

Loss and Damage: Some key issues and considerations

By Doreen Stabinsky and Juan P. Hoffmaister

The series of expert meetings on a range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, is a significant element of the SBI work programme on loss and damage. The discussions at the Latin American regional meeting should provide substantive input to the decision on loss and damage to be adopted at COP18 in Doha in December. We provide this background note as a contribution to the regional meeting and the important discussions that will take place there.

I. Background – what is loss and damage and why is it important?

The phrase “loss and damage” refers broadly to the entire range of damage and permanent loss “associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change” that can no longer be avoided through mitigation nor can be avoided through adaptation. There are multiple approaches to address those damages and losses, some which may have synergies with adaptation efforts, while others will require taking action through new arrangements and stand-alone approaches. Obligations under the UNFCCC related to loss and damage require attention by the Parties, and the regional meetings provide a unique window to contextualize local, national and regional challenges in a manner whereby the Parties to the Convention can decide adequate next steps at COP18.

Recent climate change impacts from Latin America provide vivid examples to consider in the current assessment of approaches to addressing loss and damage:

- Long-term drought in the northern states of Mexico has devastated cattle herds and crops. Over the last 12 months, 350,000 head of cattle starved to death in the state of Chihuahua alone. Maize production in 2011 in Chihuahua dropped from 100,000 metric tons to just 500 tons. The head of the Climate Change Program at UNAM in Mexico City wonders, “Is it really a drought, or the region’s new climate?” A permanent shift in the regional climate would mean thousands of farmers losing use of their lands and their livelihoods.
- Flooding in Colombia and Venezuela in 2010 left devastating consequences for society, with hundreds dead, millions of people homeless, and damages on the order of billions of dollars to their economies. In Colombia alone, the government estimate of the damage caused was up to \$6 billion. The floods and landslides affected 70% of the country and left homeless more than 2.2 million people.
- Andean glaciers are rapidly receding, and will continue due to slow-onset temperature rise, with significant near-term impacts, including impacts on mountain ecosystems, on water supplies for major cities, and on farmers’ livelihoods and food security in Peru, Ecuador and Bolivia. As with other slow-onset impacts, such as sea level rise and the associated salinization of aquifers, where access to fresh water is slowly eroded, the right to development is at the same time actively undermined. Rather than increasing options to improve livelihoods, life in mountain areas becomes more and more unviable.
- The region of Central America has been severely hit by extreme events in last decades, washing away years of investment in sustainable development. In 1998 Hurricane Mitch struck when Central America was just recovering from the economic effects of El Niño 1997-1998, whose floods, forest fires, and droughts had weakened the countries’ productive systems. Honduras and Nicaragua were the hardest hit, but the damage spread through the whole region. The Pan American Health Organization reports that this event left almost

¹ Decision 1/CP.13. See the Annex for the mandate and negotiating history on loss and damage within the UNFCCC.

10000 dead, and destroyed almost 4000 schools, 600 health centres and 1800 water and sanitation services. The recovery from this disaster took years, with some areas still showing signs of the devastation today.

A recent report published by the Inter-American Development Bank, the World Wildlife Fund and the Economic Commission for Latin America and the Caribbean estimates that climate change will cost Latin America \$100 billion per year by 2050, including reduced crop production, extreme events such as flooding and drought, lost fishery and tourism revenues due to coral reef bleaching, and the spread of diseases to new regions. On top of direct economic losses and non-economic losses are the significant setbacks these impacts will have on long-term sustainable development efforts.

Economic and non-economic losses both represent lost development opportunities and a threat to the right to development. At the heart of the challenge of loss and damage is addressing the needs and aspirations of communities and people, who have contributed least to the causes of climate change, yet are among its first and worst victims. Indigenous peoples and local communities are harmed by changing ecosystems and threats to traditional livelihoods, while farmers and farming communities often dependent on rain-fed agriculture could experience massive drops in production leaving millions without food.

II. Key topics for consideration by the expert meeting

The regional meetings are important to contextualize and downscale our understanding of the needs of developing countries so that the next steps on loss and damage under the Convention and with other relevant bodies (like WMO) will be consistent with their needs. The regional meetings should enable an understanding of the regional perspective of the direct harms (i.e., the direct economic and non-economic losses of actual (unavoidable) harms, which should be addressed and/or compensated at full costs) and to also understand foregone development opportunities (i.e., the costs of lost and diminished opportunities in developing countries, caused by having to forego development pathways followed by the developed countries).

According to the mandate, the expert meeting is to examine a range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather and slow onset events. At a minimum, the meeting should consider broadly the types of loss and damage that will occur, as well as the breadth of approaches necessary to address the diversity of loss of damage. Developing a typology of the types of approaches that have been most effective and how these have been supported would be a useful outcome, especially if these approaches to address loss and damage are considered and contextualized in the context of sustainable development. The meeting should pay particular attention to gaps, as identification of gaps can help define the role of the Convention in this area. Specific topics that should be addressed by the expert meeting include the following:

Both economic and non-economic damage and losses must be considered in both the assessment of loss and damage and in the analysis of approaches to address loss and damage. Examples of economic losses include structural damage from floods or hurricanes, or crop loss due to drought or extreme heat. Non-economic losses include cultural loss, loss of livelihoods or territory, or species extinction. Some damage can be rehabilitated (such as damage to infrastructure), while other damage and loss cannot (e.g., cultural loss, loss of ecosystems, melted glaciers, loss of human life). Much attention has gone into the traditional approaches to risk management to address economic losses, but the work programme needs to redouble efforts to understand approaches to address non-economic losses.

There are limits to adaptation. The continuing accumulation of greenhouse gases in the atmosphere, the denial of historical responsibility, and the limited support that has been forthcoming for adaptation limit how much developing countries can do. Moreover, there are real physical limits to adaptation. As temperatures and sea levels rise, territory will become uninhabitable and unproductive. Soil moisture levels will decrease to the point that cultivation of crops is no longer viable in entire regions. Groundwater sources in coastal areas will become too saline to provide drinking water for people living there. Adaptation will become impossible on low-lying islands and in the most arid regions, leading to permanent loss of lands, livelihoods, and cultural resources.

There are limitations to risk reduction, risk retention and risk transfer approaches to loss and damage.

Over the past decade, policymakers and negotiators have discussed a range of approaches to address loss and damage, from disaster risk reduction to risk transfer and insurance. The current round of expert meetings should further evaluate these existing approaches with a view to identifying gaps in addressing the range of loss and damage.

Risk reduction, like adaptation, becomes impossible after a certain point, for example, when territory becomes uninhabitable. Migration and planned relocation are only coping mechanisms in that situation.

Risk retention, when countries assume the costs of damage and loss in national accounting, is not an option for many countries. Developing countries are turning to the Convention to address the question of loss and damage precisely because risk retention is not an option for them.

Risk transfer is a broad category of mechanisms to transfer the cost of damage and loss to a third party, usually through some form of insurance. There is potential for risk transfer and other risk-sharing mechanisms like insurance to address a subset of losses and damage, but the literature indicates that there are also limitations for such approaches. A number of organizations are trying to design insurance products that can reach and benefit the poorest agriculturalists, such as weather index-based insurance. However insurance works best for low probability, high impact events. Insuring climate risks becomes less and less tenable when events become more frequent (non-stationarity), as premiums will rise accordingly. More frequent droughts, or high temperatures that kill crops or livestock, will become less and less insurable as these events increase in frequency with the rise in global temperature.

Losses and damage from slow-onset impacts and state shifts are distinct threats requiring new types of approaches.

Slow-onset impacts, as noted in decision 1/CP.16,² include sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification. State shifts are permanent shifts in climate and ecosystem characteristics. Because the Earth is slow to warm, historical emissions will cause warming, and impacts, for years to come – even if all emissions are halted immediately. We are facing the risk of passing tipping points and triggering a process of abrupt and non-linear climate change. Such abrupt and non-linear change may happen at the global level, but can also happen at regional levels, such as the state shift to a much more arid climate predicted for the south-western U.S. and northern Mexico.

Much of the discussion on approaches to address loss and damage has focused on extreme events – e.g., floods, drought, and heat waves. Risk transfer approaches are particularly appropriate for certain types of extreme events, albeit taking into consideration the limitations of such approaches discussed above. Risk transfer approaches are not appropriate for addressing damage and permanent loss associated with slow-onset impacts and state shifts.

Whilst extreme events will likely increase in severity and frequency, these are climatic events that are not unfamiliar to most. Yet climate change will also bring about novel changes with which we are unfamiliar: seasonal shifts in precipitation leading to changes in the timing of growing seasons, slow-onset changes and state shifts in climate. Some examples of these types of climatic events are provided in the following table.

² These impacts are listed in a footnote in decision 1/CP.16.

Types of climatic events and changes causing loss and damage

Extreme events	Slow-onset changes	State shifts
Cyclones, hurricanes, and other extreme precipitation events leading to floods, landslides, and associated loss of productive land and loss of property and life. Heat waves leading to crop loss and loss of life. Short-term droughts resulting from reduced seasonal precipitation levels.	<i>Slow-onset temperature rise</i>, leading to increased evaporation of freshwater sources, melting glaciers, loss of soil moisture and associated reduction in growing season length, increase in heat extremes affecting crop production and suitability of lands for human and animal life, increased sea surface temperatures with impacts ranging from changes in precipitation distribution on landmasses, loss of marine biodiversity, and coral reef bleaching. <i>Sea level rise</i>, leading to loss of territory, saltwater intrusion and contamination of freshwater aquifers, loss of protective barriers such as embankments and mangroves, and salinization of coastal productive lands.	Permanent shifts in mean climate (precipitation and temperature regimes), leading to impacts such as changed ecosystem characteristics, species loss, and long-term drought.

Distinctions can be made between avoidable and unavoidable losses. Avoidable losses, as the name implies, can possibly be prevented with anticipatory action. Avoidable losses are not always avoided, however, as countries may decide to not act, or limited capacity may prevent action. But many climate change impacts are unavoidable, including many slow-onset changes. Examples of unavoidable losses are coral bleaching, sea level rise, and temperature rise that leads to land being taken out of production.

Loss and damage are fundamentally the result of climate impacts, not inherent vulnerabilities. Vulnerability and risk drivers are not the cause of losses: loss and damage result from climate impacts. Damage and loss can be exacerbated due to underlying vulnerabilities, but vulnerability is not the cause of drought or sea level rise. If an old person slowly crossing a street is hit by a car, they are hurt by the car, not by their underlying vulnerability of being old and walking slowly. As codified in international law in Principle 2 of the Rio Declaration, states have “*the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.*” The duty of states to abide by the ‘no-harm’ rule applies to the harm caused from the historical accumulation of greenhouse gases and this duty is not exonerated by the vulnerability of those affected, especially when some of those vulnerabilities are due to uncontrollable or historical circumstances, such as geophysical conditions, global unfair economic conditions, structural conditions created under colonialism, etc.

Loss and damage is an issue of equity. The countries most vulnerable to loss and damage are not responsible for the climate change that is destroying lives and livelihoods. A mechanism to prevent and redress loss and damage is essential. Principle 3.1 of the Convention clearly states that “*The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.*” This principle needs to be clearly reflected in the work of the loss and damage work programme, with developed countries taking steps to proactively address and support approaches to address loss and damage, including through a needs-based approach.

III. Recommendations to the SBI on loss and damage

SBI37 will make recommendations on loss and damage on the elements of a decision to be taken at COP18. The outcome in Doha should elaborate the process to continue the work on loss and damage in the SBI and in other appropriate bodies, provide recommendations to bodies of the Convention, strengthen related work under the Convention, contain stand-alone elements, like capacity building, and establish pilot programmes to address the needs of developing countries.

The conclusions of this expert meeting will feed into the SBI's considerations, as will submissions from Parties due by September 17th. Based on the analysis above, the expert meeting should include the following elements in its recommendations to the SBI:

Mitigation ambition must be increased. Loss and damage is the unfortunate result of insufficient ambition in addressing the historical accumulation of greenhouse gases in the atmosphere and in achieving the objective of the Convention. More unfortunately, climate change impacts are likely to be most damaging and costly in those countries with least or no responsibility for the greenhouse gas emissions already leading to a changing climate.

The UNFCCC is the relevant policy forum to continue discussing loss and damage. A permanent process to address loss and damage needs to be put in place under SBI, with roles assigned to the Adaptation Committee, and consideration of the matter taken up also under the financial mechanism. The Convention contains relevant principles for addressing loss and damage that should be taken into consideration as Parties debate next steps on loss and damage. Convention principles are also relevant for the work of the regional meetings to evaluate approaches to loss and damage. For example, Article 3.3 of the Convention states that *"...where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures."* This principle must be applied consistently in the development of inputs for a COP18 outcome.

Developing countries require systematic consideration and support on loss and damage. The current work of the work programme indicates that loss and damage will grow to become a major issue affecting economies and livelihoods in developing countries. As loss and damage will be a continuing issue, the Convention needs to find a way to *systematically* support developing countries, rather than with an *ad hoc* humanitarian pledge approach, as has been historically the case with major disasters in developing countries. Such a systematic approach should include means of assessing loss and damage; means of addressing loss and damage, including through a compensation mechanism; and a means for the Convention to exercise leadership in coordinating a global response on loss and damage.

Parties must recognize that the range of approaches considered up to this point are inadequate to address slow-onset impacts. Negotiations in Doha must focus on filling the existing gaps in institutional and legal frameworks to address loss and damage, including through an institutional mechanism to address slow-onset impacts and other unavoidable damages. The COP should extend the work programme, and include as top priority for continuing work the elaboration of the modalities of an institutional mechanism on loss and damage.

Both economic and non-economic losses must be addressed by a loss and damage mechanism. However ultimately finance cannot adequately compensate people for the loss of family, homes, territory, culture or livelihoods that will result from radical changes in climate, whether at local, regional or global levels. Parties must take seriously their obligations established under Article 3.1 of the Convention.

The needs of climate migrants require appropriate consideration. Many people will be forced to move from affected areas, including from low-lying islands and coastlines. Industrialized countries should do their fair share in helping these people build new lives. They should accept their fair share of the people exiled from their homes and countries by climate change. Adequate provision will need to be designed in collaboration with relevant international institutions to consider how to address the issue of migration. The SBI has the capacity to make recommendations to other international bodies along these lines.

Annex: Mandate and negotiating history on loss and damage under the UNFCCC

Article 4.8 of the UNFCCC provides the framing for consideration of loss and damage impacts under the Convention.

In the implementation of the commitments in this Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on:

- (a) *small island countries;*
- (b) *countries with low-lying coastal areas;*
- (c) *countries with arid and semi-arid areas, forested areas and areas liable to forest decay;*
- (d) *countries with areas prone to natural disasters;*
- (e) *countries with areas liable to drought and desertification;*
- (f) *countries with areas with fragile ecosystems, including mountainous ecosystems;*
- (g) *countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy-intensive products; and*
- (h) *landlocked and transit countries.*

Further, the Conference of the Parties may take actions, as appropriate, with respect to this paragraph.

The mandate for the current work on adaptation being undertaken by the Conference of the Parties under the AWG-LCA and the SBI was established in the **Bali Action Plan**, in COP decision 1/CP.13.

1. Decides to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision at its fifteenth session, by addressing, inter alia:

...

(c) enhanced action on adaptation, including inter alia, consideration of:

- (i) international cooperation to support urgent implementation of adaptation actions, including through vulnerability assessments, prioritization of actions, financial needs assessments, capacity-building and response strategies, integration of adaptation actions into sectoral and national planning, specific projects and programmes, means to incentivize the implementation of adaptation actions, and other ways to enable climate-resilient development and reduce vulnerability of all Parties, taking into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries and small island developing States, and further taking into account the needs of countries in Africa affected by drought desertification and floods;*
- (ii) risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance;*
- (iii) disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;*
- (iv) economic diversification to build resilience;*
- (v) ways to strengthen the catalytic role of the Convention in encouraging multilateral bodies, the public and private sectors and civil society, building on synergies among activities and processes, as a means to support adaptation in a coherent and integrated manner.*

Decision 1/CP. 16 established **a work programme on loss and damage**, under the Subsidiary Body on Implementation, as one of the elements of enhanced action on adaptation:

25. *Recognizes the need to strengthen international cooperation and expertise in order to understand and reduce loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events;³*

26. *Decides to hereby establish a work programme in order to consider, including through workshops and expert meetings, as appropriate, approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;*

27. *Requests the Subsidiary Body for Implementation to agree on activities to be undertaken under the above-mentioned work programme;*

28. *Invites Parties and relevant organizations to submit to the secretariat, by 21 February 2011, views and information on what elements*

³ Including sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification.

should be included in the work programme, including the following:

- (a) Possible development of a climate risk insurance facility to address impacts associated with severe weather events;*
- (b) Options for risk management and reduction, risk sharing and transfer mechanisms such as insurance, including options for micro-insurance, and resilience- building, including through economic diversification;*
- (c) Approaches for addressing rehabilitation measures associated with slow onset events;*
- (d) Engagement of stakeholders with relevant specialized expertise;*

29. *Requests the secretariat to compile these submissions into a miscellaneous document and to prepare a synthesis report based on those submissions, to be made available for consideration by the Subsidiary Body for Implementation at its thirty-fourth session, and with a view to making recommendations on loss and damage to the Conference of the Parties for its consideration at its eighteenth session;*

Decision 7/CP.17 established the current thematic areas of the work programme, including the request to the Secretariat to organize four expert meetings to address issues related to thematic area 2: *A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, taking into consideration experience at all levels.* The decision also states the desired outcomes under the work programme in 2012:

5. *Appreciates the need to explore a range of possible approaches and potential mechanisms, including an international mechanism, to address loss and damage, with a view to making recommendations on loss and damage to the Conference of the Parties for its consideration at its eighteenth session, including elaborating the elements set out in decision 1/CP.16, paragraph 28(a–d).*