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# A legal case for loss and damage liability

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The term ‘loss and damage’ encapsulates an increasing recognition that climate change is causing devastating consequences of a scope we cannot always sufficiently anticipate. Mitigation of further emissions is crucial, and every effort must be made to adapt communities to reasonably foreseeable effects of climate change. But beyond this, ‘loss and damage’ acknowledges that while parties scramble to stop catastrophic climate change, communities are already suffering in the aftermath of its effects.

We know that the most burdensome impacts of climate change fall unduly on least developed countries, and communities that have the fewest resources to aid in recovery from such events. The most recent report from the Intergovernmental Panel on Climate Change (IPCC) confirmed both the manmade nature of climate change, as well as the devastating impact of climate change on the Global South. Vulnerable countries and groups are the claimants of loss and damage: claiming both irretrievable ‘loss’ (such as that of human lives, extinct species, and dead ecosystems) as well as ‘damage’ to things that are broken but still repairable (such as damage to infrastructure).

Apart from extreme events such as heat waves and floods, ‘loss and damage’ also encompasses ‘slow-onset’ phenomena such as rising sea levels, which threatens countries like Kiribati and Tuvalu. The need to address economic and non-economic loss, such as loss of cultural identity and heritage, in such contexts is apparent. Moreover, potential victims or survivors of climate change induced traumas ought to be included in the process of legally codifying ‘loss and damage.’

The international community has attempted to respond to climate crises under the UN Framework Convention on Climate Change (UNFCCC). While countries have nominally committed to climate finance, contributions, have not been sufficient to kick-start the Green Climate Fund, or to begin compensating the survivors of climatic events. The ‘loss and damage’ framework might help in this effort to safeguard resources for compensation and insurance for future catastrophic events by framing contributions not as charity, but as liability owed. An approach based upon the enforcing of legal obligation has the advantage of not being as dependent on the whims of fluctuating government opinions.



photo: KAPU Seawall defence in Kiribati, by Carlo Iacovino

One fitting way to conceive liability would be as ‘reparations’ for damage: liability reflecting the proportional responsibility of countries for historically accumulated and presently manifesting emissions. Framing the liability in this way could avoid the issue of legal time limitations. The defendants in such a case would be wealthier, developed nations, whose contributions to fossil fuel emissions have accounted for roughly three-quarters of the total emissions since the industrial revolution. Despite current trends in the Global South, the per capita emissions in a wealthy country still remain multifold compared to a person in China or India.

A common doubt is: how do we calculate liability in such a complex context? One legal response might acknowledge that approximations of compensation for complex, non-economic liability are carried out daily in courts around the world. Unlike economics, which demands supposed certainty of facts, legal thought has for a long time engaged with elusive chains of causation, normative evaluations of what is “just, fair and reasonable” – even attributing liability for historical wrongs (the Mau Mau case). The ecological aspects of ‘loss and damage’ could be – in the absence of legal standing for nature – approached through legal public trust doctrines, as suggested by Mary Christina Wood in *Nature’s Trust*.

Moreover, a scientific and legal basis for liability already exists within the convoluted layers of UNFCCC – embodied in Article 3, which states that “in accordance with their common but differentiated responsibilities... the developed country Parties should take the lead in combating climate change and the adverse effects thereof.” The ‘Annex 1’ Developed countries have nonetheless been hesitant to allow a textual admission of liability. While politically explainable, such ‘short-termist’ opposition will hurt the planet as a whole. Legally, it also stands in contrast to the very ideals on which the UNFCCC was built: a necessity perceived in the 1992 Rio Declaration (Principle 13) for states to cooperate on “international law regarding *liability* and *compensation* for adverse effects of environmental damage.” It seems that the UNFCCC has the legal mandate – and merely lacks the fortitude and the will – to step up to its role in allocating liability and compensation for ‘loss and damage.’ ■

# Loss and damage and climate migration

Vositha Wijenayake

Climate Action Network South Asia

Despite both mitigation and adaptation efforts, it is now widely recognised that residual negative climate change impacts - or loss and damage (L&D) - cannot be fully avoided, thus increasing the need to focus on addressing climate change. Countries like those in South Asia represent almost a fifth of the world's population (1.5 billion), with 460 million people living under the poverty line. India, Pakistan, and Bangladesh alone account for 95 per cent of the region's population. Poverty levels, coupled with the high incidence of extreme weather patterns, makes South Asia among the most vulnerable to the impacts of climate change.

The findings of the recently released Working Group II Report of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), predict displacement of "hundreds of millions of people" due to land loss induced by climate change. The Report states, "The majority affected will be in East Asia, South-East Asia and South Asia. Rising sea levels means coastal systems and low-lying areas will increasingly experience submergence, coastal flooding and coastal erosion". These predictions point to the importance of focusing on the issue of climate induced migration, and more importantly the need to address it with a human rights perspective.

## International law and climate induced migration

While environmental factors can contribute to prompting cross-border movements, they are not grounds in and of themselves for the grant of refugee status under international refugee law. However, the United Nations High Commissioner for Refugees (UNHCR) does recognise that there are indeed certain groups of migrants, currently falling outside of the scope of international protection, who are in need of humanitarian and/or other forms of assistance.

A person who has been determined a refugee, should have satisfied the criteria under the 1951 Convention relating to the Status of Refugees, the 1969 Organisation of African Union (OAU) Convention, or UNHCR's mandate. For this reason, neither are 'climate refugees' nor 'environmental refugees', just as a reference to an 'economic refugee' is not a reference to a recognised term under international law. This highlights the need for reform in laws and policies



that will encompass those that are victims of climatic impacts, and yet are not protected by the norms that need to be for their protection as well.

## Loss and damage at COP20

The 'Warsaw International Mechanism on Loss and Damage associated with Climate Change' (Warsaw L&D Mechanism) can be considered as a landmark in addressing increasing L&D from climate impacts. However, it succeeded only in delivering the bare minimum that could be considered acceptable to developing countries. It also lacked reference to countries' historical responsibilities for causing climate change, and a meaningful commitment to provide additional financial resources – including the resources to provide rehabilitation and compensation to those who experience L&D.

There needs to be clear progress on L&D at COP20, including the adoption of the Warsaw L&D Mechanism's two-year work plan, its modalities – particularly the establishment of a financial and a technical facility – and the composition of the mechanism's governance body. Further, L&D needs to be featured as a key element to the draft text of the 2015 Agreement with a focus on human rights. With human rights forming part of the agenda for the first time at COP20, it will be an opportunity to advocate for more focus on this issue of climate migration which is of great importance to the South Asian region ■

# A new source of finance for loss and damage: Big carbon producers

Julie-Anne Richards  
Climate Justice Programme

A new and innovative source of finance to pay for loss and damage has been proposed by the Climate Justice Programme (CJP) and the Heinrich Boell Foundation (HBF). CJP and HBF propose that the world's biggest fossil fuel entities pay a levy - based on their emissions to date and on future extraction of fossil fuels - to the international Loss and Damage Mechanism.

Billions of people in poor communities are innocent victims in the climate change equation. They pollute the least, yet they are already suffering from loss and damage caused by climate change, through impacts such as the devastating effect of super-Typhoon Haiyan on the Philippines. These impacts have already gone beyond the ability of communities to adapt. It is expected that loss and damage from climate change will increase dramatically in the poorest parts of the world.

A scientific paper released last year found that almost two-thirds of global carbon emissions can be traced back to just 90 big polluters: the world's biggest oil, gas and coal producers, and cement manufacturers. These entities include Chevron, ExxonMobil, Saudi Aramco, BP, Gazprom, and Shell.

These big carbon producers have made massive profits from extracting and selling the fossil fuels that cause climate change, without paying for the damage from the extreme weather events and other impacts their products are causing. In the decade from 2002 to 2012, the top five global oil and gas companies alone made more than US\$1 trillion in profits. The application of an international levy on their profits would provide a fair method of making the world's richest pay to protect the most vulnerable.

To safeguard the climate we must phase out fossil fuels by mid-century. The big polluters have a moral and legal responsibility to pay reparation for the loss and damage caused by emissions traced back to them. Adding a levy to the extraction of fossil fuels can help meet these goals and provide a relatively simple solution to the problem of sourcing finance.

The International Mechanism for Loss and Damage has been agreed, and discussions on how it will work are underway. But the current level of climate finance under discussion by the international community is already highly inadequate for mitigation and adaptation efforts - without taking loss and damage into consideration.



photo: The devastating effect of super-Typhoon Haiyan on the Philippines.  
By Pio Arce / Genesis Photos - World Vision

Loss and damage is a key issue for vulnerable countries who want to see reference to it in the draft text. There's a strong need for "innovative finance," in all areas. Meeting the challenge of loss and damage will require new solutions, and this is one. Having big polluters pay reparation for the loss and damage they are causing is an option that could unlock the discussions on loss and damage - as rich countries would not need to entirely fund it from national tax revenue.

The concept of introducing a levy on big carbon producers is based on the "no harm" principle in international law and the principles of transboundary harm, and is also in line with the polluter pays principle. It is consistent with the UN Framework Convention on Climate Change (UNFCCC) and is informed by precedents from other fields developed in line with the Rio Declaration on Environment and Development (1992) - including the oil spill compensation regime, the nuclear damage regime, and the biosafety regime.

This funding would be used to assist the poorest and most vulnerable communities suffering the worst impacts of climate change. This reparation from big carbon needs to be part of a general phase-out of fossil fuels.

Money cannot bring back that which is irreplaceable, nor can it provide justice. However, if we direct attention to those who have contributed to causing the climate crisis and who have profited from it at the same time, can we not hold them accountable for it, stop them from doing further harm in the future, and force them to pay their fair share of the financial burden? ■

## MORE INFO

Our full discussion paper is available at:

[www.climatejustice.org.au](http://www.climatejustice.org.au)

If you wish to discuss this idea with us, please email [carbonreparation@climatejustice.org.au](mailto:carbonreparation@climatejustice.org.au)



# Progress on loss and damage: A major priority for Small Island Developing States

Norma Cherry-Fevrier

Organisation of Eastern Caribbean States (OECS) Commission

Since the climate change conference in Bali in 2007, discussions on loss and damage have advanced, leading to a major milestone at COP19 where the Warsaw International Mechanism for Loss and Damage was established.

According to the UN Framework Convention on Climate Change (UNFCCC), this framework addresses loss and damage associated with impacts of climate change – including extreme events and slow onset events – in developing countries that are particularly vulnerable to the adverse effects of climate change. There is a view that the world has moved beyond adaptation, and a new way of thinking regarding response to climate change must be adopted. As a result, the operations of the loss and damage mechanism are critical to the survival of Small Island Developing States (SIDS) as they continue to deal with the negative impacts of climate change, despite the many efforts of mitigation and adaptation activities.



photo: Flooded downtown Baraderes, Haiti, in the wake of Hurricane Sandy, by Welthungerhilfe-German Agro Action

SIDS are currently facing many economic and non-economic losses as a result of the impacts of extreme weather events such as droughts, hurricanes, coastal erosion and flooding that destroy major contributing sectors such as tourism and agriculture, leading to slow economic growth. Coupled with this, SIDS are grappling with other challenges. Some of these challenges include the destruction of biodiversity and ecosystem services that in turn affect livelihoods, high energy costs due to reliance on fossil fuels, and the graduation of many SIDS to middle income status making them ineligible for many sources of grant funding internationally. The social impacts are also noteworthy, as being in a constant state of disaster recovery can affect social cohesion and how people and communities interact and utilise scarce resources.

Therefore, the functionality of the Warsaw International Mechanism for Loss and Damage provides an opportunity

to assist SIDS in coping with the effects of climate change, as losses from extreme events will continue to occur despite mitigation and adaptation efforts. Consequently, the implementation of approaches under the UNFCCC to (i) enhance knowledge and understanding of comprehensive risk management approaches (ii) strengthen the dialogue, coherence, coordination and synergies among relevant stakeholders and (iii) enhance action and support including finance, technology and capacity building will be essential.

SIDS need to move ahead to establish or strengthen existing arrangements and institutional frameworks to address topics such as risk management, reduction and assessment at the regional and national levels. The Alliance of Small Island States (AOSIS) has suggested that the mechanism comprise an insurance component, a rehabilitation/compensatory component and a risk management component that will form part of an integrated approach aimed at enhancing adaptive capacity in SIDS. Notwithstanding the many arguments and positions of Parties on the loss and damage debate, it is very relevant to the survival of SIDS and progress must be made on the subject. Finance, technology and capacity building support will therefore be crucial, given the current economic situations being faced in many SIDS.

Seeing that the Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report has confirmed that there are limitations to adaptation, AOSIS this year stressed that the loss and damage mechanism must be anchored in the 2015 Climate Change Agreement, making it permanent while enabling loss and damage to be addressed in a robust, consistent and sustained manner. AOSIS also stressed that loss and damage should be distinct and separate from adaptation.

Establishment of the Warsaw International Mechanism for Loss and Damage was a major victory for SIDS, but action must follow, along with the political will of SIDS to ensure that progress is made and results are realised in addressing the many new and emerging challenges compounded by climate change. COP20 in Lima therefore presents another major opportunity to make significant progress on the Loss and Damage Mechanism, emphasising its importance to the survival of SIDS. Consideration of the operations of the Executive Committee of the Warsaw International Mechanism for Loss and Damage should therefore continue at Lima, to ensure its preservation and anchoring in the climate change agreement in Paris in 2015 ■

## ABOUT THE AUTHOR

Norma Cherry-Fevrier is a Programme Officer employed with the Organisation of Eastern Caribbean States (OECS) Commission. She is trained in Natural Resource and Environmental Management, Economics and Project Management. She can be contacted at [necherry@gmail.com](mailto:necherry@gmail.com).

# Island nations endangered by climate change

Alvin Leong

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Climate change poses an existential threat to certain island nations in the Pacific and Indian Oceans because their territories may become submerged as a result of sea level rise. This long-term threat includes the potential loss of statehood and sovereignty for these island countries.

While there is no legally binding definition of “statehood” in international law, the criteria found in Article 1 of the 1933 Montevideo Convention on the Rights and Duties of States have been widely accepted, which require that a state should possess (1) a permanent population, (2) a defined territory, (3) government and (4) capacity to enter into relations with the other states. Sea level rise caused by climate change threatens the ability of some island nations to keep a permanent population on a defined territory. The international community has a profound responsibility to ensure that the citizens of endangered island nations do not become stateless persons or territory-less citizens in a condition tantamount to statelessness.

There are possible solutions that endangered island nations can consider – including acquiring new territory, merger with or absorption into another state, self-government within another state, or the creation of artificial islands. Creative ideas about de-territorialised states, governments-in-exile and political trusteeships have been suggested. The concept of sovereignty is complex, and is manifested in the real world along a spectrum, ranging from the subordinate status of Native American tribes which exist as ‘domestic dependent nations’; to the conundrum of the ‘Republic of China’ of Taiwan, where the local government has sovereignty over territory and population but where the overwhelming majority of the international community does not recognise it as a state; to certain self-governing states with ‘free association’ arrangements with other states.

There are significant political and legal obstacles and challenges to solving this complex climate change problem. There are gaps in international law dealing with population displacement and migration. Also, significantly, the 1982 United Nations Convention on the Law of the Sea (UNCLOS), which defines maritime zones such as Exclusive Economic Zones (EEZs), may need to be revisited. With sea level rise, coastal baselines will shift to the detriment of the island states, and at some point their maritime zones may be completely lost. Also, UNCLOS does not recognise artificial islands for purposes of EEZs. Efforts should be made to preserve, maximise and realise the value of maritime zones; such realisation could take the form of an exchange of rights for land



or a monetisation of claims or other income-generating transactions. Thus, it may be economically vital for the island state to be assured that it can maintain formal statehood, at least for a certain period of time.

The parties and processes under the United Nations Framework Convention on Climate Change (UNFCCC) have a special responsibility to address this existential vulnerability of certain island states – a profound issue that is inextricably intertwined with the thematic areas of adaptation and loss and damage. This would call for the linking of the discussions of mitigation, adaptation, finance, and loss and damage within the UNFCCC. The UNFCCC, in conjunction with responsive international law, can provide a platform for the formulation of innovative bilateral, regional and multilateral mechanisms and arrangements with respect to endangered island states.

Ultimately, achieving a successful and sustainable solution to these challenging issues will require a deep and holistic understanding of the web of political, economic, social and cultural factors involved. This web of factors is grounded in the central concept of *identity* – including political, economic, social and cultural identity. In crafting appropriate responses, these multidimensional perspectives of identity should be contextualised with respect to the specific island nation. Thus, a customised approach is called for; one that focuses on the multidimensional phenomenon of identity over legal formalism. In other words, *identity transcends the ‘nation-state’ construct*. International efforts should strive to perpetuate, to the maximum extent possible, the multidimensional aspects of island identity, and secure the right of future generations of islanders to self-determination, to freely determine their political status and freely pursue their economic, social and cultural development ■

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# DRR: Coherence, Rights and Resilience

Eleanor Blomstrom

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In the context of anthropogenic climate change and our current global economic model of unsustainable consumption and production, disasters are not natural. The recent draft of the post-2015 framework for disaster risk reduction (DRR), known as the Second Hyogo Framework for Action (HFA2), recognises that, since 2005, more than one billion people were affected by disasters, including 144 million who were displaced.

The HFA2 draft goes on to say “Disasters are increasing in frequency and intensity, and those exacerbated by climate change are significantly impeding progress toward sustainable development.” But it misses that humans, and human activities, contribute to the pre-conditions for disasters – namely climate change, failures to address structural inequalities, and inadequate safety and security precautions. This incoherence is what drives women's rights groups, like the Women's Major Group (WMG) and the Women and Gender Constituency (WGC), to work to address inequalities across all relevant UN processes.

As COP20 begins in Lima, delegates and civil society following the HFA2 process are preparing for next week's informal negotiations prior to the conference in March in Sendai, Japan. So far, the DRR discussions have made some effort to understand, underscore and identify how to successfully link DRR with the UNFCCC and with Post-2015 Development Agenda and Sustainable Development Goals (SDGs). Goals in the HFA2 include reduction of existing risk and preventing the accumulation of new risk, which cannot be fully undertaken if only considered in the DRR context. Meeting the goals will rely on ambitious emissions reductions by governments, enhanced adaptation actions under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP), and progress on loss and damage.

Addressing disasters, climate change and sustainable development will require diverse leadership for effective decision-making, alongside gender-responsive actions within the human rights framework. Recent reports have highlighted the lack of global progress on gender equality, and it is alarming to note that some evidence shows that women are 14 times more likely to die in a disaster than men. The IPCC has recognised that the impacts of climate change will be felt more severely by people living in poverty, the majority of whom are women.

Women's rights groups are working within and across all these spaces. Two overarching recommendations mirror each other in the climate and disaster frameworks: (a)



Promote gender equality and women's human rights through a stand-alone guiding principle, and (b) Include gender explicitly as and where appropriate. These recommendations are coherent with the proposed SDGs, which include a goal on gender equality, with the SDG document solidifying the critical role of gender equality in eradicating poverty.

While the UNFCCC now has a standing agenda item on gender and climate change, and has gender-sensitive climate policy mandates throughout many areas – from mitigation to finance to adaptation – the HFA2 draft falls short. Gender equality must guide and be fully reflected in disaster risk reduction strategies and actions in order to ensure women's full, equal and active participation in decision-making at all levels. Women's leadership is necessary to address the gender inequality and discrimination that exacerbates the impact of disasters on women, and impedes effective efforts to address it.

Large-scale disasters make news headlines, but small scale and cumulative disasters particularly affect communities and households, and affect women and men, boys and girls differently. The economic losses can be extremely high, especially considering the impact on informal and unpaid work – which is not measured, yet supports the economy. Disaster impacts have a security component in countries and in communities, especially for women, who face increases in domestic violence at home, and sexual violence in shelters due to lack of a gender perspective in planning communal and private space for sleeping, sanitation, and other basic needs.

The WMG for DRR thus recommends the development and implementation of policies and mechanisms that support the resilience of women and girls, including through investments in health services and infrastructure; to meet the sexual and reproductive health needs of women and men; and recognition and redistribution of the burden of unpaid and domestic care work. This requires public support – including for research, innovation, development and utilisation of safe, appropriate, ecologically and socially sound technologies that support effective resilience.

Building climate and disaster resilience requires a focus on social, environmental and economic factors, as well as on understanding risk in all its differentiated dimensions. Most importantly, it requires coherence across processes to integrate strategies and actions with co-benefits under the DRR, Post-2015 and climate change agendas ■



# Vegetation fires increasingly dangerous in an insecure climate

Johann G. Goldammer

The Global Fire Monitoring Center (GFMC)



photo: forest fire in the Yuganskiy nature reserve, West Siberia, by Tatiana Bulyonkova

In many ecosystems across the world, fire is a natural and essential force in maintaining the structure and health of ecosystems that are susceptible to, tolerant of, adapted to, or dependent on either natural or human-caused fires. In many rural regions, fire is an important land management tool embedded in the culture of many societies in the developing world.

However, fire – or wildfire/vegetation fire, as it is often referred to – is uncommon and unnatural in many ecosystems, such as fire-sensitive tropical rainforests and peat lands, where its current application is causing widespread vegetation damage and site degradation.

According to some satellite remote sensing studies, wildland fires affect between 3 and 4 million square kilometres (300-400 million hectares) globally every year. Other studies push this figure further, estimating the total annual global area burned at more than 600 million hectares.

Vegetation fires are a significant source of atmospheric pollutants, affecting air quality and human health on a local and regional scale. Smoke aerosols perturb regional and global radiation budgets through their light-scattering effects and influence cloud microphysical processes.

For some atmospheric pollutants, vegetation fires rival fossil fuel burning as a source of atmospheric pollution. On a global scale, fire frequency, fire intensity and emissions from burning biomass change according to

climate variation and land use. Several climate model-based studies indicate that future fire activity is likely to increase markedly across most tropical biomes, Mediterranean climate areas, temperate biomes and the boreal zone. The principal driver of this increase will be a combination of reduced rainfall, extended droughts and higher temperatures.

At the 72nd session of the United Nations Economic Commission for Europe (UNECE) Committee on Forest and the Forest Industry, held in November 2014, the Global Fire Monitoring Center (GFMC) presented the conclusions of the work of the UNECE/FAO Team of Specialists on Forest Fire. This team of experts, representing about half of the 56 UNECE Member States, had been led by the GFMC between 1993 and 2014.

During the 1990s the team began its work focusing on identifying policy and management options of fires affecting forests and other vegetation types. The work addressed explicitly the transboundary and global nature of fire and fire effects—for example, border-crossing fires, smoke transport, impacts of fire on human health, biodiversity and landscape stability. With the increasing insight into the global interconnectedness of fire and fire effects, the need to address this problem collectively at global level has emerged. As a result, the Global Wildland Fire Network (GWFN), a Thematic Platform under the UN International Strategy for Disaster Reduction (UNISDR), was established in 2001 to address these issues.

Its representative body, the UNISDR Wildland Fire Advisory Group, in conjunction with the United Nations University, took the initiative of developing a White Paper on Vegetation Fires and Global Change. This paper is aimed at the United Nations and International Organisations, and has been introduced as background and rationale for the “UNECE/FAO Regional Forum on Cross-boundary Fire Management”.

In the concluding report of the Forum and its follow up, the GFMC stressed again the increasing threats posed by destructive wildfires at a global level. Governments within and outside the UNECE region have been alerted by the scientific and professional fire management communities that the threat from wildfires will become increasingly dangerous in the coming years, due to climate change and socio-economic changes.

Wildfires may become the most important driver of global degradation and destruction of vegetation. To counter this risk, voluntary rules and cooperation mechanisms have been created, such as the “International Wildfire Preparedness Mechanism” (IWPM) and the “International Fire Aviation Guidelines”. However, given the seriousness and cross-country nature of wildfires, voluntary agreements should transition to more formal rules under UN conventions and perhaps towards legally binding instrument on forests ■

# Taking a longer view of recovery in the world's most disaster-prone region

Frank Thomalla, Michael Boyland and Karlee Johnson  
SEI Asia Centre

Louis Lebel  
Chiang Mai University

Much progress has been made in disaster risk reduction (DRR) and climate change adaptation over recent decades, but the socio-economic and environmental impacts of disasters continues to rise. This is certainly true for many parts of Asia, where rapid urbanisation and an increase in climate-related risks continue to pose significant challenges to the long-term recovery of vulnerable communities following disasters.

While disasters often trigger a considerable short-term response at the national and international levels, too little attention has been paid to the longer-term recovery process. After the immediate emergency, people still have to clean, rebuild, and try to re-establish their livelihoods (or find new ones). That process may take years, and in the meantime, communities may be more vulnerable to new hazards than before the disaster. Effective long-term recovery systems are thus essential.

A new two-year project led by the Stockholm Environment Institute (SEI) Asia Centre aims to better understand how loss and damage (L&D) systems can build resilience in the 5–10 years after a disaster. The project, funded by the Asia-Pacific Network for Global Change Research (APN), brings together expertise from five countries in the region.

In the context of this project, L&D systems are defined as formal and informal systems that help people recover and cope with the impacts of natural hazards, including climate-related and slow-onset environmental changes, that are irreversible (loss) or which can be replaced (damage).

Recent efforts under the United Nations Framework Convention on Climate Change (UNFCCC) have helped better identify and address L&D, but it remains a fairly new area of research, and one that requires far more attention. We need to better understand the trajectory of disaster impacts, as well as the implications of choices made in the immediate response and over the years that follow.

The project involves five case studies: the 2001 Mekong delta floods (Vietnam and Cambodia), the 2004 Indian Ocean tsunami (Aceh, Indonesia), the 2008 cyclone Nargis (Myanmar), and the 2011 Bangkok floods (Thailand). Along with an in-depth review of academic and stakeholder literature, our work will include field research by partners in the five countries, with detailed interviews.



photo: 2011 Bangkok floods, by Philip Roeland  
<https://www.flickr.com/photos/philiproeland>

Our goal is to draw lessons from the five cases for decision-makers in the respective countries, but also synthesise the findings across all five studies, to build a more comprehensive understanding of recovery in the world's most disaster-prone region. The resulting lessons will be valuable to national and regional planners focused on DRR, adaptation, and both together. They could also inform L&D negotiations under the UNFCCC.

As the impacts of climate change and climate-related disasters are likely to increase over time, it is essential to take a longer view of DRR, and to integrate it more effectively with adaptation and development across different scales. A more holistic, resilience-oriented approach to addressing L&D will result in more effective, equitable and accountable recovery, particularly for those communities that are most vulnerable to the effects of a changing climate.

The year 2015 offers a unique opportunity to address the relationship between climate change and disaster risk, and between strategies to address them. A successor to the Hyogo Framework for Action (HFA) – a 10-year global plan to address disaster risk – is being drafted at the same time as the new Sustainable Development Goals (SDGs) are being formulated, and a comprehensive new agreement is being negotiated under the UNFCCC. This is a chance to integrate three key international frameworks to guide policy and action on disasters, climate change and development more effectively and coherently ■

## MORE INFO

Read more about the project at <http://www.sei-international.org/projects?prid=2117>. And learn more about links between climate change and disaster risk reduction at <http://www.sei-international.org/publications?pid=2625>

## ABOUT THE AUTHORS

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# Side events calendar

DATE	TIME	VENUE	TITLE	ORGANISERS
WEDNESDAY 3rd DECEMBER	11:30–13:00	Caral	Climate change science update: the challenges for robust decision making	Met Office Hadley Center, Pennsylvania State University (PSU), University of Reading
	11:30–13:00	Paracas	Combating climate change in Latin America	ParisTech (ParisTech), Centre international de recherche sur l'environnement et le développement (CIRED), Fondo de Promoción de la Areas Naturales Protegidas del Perú * (PROFONANPE)
	11:30–13:00	Maranga	Landscapes, ecosystem services, and smallholders: Putting cross-cutting concepts into practice	Fairtrade Labelling Organizations International e.V. (FLO e.V.), Forest Stewardship Council (FSC), Nexus Carbon for Development Limited (Nexus-C4D)
	11:30–13:00	Machu-Picchu	GCF Open Forum – Engaging with the Green Climate Fund, Preparing Projects	Green Climate Fund secretariat (GCF)
	13:15–14:45	Caral	Climate Change Scientific Cooperation in the Pacific Alliance: Monitoring Biodiversity	Peru, University of Oxford, Environmental Change Institute (ECI)
	13:15–14:45	Machu-Picchu	A fair and accountable climate finance regime: Confronting the contentious issues	OXFAM International (OI), Asociación Interamericana para la Defensa del Ambiente (AIDA)
	13:15–14:45	Sipan	The IPCC Fifth Assessment Report: A User's Perspective	WMO/UNEP Intergovernmental Panel on Climate Change (IPCC)
	13:15–14:45	Paracas	SCF: 1st Biennial Assessment and Overview of Climate Finance Flows	Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC)
	15:00–16:30	Maranga	Indigenous peoples, health, and community-based monitoring systems	Tebtebba Foundation, McGill University
	15:00–16:30	Machu-Picchu	Approaches to equity in forest governance: Lessons for safeguard development	Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC), International Institute for Environment and Development (IIED)
	15:00–16:30	Sipan	Building Resilience to Climate Change and Managing Disaster Risks through Sustainable Agriculture	World Farmers' Organisation (WFO), Caritas Internationalis (CI)
	16:45–18:15	Sipan	Increasing Resilience to Climate Change through Adoption of CSA Practices with a Focus on Gender	International Food Policy Research Institute (IFPRI), Asociación para la Naturaleza y Desarrollo Sostenible (ANDES)
	16:45–18:15	Caral	Why Forests, Why Now? Forests as a feasible and urgent solution for climate stability	Center for Global Development (CGD), The Woods Hole Research Center (WHRC)
	16:45–18:15	Maranga	Fairtrade Carbon Neutral Coffee; How smallholders and communities benefit from fair carbon finance	Interchurch Organization for Development Cooperation (ICCO), The Fairtrade Foundation
	18:30–20:00	Sipan	Climate justice approach to health, food security, nutrition, gender and human mobility	Action Against Hunger (ACF), Agronomes et vétérinaires sans frontières (AVSF), University of California (UCRP)
	18:30–20:00	Caral	NAMAs and their role for INDCs in Tunisia and the Maghreb region	Tunisia, University of Zurich (UZH)
	18:30–20:00	Maranga	Mega-Drivers developmentalists deforestation	Asociación Interétnica de Desarrollo de la Selva Peruana (AIDSESP), Coordinating Body of Indigenous Organizations of the Amazon Basin (COICA)
	18:30–20:00	Paracas	What do the 1st biennial reports and 6th national communications of Annex I Parties reveal?	Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC)



# Reflections from COP20, Day 2

Daniele Saguto and Chiara Zanotelli  
Youth Press Agency

Among the many side events today, we were amazed to find an unprecedented level of enthusiasm towards a great example of synergy between knowledge, expertise and concrete proposals in problem solving: the Technology Mechanism. This mechanism was established in 2010 at COP16 in Cancun, with the aim of creating a network of all the stakeholders committed in the implementation of enhanced action on technology development and transfer, to support action on mitigation and adaptation. This instrument has a policy soul, the Technology Executive Committee (TEC), and an implementation one, embodied by the Climate Technology Centre and Network (CTCN).

The main idea of the project is to provide helpful Technology Needs Assessments (TNAs) and corresponding Technology Action Plans (TAPs) to all countries willing to use these tools. TNAs identify, prioritise and highlight technology needs, while TAPs address specific barriers, identify targets, strategies, budgets and responsible stakeholders for prioritised technologies. Technology

application has always been an enduring and complex process, of fundamental importance, in order to produce a complete assessment and to ensure political, economic, ecological and social factors are all considered.

This all-encompassing mechanism managed to coalesce into a well-structured network with all the essential components – presenting itself as an open system that invites contributions from stakeholders, from both the private and public sectors. Another interesting element is that the process may include the consideration of a variety of approaches – linking relevant factors such as development and transfer of hard and soft technologies – and spur progress on other factors such as knowledge, diversity and employment. Having a broad scope, it has all the credentials to succeed in its mandate if countries trust it, both in submitting the requests and accepting the linkage between the Technology Mechanism and the Financial Mechanism under the United Nations Framework Convention on Climate Change ■



photo: Harvesting water plants in Puno, Peru.  
By Vil Sandi - [https://www.flickr.com/photos/vil\\_sandi/](https://www.flickr.com/photos/vil_sandi/)

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