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LEGAL AND TECHNICAL EXPERTS ON
LIABILITY AND REDRESS IN THE CONTEXT OF
THE CARTAGENA PROTOCOL ON BIOSAFETY

Third meeting

Montreal, 19-23 February 2007

Item 4 of the provisional agenda*

SYNTHESIS OF PROPOSED OPERATIONAL TEXTS ON APPROACHES, OPTIONS AND ISSUES IDENTIFIED (SECTIONS I TO III) PERTAINING TO LIABILITY AND REDRESS IN THE CONTEXT OF ARTICLE 27 OF THE BIOSAFETY PROTOCOL

Note by the Co-Chairs

Addendum

INTRODUCTION

The present document presents the synthesis of operational texts proposed in the context of sections I to III of annex II to the report of the second meeting of the Open-ended Ad Hoc Working Group of Legal and Technical Experts on Liability and Redress (UNEP/CBD/BS/COP-MOP/3/10). It reproduces the operational texts submitted at the second meeting of the Working Group followed by further proposals received by the Secretariat for the purpose of the present meeting. Each operational text from the second meeting of the Working Group is identified only by numbering as agreed by the meeting, whereas the latest text submissions indicate the country or organization that made the proposals.

* UNEP/CBD/BS/WG-L&R/3/1

**SYNTHESIS OF PROPOSED OPERATIONAL TEXTS ON APPROACHES,
OPTIONS AND ISSUES RELEVANT TO LIABILITY AND REDRESS IN THE
CONTEXT OF ARTICLE 27 OF THE CARTAGENA PROTOCOL ON BIOSAFETY**

A Working Draft

(sections I to III)

*For the consideration of the third meeting of the Open-ended Ad Hoc Working Group of
Legal and Technical Experts on Liability and Redress under the Cartagena Protocol on
Biosafety*

19-23 February 2007

**I. SCOPE OF “DAMAGE RESULTING FROM
TRANSBOUNDARY MOVEMENTS OF LMOs”**

A. Functional scope

Option 1

Damage resulting from transport of LMOs, including transit

Option 2

Damage resulting from transport, transit, handling and/or use of LMOs that finds its origin in transboundary movements of LMOs, as well as unintentional transboundary movements of LMOs

Operational text 1

1. This decision applies to shipments, transit, handling and use of living modified organisms (LMO), provided that these activities find their origin in a transboundary movement.
2. With respect to intentional transboundary movements, this decision applies to damage resulting from any authorized use of the LMO, as well as to any use in violation of such authorization.
3. This decision applies to LMOs that are:
 - (a) Intended for direct use as food and feed or for processing;
 - (b) Destined for contained use; and
 - (c) Intended for intentional introduction into the environment.
4. This decision applies to unintentional transboundary movements. The point where they begin should be the same as for an intentional transboundary movement, *paragraphs 3 to 5 of OT 1 of Section I.C(d) apply mutatis mutandis*.
5. This decision applies to transboundary movements in contravention of domestic measures to implement the Protocol.

Operational text 2

This Protocol shall apply to damage resulting from the transport, transit, handling and/or use of living modified organisms and products thereof resulting from transboundary movements of living modified organisms and products thereof, including unintentional and illegal transboundary movements of living modified organisms and products thereof, or in the case of preventive measures, is threatened to be so caused.

Operational text 3

1. Damage resulting from transboundary movement of LMOs, including transit to the extent that a Party causes damage in a State of transit.

2. In respect of an LMO for intentional introduction into the environment, damage caused by an LMO would be within the scope of the rules and procedures adopted under Article 27 only if the importing State has complied with the conditions of use of the LMO consistent with the AIA for that LMO.
3. The scope of the rules and procedures should not be limited to the first transboundary movement of an LMO.
4. In a situation in which an exporter has complied with the risk assessment requirements of an importing State pursuant to the AIA procedure, damage which occurs in the importing State and which is established to be as a result of inadequacies in the importing State's risk assessment process should be outside the scope of the rules and procedures adopted under Article 27.

Operational text 4

Any damage resulting from, but not limited to, transport, transit, handling and/or use of LMOs that finds its origin in transboundary movement as well as unintentional transboundary movement of LMOs.

Operational text 5

The Protocol shall apply to any damage resulting from an intentional, unintentional or illegal transboundary movement, from the point where the living modified organism leaves an area which is under the national jurisdiction of one Party to the Protocol, through to the point where the living modified organism enters an area which is under the national jurisdiction of a Party to the Protocol for its use within that Party's jurisdiction.

Operational text 6

The instrument shall apply to damage caused by living modified organisms that were originally either imported or unintentionally released across the border. The damage must be a result of the genetic modification.

Operational text 7

The liability regime covers damage resulting from transboundary movement of LMOs.

Operational text 8

Damage resulting from transboundary movement of living modified organisms.

Operational text 9

1. The following definitions are used for the purpose of this document:
 - (a) Intentional transboundary movements: It is understood that the rules and procedures described in this instrument not only cover authorized movements but also all non-authorized movements and any unauthorized use of any kind.
 - (b) Illegal transboundary movements: are movements which contravene national legal provisions, as long as the affected State is a Party to the Cartagena Protocol.
2. This legally-binding instrument will apply to damages resulting from intentional or unintentional transboundary movement of any LMO, including transport, use, and placing on the market.

3. This instrument takes into account equally the right of States regardless of whether they are importing or transit States.

Operational text 10

1. These rules and procedures shall apply to damage to biological diversity resulting from transboundary movements of living modified organisms.
2. “Biological diversity” -- as defined in Article 2 of the Convention on Biological Diversity.
3. “Living modified organism” -- as defined in Article 2 of the Cartagena Protocol on BioSafety
4. “Transboundary movement” means the intentional movement of LMOs from the territory of a Party to the Protocol to the point of entry at which customs formalities take place within the territory of another Party to the Protocol.
5. “Resulting from” means that the damage:
 - (a) would not have occurred but for the transboundary movement of the LMO; and
 - (b) that the transboundary movement was the proximate cause of the damage without any superseding or intervening causes.

Operational text 11

1. These rules and procedures shall apply to:
 - (a) any damage resulting from the packaging, transport, transit, handling and/or use of a living modified organism resulting from a transboundary movement of a living modified organism, and from failure to provide accurate information about the LMO or its movement;
 - (b) any unintentional or illegal transboundary movement of a living modified organism;
 - (c) in the case of preventive measures, any damage threatened to be caused;
 - (d) any damage described by paragraphs (a),(b) or (c) wherever suffered.

Ethiopia:

Scope of Application

This Protocol shall apply to damage due to any occurrence, or series of occurrences having the same origin that causes damage or creates a grave and imminent threat of causing damage during transboundary movement, transit, handling and use of LMOs, including illegal traffic from the point where the LMOs are loaded on the means of transport in an area under the national jurisdiction of a Party of export.

Norway:

This instrument applies to transport, transit, handling and use of living modified organisms (LMO) that finds its origin in a transboundary movement. It applies to all LMOs covered by the Cartagena Protocol.

With respect to intentional transboundary movements, this instrument applies to damage resulting from any authorized use of the LMO, as well as any use in violation of such authorization.

This instrument also applies to unintentional transboundary movements and transboundary movements in contravention of domestic measures to implement the Protocol.

Greenpeace International:

Scope of Application

1. (a) This Protocol shall apply to damage resulting from the transport, transit, handling and/or use of living modified organisms resulting from transboundary movements of living modified organisms, including unintentional and illegal transboundary movements of living modified organisms,

Public Research and Regulation Initiative:

This instrument shall apply to adverse effects of living modified organisms resulting from intentional or unintentional transboundary movement on the conservation and sustainable use of biodiversity

B. Optional components for geographical scope	
(a)	Damage caused in areas within the limits of national jurisdiction or control of Parties;
(b)	Damage caused in areas within the limits of national jurisdiction or control of non-Parties;
(c)	Damage caused in areas beyond the limits of national jurisdiction or control of States.

Operational text 1

This decision applies to areas under the jurisdiction or control of the Parties to the Cartagena Protocol.

Operational text 2

1. 'Area under national jurisdiction' shall mean the territory of a Contracting Party and any other areas over which the Contracting Party has sovereignty or jurisdiction according to international law.
2. This Protocol shall apply to any damage described by paragraph (a) wherever suffered including in areas:
 1. within limits of national jurisdiction or control of Contracting Parties;
 2. within the limits of national jurisdiction or control of non-Contracting Parties; or
 3. beyond the limits of national jurisdiction or control of States.
3. Nothing in the Protocol shall affect in any way the sovereignty of States over their territorial seas and their jurisdiction and the right in their respective exclusive economic zones and continental shelves in accordance with international law.

Operational text 3

The rules and procedures adopted under Article 27 apply to damage caused by a Party which occurs/manifests in areas within the limits of national jurisdiction of another Party or non-Party.

Operational text 4

1. Any damage in areas within the limits of national jurisdiction or control of Parties;
2. Any damage caused in areas within limits of national jurisdiction or control of non-Parties;
3. Any damage caused in areas beyond the limits of national jurisdiction or control of States.

Operational text 5

1. The Protocol shall apply to damage resulting from an incident as referred to in paragraph 1 in an area which is under the national jurisdiction of a Party.
2. Notwithstanding paragraph 2, the Protocol shall also apply to damage which occurs in an area of a State of transit where such State is not a Party to the Protocol, but has however acceded to a multilateral, bilateral or regional agreement which concerns the transboundary movement of living modified organisms and is in force at the time of the occurrence of the damage.
3. Nothing in the Protocol shall be read or construed to affect in any way the Sovereignty of States, whether a Party to the Protocol or not, over their territorial seas and their jurisdiction and right in their respective exclusive economic zones and continental shelves in accordance with international law.

Operational text 6

1. This decision encourages regional and international agreements and organizations to address damage in areas outside national jurisdiction that these entities may presently strive to manage.
2. This decision encourages Parties to cooperate with regional and international agreements and organizations in an effort to address damage in areas outside of national jurisdiction.

Operational text 7

Damage that is caused within the limits of national jurisdiction or control of Parties.

Operational text 8

1. Damage suffered in areas within the limits of national jurisdiction of Parties;
2. Damage suffered in areas within the limits of non-Parties;
3. Damage suffered in areas beyond the limits of national jurisdiction of States.

Operational text 9

1. The following definition is used for the purpose of this document: area within the limits of national jurisdiction: Territory and Exclusive Economic Zone within the limits of jurisdiction of a State Party and any other over which said State Party has sovereignty or exclusive jurisdiction under international legislation.
2. This instrument will apply to damage suffered in areas within the jurisdiction or control of a State Party to the Cartagena Protocol on Biosafety and in areas beyond their jurisdiction that are recognized as international areas.
3. The provisions of this instrument do not apply to damage suffered within the territorial limits of non-Parties to the Cartagena Protocol.

Operational text 10

This instrument shall apply to any damage wherever suffered.

Ethiopia:

The Protocol shall apply only to damage suffered in an area under the national jurisdiction of a Contracting Party or in areas beyond any national jurisdiction arising from an incident referred under subarticle 1 of this Article.

Norway:

1. This instrument applies to:

- a) Damage caused by a transboundary movement and suffered within an area under national jurisdiction or control of Parties to the instrument, and
- b) Damage caused an operator of a State party to this instrument by a transboundary movement and suffered beyond areas of national jurisdiction or control, provided that it is caused by a transboundary movement of LMOs originating from an area covered by Point 1.

2. This instrument does not affect the rights and obligations of the Contracting Parties under the rules of general international law with respect to jurisdiction.

Greenpeace International:

‘Area under national jurisdiction’ shall mean the territory of a Contracting Party and any other areas over which the Contracting Party has sovereignty o jurisdiction according to international law.

Article 3.

Scope of Application

1. (b) This Protocol shall apply to any damage described by paragraph (a) wherever suffered including in areas

- (i) within limits of national jurisdiction or control of Contracting Parties;
- (ii) within the limits of national jurisdiction or control of non-Contracting Parties; or
- (iii) beyond the limits of national jurisdiction or control of States

3. In any other case, this Protocol shall apply when there is a movement of a Living Modified Organism from within an area under national jurisdiction of a Contracting Party.

4. Nothing in the Protocol shall affect in any way the sovereignty of States over their territorial seas and their jurisdiction and the right in their respective exclusive economic zones and continental shelves in accordance with international law.

C. Issues for further consideration

- (a) ~~Limitation on the basis of geographical scope, i.e. protected areas or centres of origin;~~
- (b) Limitation in time ~~(related to section V on limitation of liability);~~
- (c) Limitation to the authorization at the time of the import of the LMOs;
- (d) Determination of the point of the import and export of the LMOs.

- (b) Limitation in time ~~(related to section V on limitation of liability)~~

Operational text 1

This decision applies to damage resulting from a transboundary movement of LMOs when that transboundary movement was commenced after this decision became operational.

Operational text 2

Unless a different intention appears from this Protocol, or is otherwise established, the provisions of this Protocol do not bind a Contracting Party in relation to any act or fact which took place or any situation which ceased to exist before the date of the entry into force of the treaty with respect to that Contracting Party.

Operational text 3

There should be a five (5) year time limit between the transboundary movement which causes damage and the commencement of a process to establish liability in respect of that damage.

Operational text 4

The Protocol shall not apply to damage arising from a transboundary movement of a living modified organism that commenced prior to the entry into force of the Protocol for the Party under whose national jurisdiction the damage is said to have occurred.

Operational text 5

Any decisions made in relation to article 27 shall only apply from the time the decision takes effect.

Operational text 6

Liability rules and procedures should be prospective in nature and not retroactive, in order to ensure that fair notice of behavioural expectations has been given.

Operational text 7

These rules and procedures shall apply only to damage resulting from transboundary movements that occur following adoption of these rules.

Operational text 8

This instrument applies to damage caused, existing or arising on or after the date of entry into force of these rules and procedures/this Protocol/date this decision becomes operational.

Norway:

This instrument applies to damage caused by a transboundary movement of LMOs that started after the entry into force of this instrument.

Global Industry Coalition:

These rules and procedures shall apply only to damage to biodiversity resulting from transboundary movements that occur following entry into force of these rules.

Greenpeace International:

Article 3.

Scope Of Application

Unless a different intention appears from this Protocol, or is otherwise established, the provisions of this Protocol do not bind a Contracting Party in relation to any act or fact which took place or any situation

which ceased to exist before the date of the entry into force of the treaty with respect to that Contracting Party.

(c) Limitation to the authorization at the time of the import of the LMOs

Operational text 1

This decision applies to intentional transboundary movement only in relation to the use for which LMOs are destined and for which authorization has been granted prior to the transboundary movement.

Operational text 2

If an importing State uses an LMO for a purpose different to that specified at the time of the transboundary movement of the LMO, damage caused a result of that different use should not be within the scope of the rules and procedures adopted under Article 27.

Operational text 3

Activities taken in accordance with the provisions of the Protocol or activities taken pursuant to a permit issued by an appropriate authorized official are outside the scope of these rules and procedures.

Operational text 4

Damage shall only relate to activities that have been authorized in accordance with terms of the Biosafety Protocol.

Operational text 5

This instrument shall apply to all damage resulting from the transboundary movement of a living modified organism and any different or subsequent use of the living modified organism or any characteristics and/or traits of or derived from the living modified organism.

(d) Determination of the point of the import and export of the LMOs.

Operational text 1

1. This decision applies to damage of a LMO if:

- (a) That LMO has been subject to a transboundary movement, as defined in *paragraphs 2 to 5 below and OT 1 under Section I.C(c)*;
- (b) The first use for which the LMO has been destined and authorized is covered by the rules and procedures under Article 27 of the CPB, namely the uses set out in *paragraph 3 of OT 1 under Section I.A* above.

2. For the purpose of this decision, the definition of “transboundary movement” in Article 3(k) of the CPB is elaborated to provide further precision.

3. With respect to sea borne transport, the commencement of a transboundary movement is the point where a LMO leaves the exclusive economic zone of the State, or in the absence of such zone, the territorial sea of a State.
4. With respect to land borne transport, the commencement of a transboundary movement is the point at which a LMO leaves the territory of a State.
5. With respect to air borne transport, the commencement of a transboundary movement will depend on the route and could be the point where a LMO leaves the exclusive economic zone, the territorial sea or the territory of the State.

Operational text 2

1. Whenever a transboundary movement is effected by transport:
 - (a) When the State of export is a Contracting Party to this Protocol this Protocol shall apply with respect to damage arising from an occurrence which takes place from the point where the living modified organisms are loaded on the means of transport in an area under the national jurisdiction of the State of export.
 - (b) When the State of import, but not the State of export, is a Contracting Party to this Protocol, this Protocol shall apply with respect to damage arising from an occurrence which takes place after the time at which the importer has taken possession of the living modified organism.
2. In any other case, this Protocol shall apply when there is a movement of a Living Modified Organism from within an area under national jurisdiction of a Contracting Party to an area outside its national jurisdiction.

Operational text 3

1. An intentional transboundary movement of an LMO starts at the point at which the LMO leaves the national jurisdiction of the Party of export (*classification required for air/sea/terrestrial*) and stops at the point at which responsibility for the carriage of the LMO transfers to the importing State.
2. An unintentional transboundary movement starts at the point at which the LMO leaves the national jurisdiction of a Party of export and stops at the point at which it enters the jurisdiction of another State.

Operational text 4

A transboundary movement commences when the LMO leaves the territorial jurisdiction of a State (*to be clarified for different forms of transport*), and ends when the LMO enters the jurisdiction of the other State.

Operational text 5

The rules and procedures should cover “transboundary movement” defined in Article 3(k) of the Protocol as “the movement of a living modified organism from one Party to another Party”.

Operational text 6

1. ‘Territory’ shall mean the territory of a Contracting Party, the internal and territorial waters and the airspace over the territory.

2. A “Transboundary Movement” commences either:
 - (a) when a living modified organism is prepared for export within the territory of a State by the preparation, handling, or packaging of the living modified organism for export by transport;
 - (b) In any other case, when an LMO leaves the territory of the State.

Norway:

For the purposes of this instrument, a transboundary movement starts from the following points;

- a) In cases of sea borne transport, where a LMO leaves the exclusive economic zone of the State, or in the absence of such zone, the territorial sea of a State.
- b) In cases of land borne transport, where a LMO leaves the territory of a State
- c) In cases of air borne transport, where a LMO leaves the exclusive economic zone, the territorial sea or the territory of the State, depending on the route.

Global Industry Coalition:

“Transboundary movement” means the intentional movement of LMOs from the territory of a Party to the Protocol to the point of entry at which customs formalities take place within the territory of another Party to the Protocol.

Greenpeace International:

Article 3.

Scope of Application

2. Whenever a transboundary movement is effected by transport:
 - a) When the State of export is a Contracting Party to this Protocol this Protocol shall apply with respect to damage arising from an occurrence which takes place from the point where the living modified organisms are loaded on the means of transport in an area under the national jurisdiction of the State of export.

II. DAMAGE

A. *Optional components of the definition of damage*

- (a) Damage to conservation and sustainable use of biological diversity or its components;
- (b) Damage to environment;
 - (i) Damage to conservation and sustainable use of biological diversity or its components;
 - (ii) Impairment of soil quality;
 - (iii) Impairment of water quality;
 - (iv) Impairment of air quality;
- (c) Damage to human health;
 - (i) Loss of life or personal injury;
 - (ii) Loss of income;
 - (iii) Public health measures;
 - (iv) Impairment of health;
- (d) Socio-economic damage, especially in relation to indigenous and local communities;
 - (i) Loss of income;
 - (ii) Loss of cultural, social and spiritual values;
 - (iii) Loss of food security;
 - (iv) Loss of competitiveness;
- (e) Traditional damage:
 - (i) Loss of life or personal injury;
 - (ii) Loss of or damage to property;
 - (iii) Economic loss;
- (f) Costs of response measures.

Operational text 1

1. "Environment" includes:

- (a) the conservation and sustainable use of biological diversity or its components;
- (b) natural resources both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors.

2. 'Impaired' in relation to the environment' shall include any adverse effects on the environment.

3. 'Damage' shall include:

- (a) Damage to human health including:
 - (i) Loss of life or personal injury;
 - (ii) Impairment of health;
 - (iii) Loss of income;
 - (iv) Public health measures.
- (b) damage to, or impaired use or loss of, property;
- (c) damage to the environment, including, loss of income derived from an economic interest in any use of the environment incurred as a result of impairment of the environment;
- (d) Loss of income, loss of cultural, social and spiritual values, loss of food security, or economic loss, loss of competitiveness or other damage to indigenous or local communities.

Operational text 2

The instrument shall apply to:

- (a) damage to environment, conservation and sustainable use of biological diversity and its components as defined in Article 2 of the Convention of Biological Diversity including impairment of soil, water and air quality;
- (b) damage to human health which shall include loss of life or personal injury; loss of income; impairment of health and costs of public health measures taken;
- (c) socio-economic damage, which shall include but not be limited to:
 - (i) loss of income
 - (ii) loss of cultural, social, traditional and spiritual values
 - (iii) loss of food security
 - (iv) loss of economic markets
- (d) *Actio legis aquiliae*, *Actio ex contractu* (Cartagena Protocol on Biosafety), *Actio damni injuriae*;
- (e) Cost of response and preventative measures including remedial costs.

Operational text 3

For the purposes of these Rules:

- (a) "Abiotic components" shall include air, soil and water;
- (b) "Biotic components" include flora and fauna, damage to which shall be assessed from kingdom to genetic levels;
- (c) "Damage" shall mean:
 - (i) Loss of life or personal injury;
 - (ii) Loss of or damage to property: provided that the property is not held by the person to be held liable in accordance with the Protocol;

- (iii) Loss of income which was directly derived from an economic interest in any use of the environment within the scope of the Protocol and which loss has incurred as a result of the impairment of the environment, taking into account loss of savings and costs;
- (iv) Loss of cultural, social and spiritual values;
- (v) Loss of the security of provision of food which is a staple or contains a socio-economic value to an indigenous or local community;
- (vi) The costs of measures to respond to the damage caused or of reinstatement of the impaired environment, with such costs to be limited to the measures actually undertaken or which are deemed as necessary to be undertaken;
- (vii) Loss of biological diversity and its components;
- (viii) Loss of abiotic and biotic components of the environment; and
- (ix) Impairment of the interactions and interrelationships between abiotic and biotic components of the environment.

Operational text 4

1. "Damage" means:

- (a) Loss of life or personal injury;
- (b) Loss of, or damage to, property other than property held by the person liable in accordance with the rules and procedures under article 27 of the Protocol;
- (c) Loss of income directly deriving from an economic interest in the sustainable use of biological diversity, incurred as a result of impairment of the biological diversity, taking into account savings and costs;
- (d) The cost of measures of reinstatement of the impaired biological diversity, limited to the costs of measures actually taken or to be undertaken; and
- (e) The cost of response measures, including any loss or damage caused by such measures, to the extent that the damage was caused by living modified organisms due to the genetic modification.

2. "Measures of reinstatement" means any reasonable measures aiming to assess, reinstate or restore damaged or destroyed components of the biological diversity. Domestic law may indicate who will be entitled to take such measures;

3. "Response measures" means any reasonable measures taken by any person, including public authorities, following a damage, to prevent, minimize or mitigate possible loss or damage or to arrange for environmental clean-up. Domestic law may indicate who will be entitled to take such measures.

Operational text 5

This instrument covers damage to conservation and sustainable use of biological diversity and to human health. For the purpose of this instrument;

- (a) damage to the conservation of biological diversity means any measurable significant change in the quantity or quality of organisms within species, of species as such or ecosystems;
- (b) damage to the sustainable use of biological diversity means any quantitative or qualitative reduction of the components of biological diversity which negatively affect the continued use of

those components in a sustainable way and thereby leads to loss of, or damage to property, loss of income, disruption of the traditional way of life in a community or hinders, impedes or limits exercising of the right of common;

(c) damage to human health means any personal injury whether or not it leads to loss of life.

Operational text 6

Damage to conservation and sustainable use of biological diversity, taking into account the definitions of ‘sustainable use’ and ‘biological diversity’ in article 2 of the Convention on Biological Diversity.

Operational text 7

1. Damage covered under the rules and procedures is restricted to damage to the conservation and sustainable use of biological diversity.

2. To constitute damage to the conservation and sustainable use of biological diversity, there must be a change to the conservation and sustainable use of biological diversity that is adverse, significant and measurable, within a timescale meaningful in the particular context, from a baseline established by a competent national authority that takes into account natural variation and human-induced variation.

Operational text 8

“Damage” means impacts on biological diversity that are:

- (a) adverse;
- (b) significant;
- (c) measurable using objective scientific criteria (to be developed); and clearly caused by a specific LMO.

Operational text 9

1. ‘Environment’ includes all natural resources, including (i) air, water, soil, fauna and flora, and the interaction between the same factors, (ii) ecosystems and their constituent parts, (iii) biodiversity, (iv) amenity values, (v) indigenous or cultural heritage, and (vi) social, economic, aesthetic, and cultural conditions which are affected by the matters stated in paragraphs (i) to (v) of this definition.

2. ‘Impaired’ shall include any adverse effect and shall include contamination.

3. ‘Damage’ shall include:

- (a) Damage to human health, including:
 - (i) Loss of life, personal injury, loss of wellbeing, and impairment of health; and medical costs including the cost of diagnosis and treatment and associated costs;
 - (ii) Loss or reduction of income;
 - (iii) Public health measures;
- (b) damage to, impaired use or reduction of value of property;

- (c) loss or reduction of income derived from environmental impairment;
- (d) damage to the environment, including:
 - (i) the cost of measures of reinstatement or remediation of the impaired environment, where possible, as measured by the cost of action actually taken or to be undertaken, including the introduction or re-introduction of original components; and
 - (ii) where reinstatement or remediation to the original state is not possible, the introduction of equivalent components at the same location, for the same use, or on another location for other types of use; and
 - (iii) the costs of response measures, including any loss or damage caused by such measures; and
 - (iv) the costs of preventive measures, including any loss or damage caused by such measures; and
 - (v) the costs of any interim measures; and
 - (vi) any other damage to or impairment of the environment, taking into account any impact on the environment;
- (e) Loss or reduction of income, loss of or damage to cultural, social and spiritual values, loss of or reduction to food security, damage to agricultural biodiversity used by local and indigenous communities, loss of competitiveness or other economic loss or other loss or damage to indigenous or local communities.

Colombia:

- (a) Damage to conservation and sustainable use of biological diversity or its components;
 - (i) Determination of biodiversity loss: [...]
 - (ii) Formulation of a qualitative threshold of damage to conservation and sustainable use of biological diversity;
- (b) Damage to environment;
 - (i) Impairment of soil quality;
 - (ii) Impairment of water quality;
 - (iii) Impairment of air quality;
- (c) Damage to human health;
 - (i) Impairment of health;
 - (ii) Loss of life or personal injury;
- (d) Socio-economic damage, especially in relation to indigenous and local communities;
 - (i) Loss of income;
 - (ii) Economic loss;
 - (iii) Impairment of cultural, social and spiritual values;
 - (iv) Impairment of food security;
 - (v) Reduction or loss of competitiveness;
 - (vi) Impairment of private property;

Ethiopia:

Civil Claims for Damage

For the purpose of this protocol damage means

- (a) loss of life or personal injury
- (b) loss of or damage to property other than property held by the person liable in accordance with this Protocol

- (c) loss of income directly deriving from economic interest in any use of the environment, incurred as a result of impairment of the environment, taking into account savings and costs
- (d) the costs of measures of reinstatement of the impaired environment, limited to the costs of measures actually taken or to be undertaken

Norway:

Alternative 1

This instrument covers damage to conservation and sustainable use of biological diversity and to human health as follows:

1. Damage to the conservation of biological diversity means any measurable significant change in the quantity or quality of organisms within species, of species as such or ecosystems.
2. Damage to the sustainable use of biological diversity means any quantitative or qualitative reduction of the component of biological diversity which negatively affect the continued use of those components in a sustainable way and thereby leads to economic loss, loss of, damage to, or impaired use of property, loss of income, disruption of the traditional way of life in a community or hinders, impedes or limits exercising of the right of common.
3. Damage to human health, including loss of life, personal injury, impairment of health, loss of income and public health measures.

Alternative 2

1. "Damage" means:
 - a) Loss of life or personal injury;
 - b) Loss of or damage to property;
 - c) Loss of income directly deriving from an economic interest in the use of biological diversity, incurred as a result of impairment of the biological diversity, taking into account savings and costs;
 - d) The costs of measures of reinstatement or remediation of the impaired biological diversity actually taken or to be undertaken;
 - e) The costs of preventive measures, including any loss or damage caused by such measures
2. "Measures of reinstatement" means any reasonable measures aiming to assess, reinstate or restore damaged or destroyed components of biological diversity. Domestic law may indicate who will be entitled to take such measures;
3. "Preventive measures" means any reasonable measures taken by any person, in response to an incident, to prevent, minimize or mitigate possible loss or damage or to arrange for environmental clean-up.

Global Industry Coalition:

Damage covered under these rules and procedures is limited to damage to biodiversity

Greenpeace:

1. 'Damage' includes
 - (i) Damage to human health including:
 - (a) Loss of life or personal injury or disease together with medical costs including costs of diagnosis and treatment and associated costs ;
 - (b) Impairment of health;
 - (c) Loss of income;
 - (d) Public health measures;
 - (ii) damage to or impaired use of or loss of property;
 - (iii) loss of income derived from an economic interest in any use of the environment, incurred as result of impairment of the environment;

- (iv) Loss of income, loss of or damage to cultural, social and spiritual values, loss of or reduction of food security, damage to agricultural biodiversity, loss of competitiveness or other economic loss or other loss or damage to indigenous or local communities.
- (v) damage to the environment, including
 - (a) the costs of reasonable measures of reinstatement or remediation of the impaired environment, where possible, measured by the costs of measures actually taken or to be undertaken, including introduction of original components;
 - (b) where reinstatement or remediation to the original state is not possible, the value of the impairment of the environment, taking into account any impact on the environment, and the introduction of equivalent components at the same location, for the same use, or on another location for other types of use, and
 - (c) the costs of response measures, including any loss or damage caused by such measures; and
 - (d) the costs of preventive measures, including any loss or damage caused by such measures;
 - (e) the costs of any interim measures; and
 - (f) any other damage to or impairment of the environment, taking into account any impact on the environment;

Provided that the damage was caused directly or indirectly by living modified organisms during or following a transboundary movement of the living modified organisms, or in the case of preventive measures, is threatened to be so caused

- 2. 'Impaired' in relation to the environment' shall include any adverse effects on the environment.
- 3. 'Measures of reinstatement' means any reasonable measures aiming to assess, reinstate or restore damaged or destroyed components of the environment.
- 4. 'Compensation' shall include compensation for damage, restoration and remediation and other amounts payable under this Protocol.

Public Research and Regulation Initiative:

Damage to biodiversity is any damage that has significant adverse effects on the conservation of biodiversity in a particular place, but does not include damage resulting from those actions expressly authorized or required by a relevant national authority.

Except where national law extends this instrument, damage to private property shall not be within the scope of this instrument

- (a) Damage to conservation and sustainable use of biological diversity or its components:
 - (i) Determination of biodiversity loss: it is essential to have baselines to measure loss, taking into account natural variations and human-induced variations other than those caused by LMOs;
 - (ii) Formulation of qualitative threshold of damage to conservation and sustainable use of biological diversity.

Operational text 1

- 1. For the purposes of this decision, damage to the conservation of biological diversity means an adverse effect on biological diversity that:
 - (a) Is a result of human activities involving LMO's; and

- (b) relates in particular to species and habitats protected under national law or international law; and
 - (c) Is measurable or otherwise observable taking into account, wherever available, baseline conditions; and
 - (d) Is significant as set out in paragraph 3 below.
2. For the purposes of this decision, damage to the sustainable use of biological diversity means an adverse effect on biological diversity that:
- (a) Is related to a sustainable use of biodiversity; and
 - (b) Has resulted in loss of income; and
 - (c) Is significant as set out in paragraph 3 below.
3. A “significant” adverse effect on the conservation and sustainable use of biological diversity is to be determined on the basis of factors, such as:
- (a) The long term or permanent change, to be understood as change that will not be redressed through natural recovery within a reasonably short period of time; and/or
 - (b) A qualitative or quantitative reduction of components of biodiversity, and in relation to sustainable use of biodiversity, their potential to provide goods and services.

Operational text 2

1. For purposes of the valuation of damages for ascertaining the loss of biodiversity, account must be taken of the baseline conditions obtaining before the damage, including the natural and human induced variations other than those caused by LMOs.
2. The baseline conditions may be proved by statistical, traditional, historical, or such other evidence as may be considered appropriate.

Operational text 3

For the purpose of this document:

- (a) Damage to biological diversity means any measurable change that result in adverse effect, considering the definition of “biological diversity” in article 2 of the Convention on Biological Diversity.
- (b) Damage to sustainable use of biological diversity means any decrease in the potential of the use of any of the components of the biological diversity, to meet the needs and aspirations of the present and future generation.

Operational text 4

1. Damage means an adverse or negative change in the conservation and sustainable use of biological diversity or its components, as well as any socio-economic considerations arising from damage to biological diversity consistent with Article 26 of the Protocol. The adverse or negative change in biological diversity must be present over a period of time and cannot be redressed through natural recovery within a reasonable period of time.

2. (a) In order for compensation to be available, a threshold of significant or substantial damage must be exceeded, as measured against a baseline of the condition or conditions that would have existed had the incident not occurred.
- (b) As part of this determination, both natural processes and those that result from human activities must be taken into account.

Operational text 5

1. Valuation of damage shall be measured in relation to established scientific baselines.
2. Damage to conservation and sustainable use of biological diversity will need to be 'significant' or 'serious'.

Operational text 6

To constitute damage to the conservation and sustainable use of biological diversity, there must be a change to the conservation and sustainable use of biological diversity that is adverse, significant and measurable, within a timescale meaningful in the particular context, from a baseline established by a competent national authority that takes into account natural variation and human-induced variation.

Operational text 7

1. When valuing damage, damage to biodiversity may take into account any baseline information that the Competent National Authority took into account pursuant to any risk assessment required by the Protocol and any applicable national laws.
2. There shall be no threshold applicable to the assessment of damage.

B. Possible approaches to valuation of damage to conservation of biological diversity/environment
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| <ol style="list-style-type: none">(a) Costs of reasonable measures taken or to be taken to restore the damaged components of biological diversity/environment:<ol style="list-style-type: none">(i) Introduction of original components;(ii) Introduction of equivalent components on the same location, for the same use, or on another location for other types of use;(b) Monetary compensation to be determined on the basis of criteria to be developed. |
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Operational text 1

1. In the valuation of the damage to the environment the following, amongst other matters, shall be taken into account:
 - (a) costs of reasonable measures of reinstatement or remediation of the impaired environment, where possible, measured by the costs of measures actually taken or to be undertaken, including introduction of original components;

- (b) where reinstatement or remediation to the original state is not possible, the value of the impairment of the environment, taking into account any impact on the environment, and the introduction of equivalent components at the same location, for the same use, or on another location for other types of use;
- (c) costs of response measures, including any loss or damage caused by such measures;
- (d) costs of preventive measures, including any loss or damage caused by such measures;
- (e) a monetary value for the loss during the period when the damage occurs and the environment is restored as required in (a) and (b);
- (f) a monetary value representing the difference in the value of the environment as reinstated under (a) or (b), and the value of the environment in its undamaged or impaired state; and
- (g) any other matters not referred to in (a) – (f).

2. Any monetary damages recoverable in respect of the restoration of the environment shall, wherever possible, be applied for that purpose and aimed at returning the environment to its baseline condition.

Operational text 2

1. In the valuation of the damage to the conservation of biological diversity the following, among other, shall take into account:

- (a) exchange value (relative price in the market);
- (b) utility (the use value, which can be very different from the market price);
- (c) importance (appreciation or emotional value attached).

2. Damage to conservation of biological diversity shall be valued case by case on the cost of restoration and monetary compensation, taking into account the complexity of the biological systems.

Operational text 3

1. The primary mechanism for valuation of damage is to determine the cost of measures taken to restore the damage to biological diversity or its components to its baseline conditions.

2. After restoration is addressed, additional monetary compensation may be considered where baseline conditions cannot be restored. Where baseline conditions cannot be restored, alternative mechanisms for evaluating further monetary conditions may be considered, including market valuation or value of replacement services.

Operational text 4

Damage to conservation of biological diversity shall be valued on the cost of restoration only.

Operational text 5

The primary mechanism for the evaluation of damage shall take into account costs of reasonable measures taken or to be taken to restore the damaged components of biological diversity through:

- (a) Introduction of original components; or
- (b) Introduction of equivalent components on the same location, for the same use, or on another location for other types of use.

Ethiopia:

Financial Limit

In the case of harm to the environment or biological diversity, compensation shall include the costs of reinstatement, rehabilitation or clean-up measures which actually are being incurred and, where applicable, the costs of preventive measures.

Norway:

In the valuation of the damage to conservation of biological diversity, the costs of measures of reinstatement or remediation of the impaired biological diversity actually taken or to be undertaken shall be taken into account, including introduction of original components or introduction of equivalent components on the same location, for the same use, or on another location for other types of use

<i>C. Issues for further consideration with respect to valuation of damage</i>
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(a) Obligations to take response and restoration measures
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Operational text 1

1. In the event of damage, the liable person should take response measures.
2. The liable person should be required by domestic law to take such response measures. This is without prejudice to a primary and general obligation of affected persons to minimise damage as far as possible and feasible.
3. For the purposes of this decision, response measures are actions to minimise, contain or remedy damage, as appropriate.
4. The damage to conservation and sustainable use of biodiversity is valued on the basis of the costs of response measures, eventually undertaken or to be undertaken, to remedy it.

Operational text 2

1. The Contracting Party where the damage occurs may require any legal person or entity responsible for the damage to take response measures as may be required to abate, reinstate, or remediate the impaired environment.
2. The legal person or entity shall take the measures required.
3. If the legal person or entity fails to take the response measures as required, the Contracting Party where the damage occurs may undertake, or propose to undertake, the measures; in such an event, the legal person or entity shall pay the reasonable costs of these measures.

Operational text 3

1. Operators responsible for activities covered by this instrument that may cause or has caused damage as defined above, shall take the necessary measures to prevent, minimize, mitigate or repair the damage.
2. Such measures shall comprise assessment, reinstatement or restoration through the introduction of original components of biological diversity or, if this is not possible, introduction of equivalent components on the same location for the same use, or on another location for other types of use.
3. If the necessary measures are not taken by the operator responsible, the affected individuals, communities or the authorities of the State in which the damage occurs, may, in accordance with domestic law, take such measures at the cost of the responsible operator.

Operational text 4

Any obligation to take response and restoration measures shall be limited to reasonable measures.

Operational text 5

National law shall require that any person in operational control of LMOs at the time of an incident shall take all reasonable measures to mitigate the damage arising therefrom.

Operational text 6

1. Operators responsible for activities covered by this instrument that may cause or has caused damage as defined above, shall take the necessary measures to prevent, minimize, mitigate or repair the damage.
2. Such measures shall comprise assessment, reinstatement or restoration through the introduction of original components of biological diversity or, if this is not possible, introduction of equivalent components on the same location, for the same use, or on another location for other types of use.
3. If the necessary measures are not taken by the operator responsible, the affected individuals, communities or the authorities of the State in which the damage occurs, may, in accordance with domestic law, take such measures at the cost of the responsible operator.

Operational text 7

Any competent Court or Tribunal may issue an injunction or declaration or take such other appropriate interim or other measure as may be necessary or desirable with respect to any damage or threatened damage.

Ethiopia:

Cessation, Restitution And Compensation

1. Each Contracting party shall in conformity with the Cartagena Protocol and other relevant international law cease activities that might cause significant damage and shall, as far as practicable, re-establish the situation that would have existed if the damage had not occurred.
2. Where restoration is not possible as provided under subarticle one of this Article, the Contracting Party which is responsible for the origin of the damage shall provide other remedies or substitutes deemed equivalent or relevant to make good the damage.

3. Contracting Parties shall cooperate to develop and improve means to remedy damage resulting from transboundary movements of LMOs, including measures for rehabilitation, restoration or reinstatement of habitats of particular conservation concern.

Norway:

The Party affected by an intentional or unintentional transboundary movement of living modified organisms may require the person responsible for the movement to take reasonable preventive measures and measures of reinstatement.

If the person responsible fails to take the measures as required, the Contracting Party may undertake the measures at his expense.

Greenpeace International:

‘Preventive measures’ means any reasonable measures taken by any person in response to an occurrence, to prevent, minimize, or mitigate loss or damage, or to address damage or threatened damage to biodiversity, or to effect environmental clean-up.

Article 6.

Preventive Measures Required

Subject to any requirement of domestic law, any person in operational control of living modified organisms at the time of an occurrence shall take all reasonable measures to mitigate damage arising therefrom.

(b) Special measures in case of damage to centres of origin and centres of genetic diversity to be determined

Operational text 1

If any damage is caused to centres of origin or centres of genetic diversity, then and without prejudice to any rights or obligations hereinbefore stated:

- (a) additional monetary damage shall be payable representing the cost of the investment in the centres;
- (b) any other monetary damage shall be payable representing the unique value of the centres;
- (c) any other measures may be required to be taken, taking into account the unique value of the centres.

Operational text 2

Valuation of damage will relate to the conservation and sustainable use of biological diversity, with no special measures for centres of origin and centres of genetic resources.

Operational text 3

Any competent Court or Tribunal shall pay particular regard to any relevant centre of origin or centre of genetic diversity.

(c) Valuation of damage to sustainable use of biological diversity, human health, socio-economic damage and traditional damage

Operational text 1

1. In determining damages for any socio - economic damage, the following:

(a) shall be taken into account:

(i)

(ii) etc.

(b) may be taken into account:

(i)

(ii) etc.

Operational text 2

Compensation for damage shall cover the costs of the necessary measures taken or to be taken to assess, reduce or repair the damage, and any loss of or damage to property and loss of income.

Ethiopia:

Civil Claims for Damage

3. In the case of harm to human health, compensation shall include:

- a) all costs and expenses incurred in seeking and obtaining the necessary and appropriate medical treatment;
- b) compensation for any disability suffered, for diminished quality of life, and for all costs and expenses incurred in reinstating, as far as possible, the quality of life enjoyed by the person before the harm was suffered;
- c) compensation for loss of life and all costs and expenses incurred and other related expenses;

4. Liability shall also extend to harm or damage caused directly or indirectly by the LMO or its product to:

- a) the livelihood or indigenous knowledge systems of local communities,
- b) technologies of a community or communities,
- c) damage or destruction arising from incidence of public disorder triggered by the LMO or its product,
- d) disruption or damage to production or agricultural systems,
- e) reduction in yields,
- f) soil contamination,
- g) damage to the biological diversity,
- h) damage to the economy of an area or community, and

any other consequential economic, social or cultural damages

III. CAUSATION

Issues for further consideration:

- (a) Level of regulation (international/or domestic level);
- (b) Establishment of the causal link between the damage and the activity:
 - (i) Test (e.g. foreseeability, direct/indirect damage, proximate cause, vulnerability clause);
 - (ii) Cumulative effects;
 - (iii) Complexity of interaction of LMOs with the receiving environment and time scales involved;
- (c) Burden of proof in relation to establishing the causal link:
 - (i) Relaxation of burden of proof;
 - (ii) Reversal of burden of proof;
 - (iii) Burden of proof on exporter and importer.

Operational text 1

1. When considering evidence of the causal link between the LMO or the activity in relation to the LMO and the damage/adverse effect, due account shall be taken of the increased danger of causing such damage/adverse effect inherent in the LMO or the activity.

or

1. To establish the causal link between the LMO or the activity in relation to the LMO and the damage, it shall be shown that the LMO or the activity in relation to the LMO materially increased the risk of danger of causing the damage/producing the adverse effect.
2. The effect referred to in (1) may be direct or indirect, temporary or permanent, chronic or acute, past, present or future, cumulative, arises over a period of time or is continuing.
3. Upon proof of the damage/adverse effect and the presence of the LMO by the legal person or entity making the claim, the evidentiary burden of disproving the causal link shall be on the person or entity alleged to have caused the damage/adverse effect.

Operational text 2

If the rules and procedures adopted under Article 27 are guidelines for the development of national liability rules: each State may apply its own definition of causation consistent with best international practice.

or

If the rules and procedures adopted under Article 27 are to be applied as an international regime, whether through national courts or an international entity: common test for causation based on principle

that it should be established that the affected entity/individual would not have suffered the damage but for the actions of the entity/individual that is purported to be responsible for the damage.

Operational text 3

1. Causation could be considered at international or national levels.
2. Any adverse effects that may have resulted from the introduction of a living modified organism that finds its origin in a transboundary movement shall be sufficient in the establishment of a causal link.
3. There shall be a presumption that the operator is liable for harm or damage caused by a living modified organisms which finds its origin in transboundary movement. Therefore the burden of proof for any damages reasonably resulting from transboundary movement of living modified organisms, shall be shifted to the operator.

Operational text 4

1. Any operator that causes damage that alone or in combination with other causes may have caused the damage, shall be recognized as having caused such damage unless it is established that another cause is more likely.
2. Any operators responsible for activities covered by this instrument which individually or together are sufficient to cause the damage, shall be severally liable.
3. If it can be established that other causes of damage have predominantly contributed to the damage, liability for a less significant cause of damage may cease or be proportionately reduced to the extent reasonable. In evaluating the contribution of the operator causing such damage, the type and extent of the operators activity and other relevant circumstances shall be taken into account.

Operational text 5

The entity seeking redress for a claim of damage bears the burden of demonstrating all of the following:

- (a) proximate causation between the transboundary movement of an LMO and claimed damage;
- (b) a causal link between an act or omission on the part of the persons involved with the transboundary movement and the claimed damage;
- (c) that the parties alleged to have caused the harm acted wrongfully, intentionally, recklessly, or otherwise committed negligent or grossly negligent acts or omissions, (i.e., violated the accepted standard of care).

Operational text 6

1. States shall decide whether to establish regulation at the national level only.
2. A causal link between the damage and the activity based on scientific evidence shall be required.
3. The burden of proof shall be on the entity alleging that damage has been suffered.

Operational text 7

1. There must be a causal link established between the activity/incident and the damage incurred.
2. When considering the causal link between an incident and the damage, the following must be taken into account, *inter alia*:
 - (a) Cumulative effects;
 - (b) Intervening events;
 - (c) Self-regeneration of ecosystems;
 - (d) Complexity of the interaction of LMOs with the receiving environment and timescales involved.

Operational text 8

Liability shall attach only on the establishment of both cause-in-fact and proximate cause of the damage alleged. The claimant shall bear the burden of proof.

Operational text 9

1. "Effect" includes (a) any direct or indirect effect, (b) any temporary or permanent effect, (c) any chronic or acute effect, (d) any past, present, or future effect; and (e) any cumulative effect which arises over time or in combination with other effects.
2. "Occurrence" means any occurrence or incident, or series of occurrences or incidents having the same origin, that causes damage or creates a serious threat of damage; and includes any act, omission, event or circumstance, foreseen or unforeseen, resulting from or following any transboundary movement of any living modified organism.
3. Damage shall include direct or indirect damage.
4. There shall be presumption that:
 - (a) the living modified organism which was the subject of a transboundary movement caused the damage where there is a reasonable possibility that it could have done so; and
 - (b) that any damage caused by a living modified organism which was the subject of a transboundary movement was the result of its biotechnology-induced characteristics.
5. To rebut the presumption, a person must prove to the standard required by the procedural law applied that the damage was not due to the characteristics of the living modified organism resulting from the genetic modification, or in combination with other hazardous characteristics of the living modified organism.

Norway:

All matters of substance or procedure regarding claims before the competent court which are not specifically regulated in the instrument shall be governed by the law of that court, including any rules of such law relating to conflict of laws, in accordance with generally accepted principles of law.

Public Research and Regulation Initiative:

There should be considered a causal link between the damage and the act or omission of a person with operational control of the LMO if he fails to fulfil his obligations set by the applicable laws or approval procedures, unless he can prove otherwise.