assessments may pertain to the sphere of "other legitimate factors"; however, "without more detailed guidance at the CAC level on which and how 'other legitimate factors' should be assessed and by whom, practitioners remain at a loss on how to approach this potentially thorny issue that can be associated with assessing differential distributions of risks, costs, and benefits of new food technologies and associated risk management measures".[17] So, while in principle socio-economic impacts are compatible with existing principles, policies, laws and rules of procedure and institutional arrangements of the food safety governance systems of the Codex in the framework of the WTO, it seems that the role of "other legitimate factors" and, correspondingly, which factors are permitted within decision-making processes would need to be clarified through judicial review.[18] In any case, it is becoming clear in present times that decisions related to the food we eat would need to take a step forward towards more transparency and address issues of importance to citizens. There is a growing understanding that "science alone is not sufficient" as the only choice for regulatory action.[19]

Consumer concerns: the labelling of GM foods

The Codex Alimentarius Commission adopted the Compilation of Codex Texts relevant to labelling of foods derived from modern biotechnology in July 2011.[20] The CAC did not pronounce explicitly on the legality of mandatory labelling of GM food and products. However, the text compilation of 2011, in recognizing different approaches regarding labelling of GM food, can be interpreted as allowing the mandatory labelling of GMO (genetically modified organism) products. This was hailed as a victory for consumers worldwide as

15 Ibidem.
16 Codex Alimentarius Commission. 1999. Guidelines for the production, processing, labelling and marketing of organically produced foods.
17 Konig A. 2010. Compatibility of the SAFE FOODS Risk Analysis Framework with the legal and institutional settings of the EU and the WTO. *Food Control*, Vol. 21.
18 Ibidem.
19 Ibidem.
20 Bobo JA. 2012. Two Decades of GE Food Labeling Debate Draw to an End – Will Anybody Notice?. *Idaho Law Review* 48.

countries would be able to adopt labelling regulations on GM foods without facing potential threats of challenges in the WTO framework.[21] The text reads:

"Different approaches regarding labelling of foods derived from modern biotechnology are used. Any approach implemented by Codex members should be consistent with already adopted Codex provisions. This document is not intended to suggest or imply that foods derived from modern biotechnology are necessarily different from other foods simply due to their method of production."[22]

Among the compilation of texts included in the document were the Principles for the Risk Analysis of Foods Derived from Modern Biotechnology,[23] which allow risk managers to include food labelling conditions for marketing approvals and post-market monitoring, permitting therefore countries to implement GM labelling for the purpose of risk management. Labelling legislation may therefore be adopted on the basis of health-related concerns, but also on the basis of social factors, for instance, consumer choice.

The World Organisation for Animal Health (OIE)

In 1924, the international agreement that led to the creation of the Office International des Epizooties was signed. In 2003, the Office became the World Organisation for Animal Health but kept its historical abbreviation, OIE. The OIE defines itself as an "intergovernmental organization responsible for improving animal health worldwide".[24]

The OIE is the WTO reference organization for standards relating to animal health. It publishes two codes (Terrestrial and Aquatic) and two manuals (Terrestrial and Aquatic) as the principal references for WTO Members. The Terrestrial Animal Health Code and Aquatic Animal Health Code respectively aim to ensure the sanitary safety of international trade in terrestrial animals and aquatic animals, and their products. The codes traditionally addressed animal health and zoonoses, but they have, in recent years, expanded to cover issues that also fall in the domain of social and ethical issues such as animal welfare.[25]

Animal welfare: a pillar within the OIE

The Terrestrial Animal Health Code includes criteria that respond to societal attitudes such as ethical considerations, for example, animal welfare. The OIE Animal Welfare Working Group was inaugurated in May 2002 and the first recommendations of the Working Group were adopted one year later. The OIE Guiding Principles on Animal Welfare were included in the OIE Terrestrial Code in 2004. The Code recognizes that ethical judgements are influenced by societal attitudes and, under a chapter on the use of animals in research and education, refers to an activity called "ethical review", which aims to assess the validity and justification for using animals, including an assessment and weighing of the potential harms for animals and likely benefits of the use and how these balance.[26]

Since 2005, the OIE has adopted nine animal welfare standards in the Terrestrial Code and three animal welfare standards in the Aquatic Code.[27] The Aquatic Animal Health Code also makes recommendations

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21 See Consumers International. 2011. Consumer Rights Victory as US Ends Opposition to GM Labeling Guidelines. Press Release 5 July. See also: http://www.iatp.org/blog/201107/the-gmo-labeling-fight-at-the-codex-alimentarius-commission-how-big-a-victory-for-consum#sthash.X6MpKe7Z.dpuf

22 CAC. 2011. Compilation of Codex texts relevant to labelling of foods derived from modern biotechnology. CAC/GL 76-2011.

23 CAC. 2003. Principles for the risk analysis of foods derived from modern biotechnology. CAC/GL 44-2003.

24 See http://www.oie.int/en/about-us/

25 See http://www.oie.int/en/international-standard-setting/overview/

26 Chapter 7.8, Terrestrial Animal Health Code. http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_1.7.8.htm

27 These standards cover the following issues: the transport of animals by land; the transport of animals by sea; the transport of animals by air; the slaughter of animals for human consumption; the killing of animals for disease control purposes; the control of stray dog populations; the use of animals in research and education; animal welfare and beef cattle production systems; animal welfare and broiler chicken production systems; the welfare of farmed fish during transport; the welfare aspects of stunning and killing of farmed fish for human consumption; and killing of farmed fish for disease control purposes.

for the welfare of farmed fish.[28] For instance, "the use of fish carries with it an ethical responsibility to ensure the welfare of such animals to the greatest extent practicable".[29]

Genetically modified animals are covered in the Terrestrial Code, for instance under the section "use of animals in research and education".[30] The welfare of those animals is also addressed: "If genetically altered or cloned animals are used, such use should be conducted in accordance with relevant regulatory guidance. With such animals, as well as harmful mutant lines arising from spontaneous mutations and induced mutagenesis, consideration should be given to addressing and monitoring special husbandry and welfare needs associated with abnormal phenotypes."

Modern biotechnology and the OIE: the role of societal and ethical factors

The different bodies operating under the OIE have debated the use of modern biotechnology techniques in the animal sector. Analyses made by members of the OIE have indicated that the role of society and the public is important in the acceptance of modern biotechnology in relation to animal products: "Public perception in relation to cloning and biotechnology-derived animals will present considerable challenge to Member Countries with 79% reporting no public support for cloning and 52% reporting biotechnology-derived animals perceived as controversial."[31]

Within the OIE, the issue of genetic engineering was debated and the role of socio-economic factors such as animal welfare and ethical elements was acknowledged. For example, at the General Session of the OIE in 2005, one of the presenters concluded that "the acceptance of agricultural biotechnology will depend on whether consumers see an obvious personal and societal benefit in the new products […] The issues associated with the regulation and biosafety of transgenic animals pertain to environmental impact, food safety, animal health and welfare, trade and ethics".[32] At the same conference, the need to bring the concerns of African consumers on board was also underlined: "although lack of scientific capacity was overwhelmingly chosen as one of the challenges that frequently prevent the application of new technologies, matters concerning institutional set-up, the regulatory and policy environment, trade implications and consumer concerns emerged as substantive reasons".[33] Further to this, economic-related issues have arisen as an important element for developing countries to consider when deliberating the use of genetic engineering in the livestock sector. For instance, the OIE Regional Commission for Africa has recognized the need to build capacity in order to be ready to use technologies such as genetic engineering in the livestock sector; it has recommended that "Member Countries develop, improve, acquire and/or maintain the necessary institutional and technical capacity, and infrastructure, to optimally utilize the value of available biotechnologies (including genetically modified organisms) in the livestock sector".[34]

Such debate led the OIE to adopt in 2005 a resolution that concluded in consensus over the fact that there was a need to address societal and ethical factors before the introduction of modern biotechnology in the animal sector: "Responses received from this survey of OIE Member Countries indicated broad consensus

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28 Chapter 7.1, Aquatic Animal Health Code. http://www.oie.int/index.php?id=171&L=0&htmfile=chapitre_1.7.1.htm

29 Ibidem.

30 They are defined as "genetically altered (also genetically modified or genetically engineered) or cloned animals. A genetically altered animal is one that has … undergone genetic modification of its nuclear or mitochondrial genomes through a deliberate human intervention, or the progeny of such an animal(s), where they have inherited the modification".

31 MacKenzie A. 2005. Applications of genetic engineering for livestock and biotechnology products. 73rd General Session of the International Committee of the World Organisation for Animal Health. http://www.oie.int/doc/ged/D1349.PDF

32 Ibidem.

33 Jaftha J. 2005. The implications of genetically modified organisms for the livestock sector. Conf. OIE 2005. http://www.oie.int/doc/ged/D3246.PDF

34 OIE Regional Commission for Africa. 2005. Recommendation No. 2: The implications of genetically modified organisms (GMOs) for the livestock sector in Africa. 16th Conference of the OIE Regional Commission for Africa, Khartoum, 7-10 February.

that comprehensive regulatory controls are required and that ethical issues and societal concerns will need to be addressed in order to ensure responsible introduction and social acceptance of these technologies."[35]

The International Plant Protection Convention (IPPC)

The IPPC and plants derived from modern biotechnology

The International Plant Protection Convention was established in 1952 and defines itself as an "international plant health agreement … that aims to protect cultivated and wild plants by preventing the introduction and spread of pests".[36]

In April 2004, the Interim Commission on Phytosanitary Measures endorsed a supplement on pest risk analysis for living modified organisms (LMOs) and agreed that it should be integrated into the International Standards for Phytosanitary Measures (ISPM) No. 11 Rev.[37] That standard describes how to conduct a pest risk analysis (PRA) to determine if pests are quarantine pests. LMOs that may present a phytosanitary risk should undergo a PRA. A PRA for quarantine pests follows a three-stage process: initiation; risk assessment; and risk management.

Economic and environmental factors considered in the pest risk analysis

Plant health factors are not the only element taken into consideration in the PRA process. In the second phase of the PRA – the risk assessment – economic, societal and environmental factors are explicitly incorporated within the ISPM, particularly in the first step of the risk assessment, pest categorization, and in the last step, the assessment of potential economic consequences (including socio-economic consequences).

Non-plant health factors incorporated in the pest categorization step

One of the elements to determine pest categorization includes the potential for economic consequences – including environmental consequences – in the PRA area. The standard asserts that "there should be clear indications that the pest is likely to have an unacceptable economic impact in the PRA area".[38] In addition, in the case of LMOs, the economic impact should relate to the pest nature (i.e., injurious to plants and plant products) of the LMOs.

It is important to note that the IPPC understands the term "economic" in a broad manner. ISPM No. 5 explicitly asserts that economic effects in a PRA are not only market effects. A wide variety of effects, including environmental and social, may be analyzed within "economic effects".[39]

Third step: Assessment of potential economic consequences

In order to estimate the potential economic importance of the pest, there will be a need to identify and characterize the direct and indirect effects of the pest. Environmental effects will have to be considered, such as impacts on biodiversity. The ISPM includes the following as examples of direct pest effects on plants: reduction of keystone plant species; reduction of plant species that are major components of ecosystems (in terms of abundance or size), and endangered native plant species (including effects below species level where there is evidence of such effects being significant); and significant reduction, displacement or elimination of other plant species.

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35 OIE. 2005. Resolution No. XXVIII. Applications of Genetic Engineering for Livestock and Biotechnology Products. Adopted by the International Committee of the OIE on 26 May 2005.

36 See https://www.ippc.int/about

37 IPPC. 2004. International Standards for Phytosanitary Measures (ISPM 11). Pest risk analysis for quarantine pests including analysis of environmental risks and living modified organisms. http://agriculture.gouv.fr/IMG/pdf/ispm_11_version_2004ang.pdf

38 Ibidem, para. 2.1.1.5.

39 See IPPC. Supplement No. 2 of ISPM No. 5: Guidelines on the understanding of potential economic importance and related terms including reference to environmental considerations. See ISPM No. 5. http://www.aphis.usda.gov/import_export/plants/plant_exports/downloads/pimglossary.pdf

Moreover, the ISPM goes further and explicitly incorporates socio-economic considerations in the risk assessment. It includes within indirect pest effects elements such as "social and other effects", citing the examples of employment and tourism.

Conclusions

A close analysis of the key documentation under the Codex Alimentarius, the IPPC and the OIE allows us to conclude that, in principle, the door is open in those bodies for a growing incorporation of socio-economic considerations into their risk analysis processes. The IPPC is the most comprehensive of the three by explicitly incorporating economic and social effects within its pest risk analysis processes, citing examples such as impacts on employment and tourism as elements to be considered under a PRA. The OIE is also very explicit in having incorporated social and ethical elements, such as animal welfare, into its standards' criteria. The debates at the OIE conference also signal, specifically in relation to animal biotechnology, a clear awareness of the need to take into consideration social and ethical concerns before commercializing key technologies of animal genetic engineering. Finally, the Codex, while the least explicit of the three agreements, also allows "other legitimate factors" besides health to be considered in the risk analysis process.

The challenge will remain in the practical use and interpretation of the standards set by the three bodies. Whether progressive interpretations that incorporate socio-economic considerations into the risk analysis processes are successful remains to be seen. While the answers are not crystal clear, legitimate support can certainly be found within the key documents of the "three sisters" in mounting a potential defence, in the WTO context, of regulatory measures that incorporate socio-economic considerations into risk analysis related to the introduction of GM foods, GM plants and GM animals. While the case law to date provides very little guidance on how this will end in practice, the existence of support for the inclusion of socio-economic considerations within the IPPC, OIE and Codex Alimentarius guidelines, principles and standards cannot be denied.

The Cartagena Protocol on Biosafety establishes the right of Parties to take socio-economic considerations into account when deciding on imports or domestic measures relating to genetically modified organisms (GMOs). While the specifics of putting this into practice have not been fleshed out in the Protocol, it does require Parties to exercise the right in a manner "consistent with their international obligations".

The discussion papers compiled in this book look at how Parties to the Protocol can incorporate socio-economic considerations in GMO decision-making while remaining faithful to their obligations under other international agreements. These agreements can include not only trade treaties but also those that deal with human rights, indigenous peoples' rights, food and agriculture, and the environment. Addressing these issues will be key to ensuring proper and consistent treatment of socio-economic considerations surrounding the impact of GMOs on the conservation and sustainable use of biodiversity.

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ISBN 978-967-0747-02-6