

## Socio-Economic Considerations under the Cartagena Protocol on Biosafety: Insights for Effective Implementation<sup>1</sup>

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The interconnections among ecological, social and economic aspects of any intervention (e.g. projects and technologies) have a substantial trajectory in environmental decision-making. In the early 1970s laws began to incorporate social impact assessments in their environmental procedures (Freudenburg 1986). Since then, the inclusion of socio-economic considerations in environmental decision-making processes has increased due to: (i) the evident mutual influence between environment and society; (ii) growing demand for social responsibility by markets and regulations; and (iii) the imperative in advancing sustainable development (Barrow 2002).

Despite this progress, the incorporation of socio-economic considerations in multilateral environmental agreements (MEA) has been rather contentious. This is particularly true for the issue of the safety assessment of living modified organisms (LMOs) under the Cartagena Protocol on Biosafety (CPB).

During the negotiations of the CPB, the inclusion of socio-economic aspects related to LMOs was one of the most difficult discussions. On one hand, developing countries had wanted to include socio-economic considerations in risk assessment, risk management and decision-making procedures on

LMOs. On the other hand, most developed countries argued that socio-economic considerations were subjects “of little relevance and believed that further studies on the matter were not necessary” (Secretariat of the CBD 2003:79). The result is a broad compromise text on socio-economic considerations in Article 26 of the CPB. The implementation of this article has also been characterised by contentious positions among Parties. The outcome to date has thus been a slow process to achieve further clarity and agreed guidance on how to address socio-economic considerations in the context of the CPB.

In spite of the unresolved issues and the lack of guidelines for effective implementation of Article 26, socio-economic considerations are integrated in biosafety decision-making and regulatory frameworks in a number of countries. For instance, by 2010, according to Spök (2010), sixteen Parties to the CPB had incorporated provisions on socio-economic impacts in their national biosafety laws.

### **Article 26 on socio-economic considerations**

Article 26 contains two provisions; Article 26.1 is operational in relation to biosafety decision-making. It states: “*The Parties, in reaching a decision on import*

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*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 2000:19).

The text contains a number of relevant elements for analysis. We focus on: (i) the meaning of the text “*may take into account*” as recognition of the sovereign right of Parties; (ii) the broad scope set by the wording “*conservation and sustainable use of biological diversity*”; and (iii) the cross-cutting nature of Article 26.1 set by the text: “*The Parties, in reaching a decision on import under this Protocol*”.

### **“...may take into account” as a recognition of sovereign rights**

The wording “*may take into account*” has been interpreted as pointing to a voluntary measure, and that Article 26.1 is not obligatory (GIC 2012; Falk-Zepeda and Zambrano 2011; Falk-Zepeda 2009). This interpretation has important shortcomings. First, it ignores the context from which the language of Article 26.1 results. Article 26.1 is a compromise text that, to some extent, addresses the positions of both developing and developed countries during the CPB negotiations (Khwaja 2002). Second, it erroneously suggests that Article 26.1 would be low in hierarchy of implementation.

A more comprehensive analysis is that Article 26.1 establishes the right of Parties to the CPB to take into account socio-economic issues in the decision-making process related to LMOs. Accordingly, its incorporation in biosafety decision-making is consistent with the CPB, as well as with Article 2.4, which acknowledges that the CPB does not restrict Parties from taking any measure that may contribute to better protection of the conservation and sustainable use of biodiversity.

Accordingly, Article 26.1 goes beyond merely stating a voluntary measure but establishes and confirms the right, in international law, of Parties to take account of socio-economic considerations in biosafety decision-making processes. Whether or not Parties choose to exercise this right is up to them in accordance with their specific social and economic priorities and interests. However, the right is clearly defined, and its recognition is particularly relevant for: (a) countries that are centers of origin and genetic diversity, due to the close interconnection between biodiversity and local communities (Serratos 2009; IAASTD ed.

2009); (b) countries that have large indigenous or rural populations, given their relationship with and dependence on biodiversity (Maffi and Woodley 2010; CEC 2004); and (c) countries that have an important portion of their economy and development programmes reliant on the use of biodiversity (e.g. sustainable management of agrobiodiversity as part of local agricultural and development agendas) (IAASTD ed. 2009; Nuffield Council of Ethics 2004).

### ***Biodiversity conservation and sustainable use: Broad in themselves***

In the CPB discussions, the position of some countries, observers and stakeholders is that the implementation scope of Article 26.1 is narrow and strictly limited to biodiversity issues (GIC 2012; Secretariat of the CBD 2011a; Falk-Zepeda and Zambrano 2011; Falk-Zepeda 2009). Based on the text of Article 26.1, socio-economic considerations are certainly related to the effects on biological diversity, specifically to conservation and sustainable use, and particularly to the value of biodiversity to indigenous and local communities. Yet, these specifications are far from narrow. Rather, they set its wide scope of application based on the following:

- Biodiversity is a broad concept that embraces all forms of life and their environments (including their living and non-living components). This is described in the Convention on Biological Diversity’s (CBD) definitions: “*Biodiversity*” refers to “*the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems*”; while “*ecosystem*” is described as: “*dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit*” (Secretariat of the CBD 1992:3).
- Impacts on biodiversity relate to a large spectrum of possible effects. There is widespread and well-documented recognition that any impact on biodiversity or ecosystems does not take place in a linear or necessarily scale-dependent manner. On the contrary, changes in biodiversity are complex and unpredictable, which may result in cumulative and combinatorial effects that can accelerate changes or lead to unintended adverse effects (Cardinale *et al.* 2012; Stabinsky 2001).
- Conservation and particularly sustainable use of biodiversity have an intrinsic socio-economic component. On one hand, the “*use*” of biodiversity is defined by social, cultural and economic factors. Moreover, the biological and socio-cultural components of life that define consuetudinary practice (such as use of local biodiversity for food

or income generation) are inseparable, particularly among indigenous communities (Prilgrim and Pretty 2010; Maffi 2010; Cardinale *et al.* 2012). On the other hand, the use of biodiversity in a “sustainable manner” entails its management by individuals and groups. Thus, societies and socio-economic factors in which these individuals and groups are embedded play crucial roles in the long-term preservation of biodiversity while securing fulfillment of the needs of present and future generations (Borrini-Feyerabend *et al.* 2004).

In summary, the specification of socio-economic considerations “*arising from the impacts of LMOs in relation to the conservation and sustainable use of biodiversity*” is broad in essence. It includes the direct, indirect, intentional, accidental, predicted and unforeseen effects on the different forms of life and their environments, and on their potential use in light of sustainability principles. Furthermore, the text “*especially with regard to the value of biological diversity to indigenous and local communities*” keeps the scope appropriately wide by pointing out that besides the broad array of implications on biodiversity and sustainable use in general, additional considerations are needed relative to the livelihood, consuetudinary use, culture, spirituality, etc. where biodiversity plays an important role for indigenous and local communities.

#### ***The cross-cutting nature of Article 26***

Other interpretations of Article 26 are: (a) it deals with a very specific issue within the Protocol; and (b) if it is to be included in biosafety decision-making, it should be treated separately to other provisions, particularly risk assessment (Falk-Zepeda and Zambrano 2011). These interpretations mistakenly place Article 26 as an isolated or stand-alone clause. Nonetheless, the text “*The Parties, in reaching a decision on import under this Protocol*” allows for the inclusion of Article 26 with respect to other provisions when, at the discretion of Parties, a comprehensive analysis is applied (MacKenzie *et al.* 2003).

The interconnection of Article 26 with several other articles of the CPB is pointed out in the Explanatory Guide to the Cartagena Protocol on Biosafety (an internationally recognised document prepared by scholars in law and reviewed by different biosafety stakeholders, including governmental delegates and members of the Intergovernmental Committee for the Cartagena Protocol) (MacKenzie *et al.* 2003).

To begin with, Article 26.1 clearly states that “*in reaching a decision on import*” under the CPB, Parties may take into account socio-economic considerations. This has two important implications. First, it indicates

“*when*” socio-economic aspects can be considered: at the time of reaching a decision on import. Second, it leads to two key articles related to the *modus operandi* for taking a decision on import of LMOs: Article 10 and Article 11. These articles are central in guiding the steps for decision-making and are linked to other important operative provisions of the CPB. In light of this, the relationships of Article 26.1 with other CPB articles would be as follows:

In relation to Article 10, it would arguably relate socio-economic considerations to Article 15 on Risk Assessment and Annex III of the CPB, for taking into account social and economic issues in parallel to the environmental risk assessment. Although Annex III mostly refers to technical environmental aspects, the implementation of Article 15 shall also take into account human health (consistent with the Protocol’s objective). This defines the possibility of including in the risk assessment relevant public health issues – a highly relevant socio-economic subject – in relation to adverse effects of LMOs on the conservation and sustainable use of biodiversity. Furthermore, Article 10.3(c) opens up the possibility for including socio-economic considerations in risk assessment processes under the CPB as Parties, in the course of taking a decision, can request “*additional information in accordance with its domestic regulatory framework or Annex I*” (Secretariat of the CBD 2000:7). Supplementary information could include a socio-economic impact assessment. This approach will lead to a more systemic evaluation of risks and contribute to overcome, at least partly, the current limitations of assessments mostly focused on environmental aspects (Meyer 2011). Additionally, Annex I under item (l) requests information on “*Suggested methods for safe handling, storage, transport and use, including packaging, labeling, [...]*” (Secretariat of the CBD 2000:27). This provision relates to socio-economic matters as well. For instance, conditions for segregation during storage and transport, or intended and other potential local uses of the LMO in question, are socio-economic considerations that will impact the safe handling, storage, transport and use of LMOs.

Upstream in the process of decision-making, Article 10, and subsequently Article 26.1, relates to:

- Article 7 on the Application of the Advance Informed Agreement Procedure (AIA); and
- Article 8 on Notification, which also refers to Annex I, where – as indicated previously – socio-economic information could be requested.

Downstream, Article 10, and then Article 26.1, is linked to:

- Article 16 on Risk Management under which measures to prevent or regulate, manage and

- control socio-economic risks could be identified.
- Article 21 on Confidential Information whereby information relevant to the risk assessment and that generated according to Annex I cannot qualify as confidential. In relation to risk assessment, “*relevant information*” could entail information with socio-economic connotations (e.g. findings on impacts on human health).
- Article 12 on Review of Decisions, which indicates that decisions on LMOs could be reviewed in light of new scientific information on potential adverse effects on the conservation and sustainable use of biological diversity, taking into account human health. New scientific information could refer to impacts of LMOs that may have socio-economic implications, including potential changes in human health from the public health perspective.

Article 11 also relates to Article 26.1 in the process of taking a decision on import of a LMO intended for direct use as food or feed, or processing (LMO-FFP). Accordingly, it could be interpreted as allowing the inclusion of socio-economic considerations through:

- Annex II specifically under item (k) that requests suggested methods for safe handling, storage, transport and use of LMO-FFPs, since these processes involve socio-economic aspects;
- Article 15 and Annex III according to Article 11.6(a) on the risk assessment as a source of information for decision-making; and
- Article 16 on Risk Management and Article 12 on Review of Decisions, in line with what was mentioned previously.

Furthermore, an overarching feature of Article 11 is that it is subject to socio-economic considerations. Its implementation is triggered when a Party has adopted a decision “*regarding domestic use, including placing on the market*” of a LMO-FFP (Article 11.1). “*Domestic use*” and “*placing on the market*” are inherently socio-economic processes. Hence, reaching a decision on these matters means that social and economic factors need to be taken into account.

The implementation of Article 26.1 could also relate to Article 17 and Article 25 as follows:

- In relation to Article 17 on Unintentional Transboundary Movements and Emergency Measures, socio-economic issues can be considered for determining the impacts that may arise from such movements and the corresponding response measures. Articles 17.3(c) and 17.3(d) request available information on possible adverse effects and other relevant information, respectively, in notifications to States affected or potentially affected by unintentional transboundary movements. Such information could include socio-

economic considerations. Furthermore, under Article 17.4 social and economic issues could be taken into account to determine the appropriate responses, necessary actions or emergency measures. Those response and emergency measures could address the socio-economic impacts arising from adverse effects on the conservation and sustainable use of biodiversity, taking into account human health, and related to unintentional transboundary movement of a LMO. Finally, Article 17 also relates to Article 16 on risk management, giving place, as indicated earlier, to the identification of actions to prevent, regulate, manage and control potential risks, which arguably include socio-economic impacts. Specifically, Parties may incorporate socio-economic considerations in their responses to prevent unintentional transboundary movements under Article 16.3, and could take appropriate risk management measures to prevent any adverse effect, including socio-economic effects, according to Article 16.2.

- As for Article 25 on Illegal Transboundary Movements, socio-economic considerations may contribute to the identification of any potential adverse effects and the related response measures.

Finally, Article 26 is linked to the following overarching CPB articles:

- Article 20 on Information Sharing and the Biosafety Clearing House that mandates making available relevant information on biosafety, for instance regulations, decisions and assessments on or related to socio-economic considerations of LMOs. This is also directly connected to Article 26.2 on “*cooperation on research and information on any socio-economic impacts of living modified organisms, especially on indigenous and local communities*” (Secretariat of the CBD 2000:19).
- Article 22 on Capacity Building for cooperating in the development and strengthening of human resources and institutional capacities for including, among others, socio-economic considerations in the decision-making process and effective implementation of the CPB. The capacity building scope of Article 22 is directly related to Article 26.2 as well.
- Article 23 on Public Awareness, Education and Participation, for: (a) the promotion and facilitation of public awareness and education on socio-economic considerations; (b) participation of the public in the identification of socio-economic impacts; and (c) valuation of socio-economic impacts in the decision-making processes.

Article 26 is also related to the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety,

particularly in relation to Article 12 on Civil Liability. Article 12.2 of the Supplementary Protocol mentions the options for Parties to provide “adequate rules and procedures in their domestic law on civil liability for material or personal damage” (Secretariat of the CBD 2011b:7). Potential material damage may refer to any adverse economic effects that could result from damage to biodiversity, whereas personal damage could mean negative impacts on human health in the context of the CPB.

Based on this analysis, Article 26 has multiple interconnections with a wide range of provisions of the CPB. Accordingly, it cannot be assumed as an isolated article.

### Concluding remarks

Article 26 of the CPB is the recognition of the sovereign right of Parties to include, as necessary, socio-economic considerations for conserving and using sustainably biological diversity. Because biodiversity conservation and sustainable use are broad concepts involving all forms of life, their environments and their management, Article 26 is also inherently broad in scope. Additionally, the inclusion of socio-economic considerations when reaching a decision of import on LMOs is not a marginal matter within the CPB. This is because Article 26 contributes to the CPB’s objective: “[E]nsuring an adequate level of protection in the field of safe transfer, handling and use of [LMOs] [...] that may have adverse effects on the conservation and sustainable use of biological diversity taking into account human health” (Secretariat of the CBD 2000:3). The implementation of the CPB would be incomplete, and not consistent with its objectives, if Parties do not adequately address socio-economic considerations when reaching a decision on import of a LMO.

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