

# 05 LOSS AND DAMAGE AND LIABILITY

Centre for Science and Environment  
41, Tughlakabad Institutional Area, New Delhi 110 062, INDIA  
Ph: +91-11-29956110 - 6124 - 6394-6399 Fax: +91-11-29955879  
E-mail: cse@cseindia.org Website: www.cseindia.org

## LOSS AND DAMAGE



In the aftermath of Hurricane Sandy, the debate on the link between extreme weather-related events and climate change has regained more relevance. Sandy, however, is only the most recent of an increasing number of extreme weather-related events that have led to a loss of lives and wreaked economic damage. Earlier in September this year, floods ravaged through northern Thailand displacing thousands, the cold wave in Europe in February lasted for more than three weeks and claimed hundreds of lives and Brazil had its worst drought in 50 years which wrecked havoc in more than 1,100 towns. 2012 is being noted for the large number of weather-related catastrophes and the past decade has been the warmest decade on record, according to the National Atmospheric and Oceanic Administration

(NOAA) in the US.

As the occurrence of extreme weather-related events becomes the norm, the question of whether this can be explained by climate change rings loud. Although exact attribution has remained buried in the uncertainties of science, climate change scientists have been getting better at quantifying the extent to which human-induced climate change may be affecting the likelihood of such events. The IPCC (Intergovernmental Panel on Climate Change) special report on managing the risks of extreme weather events and disasters to advance climate change adaptation released last year is such a pointer (*see box on IPCC Report*).

According to a recent report released by DARA, a European non-profit commissioned by more than 10

### IPCC Report on extreme weather events (SREX Report)

- The report, culled from scientific studies undertaken across the world, makes a strong link between extreme weather events and greenhouse gas concentrations from anthropogenic emissions. This, it says with two-thirds certainty, would decrease the number of cold nights in a year and make days warmer. Since the 20th century heat waves, like the one in Asia in 2007, have increased. Droughts have intensified since 1950 and are prolonged, especially in western Africa and southern Europe.
- The estimate for annual global monetary loss from extreme weather events between 1980 and 2010 ranged between a few billion US dollars and \$225 billion. The report, however, clarifies that monetary loss is difficult to ascertain. Cultural heritage, ecosystem services, informal and undocumented economic losses cannot be monetised.
- Between 1979 and 2004, 95 per cent of all deaths from natural disasters occurred in developing nations. If the loss is valued in terms of GDP, between 2001 and 2006 low income countries lost about 0.3 per cent due to these freak events.

Developed nations lost only about 0.1 per cent of their GDP. But the worst hit were countries with rapidly expanding asset base, like India and China, which lost about one per cent of their GDP.

- By the middle of this century, annual daily temperatures could gradually increase by 3°C, peaking at 5°C towards the century's end. The frequency of cyclones may remain the same but their intensity and maximum wind speeds are likely to increase. This will increase the number of people who get affected by it. In 1970s, the number of people exposed to tropical cyclones was about 73 million. With increased intensity, the number may double by 2030.
- The report sounds a red alert on inundations due to high rainfall events like the one in Mumbai in 2005. The city received half of the season's rainfall within a day. Such events occur once every 20 years. By the end of the century, these may become as frequent as once every five years. About 86 million people are likely to get exposed to floods by 2030, about two-and-a-half times more than in 1970s.

governments to carry out the study, climate change is already contributing to the deaths of nearly 4,00,000 people a year and has cost the world more than \$1.2 trillion, which is 1.6 per cent of the global GDP. By 2030, the researchers estimate, the cost of climate change and air pollution combined will rise to 3.2 per cent of global GDP. The insurance industry faced its largest losses ever in 2011 with events such as the Thailand floods causing US \$48 billion in economic damages alone. The initial estimate of economic losses from Hurricane Sandy alone has been pegged at US \$50 billion. For island states, the threat of loss from rising sea levels is very real, starting with the loss of tourism which is the cornerstone of their economies. For other nations, increased droughts or loss of glaciers are already causing substantial economic losses.

With the consistent lack of efforts to mitigate climate change, the debate on how loss and damage from such events should be handled and who will be responsible for bearing the costs is increasingly gathering prominence at climate negotiations and is expected to be a key issue on the agenda for Doha.

## Loss and damage in the UNFCCC

### History of loss and damage under UNFCCC

The concept of loss and damage associated with climate change was first mentioned in the **Bali Action Plan** text, which was released after the Conference of Parties (COP-13) in 2007. Para 1 (c) which calls for enhanced action on adaptation lists risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance, as one of the points. It also explicitly calls for 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 (UNFCCC 2007). Historically though, loss and damage was not discussed in the context of adaptation. The concept of rich nations paying for the damages in vulnerable countries and the losses that are incurred as a result of climate change have been in discussion since the beginning of climate change negotiations under the UNFCCC. The push for loss and damage as a means to get developed nations to increase mitigation levels came from the Alliance of Small Island States (AOSIS).

By the mid-2000s, the nature of the debate had moved from being mitigation-centric to one that acknowledged the need to discuss more about the impacts of climate change which were on the rise and hence, the need to adapt. This change in the discourse was further supported by the release of the IPCC report in 2007 which not only detailed the impacts of climate change but also reinforced the idea that the level of

mitigation taking place would not be sufficient to prevent and mitigate the consequences that were being reported widely in the media.

Loss and damage, which was mostly viewed as a controversial matter by developed nations became part of the adaptation debate. Prior to the Bali COP, developing nations had maintained that the impact of climate change was already being experienced and there was a need for a mechanism to compensate them for the losses they had incurred. Despite industrialized countries' efforts to steer the discussion away from the compensation aspect of loss and damage and to eliminate any mention of risk management after the Bali COP, the issue has found consistent mention under the AWG-LCA discussions.

In 2009, as it became clear that an agreement on post-Kyoto elements with respect to mitigation was unlikely and that something needed to be done about the damaging impacts of climate change, the fast track fund was agreed to, shaping the discourse of adaptation around the emerging institutions associated with this fund.<sup>6</sup> An agreement on compensation for loss and damage was avoided. It was only in 2010 that a working programme on loss and damage was agreed upon.

At the **Cancun Climate Change Conference in 2010**, the Sixteenth Conference of the Parties (COP 16) to the UNFCCC decided to establish a working programme on 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. The COP requested the Subsidiary Body for Implementation (SBI) to agree on activities and to consider issues with a view to making recommendations to COP 18 in 2012.<sup>7</sup>

At CoP-17 in **Durban in 2011**, it was decided to continue this working programme and three key areas were identified to center the debate on:

- 1) Assessing the risk of loss and damage associated with the adverse effects of climate change, and current knowledge.
- 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.
- 3) The role of the UNFCCC in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

An understanding around these key areas was expected to emerge from a set of workshops and meetings that took place through 2012 in different regions – Africa, Latin America and Asia respectively. The outcome of all the meetings, two technical papers

and one literature review, all prepared by the UNFCCC will shape the agenda of the working programme to be outlined at COP 18 in Doha.

### Current status of negotiations

At the 36th session of the SBI (Subsidiary Body of Implementation) in May 2012, members revisited the progress that had been made in the implementation of the working programme, with a view to making recommendations to the COP at its 18th session.

Participants in the recent UNFCCC conference in Bonn in May 2012 made slow progress on negotiations. There was a deadlock on agreeing to a new legal outcome to replace the Kyoto Protocol, and many developed countries were reluctant to explore innovative funding options. However, discussions on the loss and damage caused by climate change made substantive advances.

A significant portion of the debate revolved around the progress made at the workshop regarding risk assessments that took place in Tokyo in March 2012. Experts convened to discuss the current interpretation of existing data and methods to mitigate loss and damage and also to identify the gaps in data and knowledge.

Amongst the key findings was the members' recognition of the complex nature of assessing such risks and the understanding that a range of approaches have been used depending on each nation's circumstances. Members acknowledged the need to involve all levels of decision-makers in the assessment process.

A bone of contention was the issue of non-economic losses. Developing countries in particular sought a detailed description of such losses, for example cultural losses, the loss of lives and ecosystems and displacement, for which there was no consensus.

At Bonn, while reviewing the results of the Tokyo workshop, it became clear that there were substantial differences between developed and developing countries regarding the relative weight given to risk assessment versus risk management. Developed countries continue to emphasize the assessment of loss and damage. In contrast, developing countries have been emphatic on need to take steps to address loss and damage, and development of institutional capacity, supported with technical and financial assistance.

This is a familiar tactic used by developed nations: to use the lack of sufficient understanding of an issue as an excuse to stall progress on that issue. Experts have warned against falling into this pit.

In the first informal consultation, the G77 and China stated that they expected a functional internationally applicable mechanism to emerge from the discussions at Doha. The mechanism would be a framework with three pillars or functions: a means of

assessing loss and damage; a means of addressing loss and damage, compensation and rehabilitation fund; and leadership of the Convention, including for the coordination of work on loss and damage.<sup>10</sup>

Developed countries, including the US, member states of the EU and Australia strongly opposed the establishment of such an international mechanism. Even elaborating on a draft statement proposed by G-77 and China (which includes mention of an international mechanism) to be included in the appendix found opposition amongst them. Such a move was deemed premature.

A larger point of contention was the issue of non-economic losses. The final text of the draft Chair's conclusions notes in paragraph 3(i), "numerical data are sometimes not sufficient in conveying a comprehensive range of the risks of loss and damage associated with the adverse effects of climate change since available estimates on losses typically lack numbers on non-economic losses." Developing countries had specifically requested a listing of possible types of non-economic losses in the same paragraph, but developed countries rejected the mention of these losses even in a footnote to the paragraph. Non-economic losses typically include territory, ecosystems, cultural heritage, values, livelihoods, local and indigenous systems knowledge, as well as other socio-economic losses.

Other issues that find mention in the final draft of the SBI's Chair include:

- (i) Assessment of the risk of loss and damage is often constrained by the limited availability of data and knowledge, including, but not limited to, that on weather, climate, socioeconomic conditions and ecosystems. Risk management actions can still be taken in the absence of complete sets of data and knowledge, taking into account the **national circumstances**;
- (ii) Access to, sharing and the use of information and data, such as hydrometeorological data and metadata, on a voluntary basis is important to facilitate the assessment and management of climate-related risk;
- (iii) Enhanced **technical and institutional capacities** supported by technical and financial assistance and other resources will help developing countries to continue to determine, prioritise and address their needs in assessing the risk of loss and damage associated with the adverse effects of climate change.

Given the level of priority and continued attention that loss and damage has enjoyed in the most recent round of negotiations and the coherent voice with which the AOSIS, Small Island Developing States (SIDS)

## Latest country submissions on the possible elements to be included in a recommendation to CoP18

Party	Submission
Ghana	Provide financial assistance including long-term financing for loss and damage from the impact of climate change. Ghana also sees the need for an international mechanism on loss and damage with roles to be assigned to the adaptation committee, that can also be taken up under the financial mechanism. It also advocates mainstreaming of gender issues in the approach used.
Norway	<p>Loss and damage, according to Norway, is the residual risk when mitigation is insufficient to prevent dangerous anthropogenic interference with the eco-system, and when the full potential of adaptation to reduce the risks associated with the effects of climate change is met. It makes note of the current mitigation efforts that are insufficient and places emphasis on slow on-set events such as sea level rise and ocean acidification.</p> <p>An important aspect of the recommendations would be to strengthen the knowledge base on losses and damages from the impact from extreme weather events and gradual changes associated with a changing climate since a clear understanding of the issue is still lacking.</p> <p>There is a necessity to improve the sharing of information related to climate and meteorological data between countries and to enhance the linkages between different institutions and frameworks addressing risk management strategies. Norway believes that there is an opportunity for the Convention to play a catalytic role in this regard and that the Adaptation Committee may provide an arena for furthering coherence and cooperation in this regard.</p>
AOSIS	<p>The absence of an international mechanism on loss and damage is a gaping hole and one that must be closed immediately and as a central outcome of the LCA track under the Bali Action Plan. Rather than taking a piecemeal approach to the needs of the most vulnerable developing nations, a holistic approach is needed to bring together the tools to address adaptation, financial risk management and risk transfer, and loss and damage in a single mechanism that can comprehensively minimize and address the issue from the perspective of the impact of unavoidable climate change. It puts forward three mutually-reinforcing components:</p> <ul style="list-style-type: none"> <li>• An insurance component: to help SIDS and other particularly vulnerable developing countries manage financial risk caused by increasingly frequent and extreme weather related events;</li> <li>• A Rehabilitation/Compensatory Component to address the progressively adverse impact of climate change, such as sea-level rise, increasing and ocean temperatures, and ocean acidification; and</li> <li>• A Risk Management Component to support and promote risk assessment and management tools, and to facilitate and inform the Insurance Component and Rehabilitation/Compensatory Component.</li> </ul>
EU	<p>COP should provide some strategic direction regarding how possible interventions at the national, regional and global levels to address loss and damage related to climate change can be developed. However, comprehensively addressing loss and damage surpasses the remit of the UNFCCC and as such it is important to define the recommendations in a manner that contributes to an effective and catalytic impetus to the work of other relevant processes and policy areas.</p> <p>Strengthen institutional and human capacities to develop, generate and support early warning systems, including among policy makers and other decision-makers.</p> <p>Continue the process of learning about the impact of slow onset events, their interactions with extreme events and what approaches are available to build long-term resilience to manage these.</p>
Gambia (on behalf of LDCs – Least Developed Countries)	<p>Addressing loss and damage has three components: mitigation, adaptation and addressing 'residual' loss and damage. The greater the extent of mitigation and adaptation to climate change impact, the less 'residual' loss and damage there will be.</p> <p>The LDC group proposes to establish an international mechanism to address loss and damage which would work as an umbrella for activities required on different levels and would perform the key functions required for an adequate response as outlined above. Central governance elements should include</p> <ol style="list-style-type: none"> <li>1) The COP as the central oversight body of the mechanism providing the political direction;</li> <li>2) Development of key guidance for the elaboration and operation of the mechanism and its elements;</li> <li>3) Operation of its elements by various institutions, as appropriate;</li> <li>4) Definition and constant review of the mandates given to the Adaptation Committee, the SBs (Subsidiary Bodies) and other bodies under the Convention.</li> </ol> <p>Further options for modalities should be elaborated in 2013</p>

and African Group have stated its priority, loss and damage may just escape the fate that other issues have typically met with in the UNFCCC - through a long cycle of negotiations to achieve formal recognition.

### What to expect in Doha

In Doha, given the limited time that will be available to evaluate progress made, in all the expert meetings and draft recommendations, the SBI requested its Chair to

convene an informal pre-session meeting of member parties, in conjunction with its thirty-seventh session. A major point of contention is the issue of establishing an international mechanism since no consensus was reached on this in the previous SBI session. The UNFCCC report from all of the expert meetings and their outcomes, which will be presented at Doha, could also be a decisive factor in how the work program will be taken forward. Some analysts suggest the possibility for parties to agree on conducting pilot programs that would enable on-the-ground learning to better grasp the complexities of loss and damage issues.

### Liability issues

The UNFCCC is seeking to incorporate the loss and damage agenda into the international climate change agreements but we already see regional initiatives by governments and the private sector in place; the Pakistan Insurance Mechanism, Caribbean Catastrophe Risk Insurance Facility (CCRIF) and the EU Regional Risk pools are examples (*see box Regional risk insurance pools*).

According to Doreen Stabinsky and Juan Hoffmaister (Third World Network, 2012), the UNFCCC is the relevant policy forum to continue discussing loss and damage. They emphasize that the UNFCCC contains relevant principles. However, it is not clear if the UNFCCC negotiations on loss and damage can produce meaningful results. Constraints include concerns of developed countries about references to liability or compensation and the UNFCCC negotiating dynamics in general, which have not been conducive to progress for some time.

The question of liability – of who is responsible for the damages and losses caused and how should the

breach of such responsibility then be treated – can be a problematic one to answer given that climate change is everyone's problem, with seven billion plaintiffs and defendants. Hence, in this sense, it is a 'global environmental tort' as postulated by David Hunter and James Salzman, legal experts on international environmental law. At the same time though, there is a variation in the range of exposure to climate change and those causing it are contributing at different levels and have different capabilities to address the problem on their own.

There are multiple legal avenues to address climate change impacts, each with its own set of limitations and barriers to application depending on the context. It is claimed that this is a recent phenomenon in a purely legal sense with the first American case dating back to 1990 and the first Australian case to 1994, the increase in cases in recent years has drawn attention to the issue of using litigation in minimizing climate change, especially in light of the failure of international negotiations to respond to the urgency of the issue. Many of the court cases have in recent times emerged out of American courts, a reaction to the lack of action shown by the US government to respond to climate change. These cases are of relevance to the international debate, not just because of the importance that the US holds in any climate-related debate, but also in how this sets the tone for communities across the world to plan and shape their responses accordingly.

There have already been cases in the US where either environmental groups or affected communities have used the American legal system to sue corporations for impact already being felt and future implications of climate change.





## Regional Risk Insurance Pools

### Pakistan National Disaster Insurance Mechanism

Following the floods that ravaged Pakistan in 2010 that took close to 2,000 lives and affected 20 million people, the Government of Pakistan has chosen to implement a national insurance mechanism that will cover the most vulnerable in Pakistan who are repeatedly affected by such events. A pilot phase of the programme will start in March 2013 with funding support from the World Bank's contribution to the country's development projects. The programme, which the disaster management authority says would be the biggest insurance venture of its kind in the world, aims to eventually cover Pakistan's 180 million people for the loss of human lives, livelihoods, shelter, and livestock.

### Caribbean Catastrophe Risk Insurance Facility (CCRIF)

CCRIF is a mutual risk insurance facility located in the Cayman Islands that insures Caribbean governments against extreme weather events such as hurricanes and earthquakes. With 16 governments presently covered under this facility, it is the first multi-country risk pool in the world. Its origins are traced back to hurricane Ivan which hit the Caribbean in 2004 leaving heavy losses, with costs sometimes reaching up to 200 per cent of the GDP (as in the case of Cayman Islands). Set up as a public-private partnership, it primarily addresses the short-term financial needs of the victims following a disaster.

CCRIF primarily covers hurricane and earthquake events. A more recent addition to the programme was the insurance coverage for excess

rainfall events as well. A special feature is its parametric-based risk policies. A parametric risk insurance facility hands out coverage based on a measurement of the intensity of a pre-defined natural event. This works out to be less expensive as it does not require the insurer to assess actual losses from an event. Typically, the participating countries buy insurance for a specific return period.

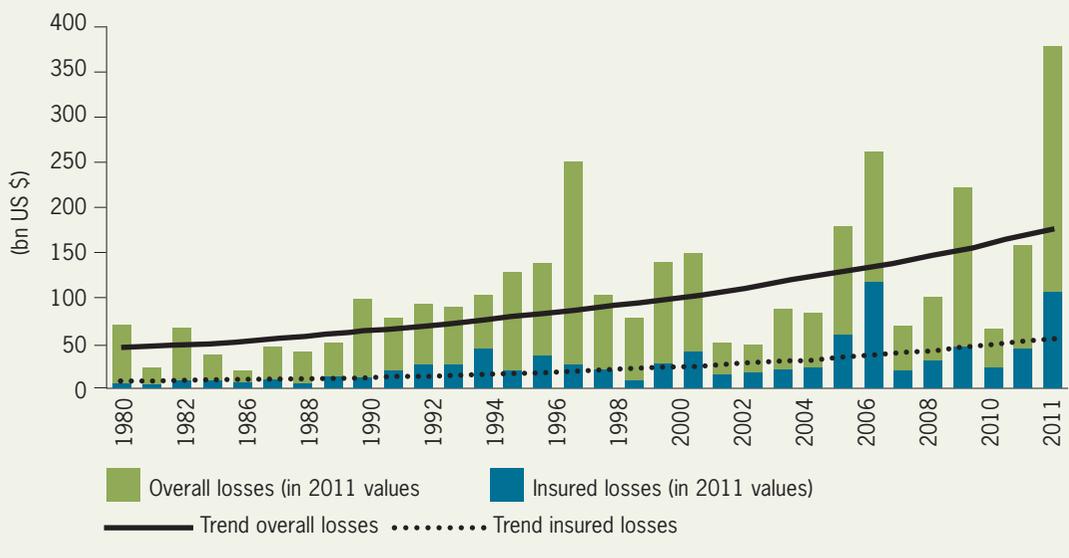
While the programme has no limits on how many events it will cover in a year, it does have a maximum coverage limit of US \$100 million.

### Southeastern Europe and Central Europe Catastrophic Risk Insurance Facility

This facility was created through an initiative from the World Bank, UNISDR (United Nations International Strategy for Disaster Reduction) and a regional cooperation council to increase the quality of coverage offered in the region which was almost non-existent owing to the regional governments' limited capacity to assist disaster-affected populations. The facility is owned by member countries and managed by Europa RE, a specialized regional reinsurance facility. As part of the arrangement, Europa RE will facilitate the growth of catastrophic risk insurance facilities in the member countries by providing technical assistance in the form of better risk mapping and monitoring stations and technical and policy reform to create an enabling market. Financial contributions have come in both from member governments and from international donor programmes including the World Bank, the IBRD (International Bank for Reconstruction and Development) and GEF (Global Environmental Facility).

## Trends in insured losses, 1980 - 2011

Natural catastrophes worldwide 1980-2011. Overall and insured losses with trend



Source: Munich RE Nat Cat Service

### Insurance liability

A lively debate is also going on among insurance companies and scholars on insurance risks. Forty per cent of industrial insurance claims paid out in recent years were for damages resulting from natural disasters. Hence, the impact of climate change and the natural disasters caused as a result will be a crucial factor to take into account for the insurance sector. The insurance sector would want to pass on costs from losses due to natural disasters on to greenhouse gas (GHG) emitters such as the industry in the light of recent reports which established a strong link between

the higher occurrence of extreme weather-related events and climate change.

According to Munich RE, which maintains NatCat SERVICE, the largest global database of natural catastrophes, 2011 was the most expensive natural catastrophe year ever in national economic terms. The overall losses were estimated at US \$380 billion, significantly more than the losses incurred in 2005, the costliest year prior to 2011. Insured losses amounted to a record US \$105 billion. Most importantly, it was estimated that more than 90 per cent of the losses were weather-related.

### References

- Anon. 2010. NOAA: Past Decade Warmest on Record According to Scientists in 48 Countries. NOAA. Online at: [http://www.noaanews.noaa.gov/stories2010/20100728\\_stateoftheclimate.html](http://www.noaanews.noaa.gov/stories2010/20100728_stateoftheclimate.html)
- Anon. 2012. Climate Vulnerability Monitor. A Guide to the Cold Calculus of Hot Planet. DARA
- Daniel Trotta, 2012. Sandy damages, losses estimated at \$50 billion: New York governor. Reuters. Online at: <http://www.reuters.com/article/2012/11/08/us-storm-sandy-cuomo-idUSBRE8A716S20121108>
- Koko Warner and Sumaya Ahmed Zakieldeen, 2012. Loss and damage due to climate change: An overview of the UNFCCC negotiations. European Capacity Building Initiative.
- Anon, 2012. Loss and damage: building up steam at the Bonn climate talks. CDKN.
- Doreen Stabinsky, 2012. Need for international mechanism on loss and damage, say developing countries. TWN News update 27. Third World Network.
- SBI 36 final draft. 2012. UNFCCC. Online at: <http://unfccc.int/resource/docs/2012/sbi/eng/112.pdf>
- Joy Hyvarinen, 2012. Loss and damage caused by climate change: legal strategies for vulnerable countries. FIELD.
- Brian J Preston, 2010. Climate change litigation.
- IPCC, 2012. Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change