

# Conference on Loss and Damage 2019

## UNDERSTANDING, MEASURING AND GOVERNING LOSS AND DAMAGE FOR SOCIAL AND ECOLOGICAL SYSTEMS



Wednesday, 30<sup>th</sup> October 2019

8.30 Registration and coffee

### Opening Keynote Session

09.30 Opening welcome and short introduction the conference on L&D. *Emily Boyd, LUCSUS*

10.00 Where is the international policy focus and what are important research issues relevant to loss and damage? *Koko Warner, UNFCCC*

10.30 Efforts to develop L&D research and practice? *Reinhard Mechler, IIASA*

11.00 What do we know about the science of attribution? *Friederike Otto, Oxford University*

11.30 Inspirational talk. *Jonas Åkerman, Lund University*

12.00 Lunch

### Characterising L&D from a climate change perspective – what do we know?

13.00 Introduction: What kind of science might be needed to support L&D policy and practice? *Rachel James, Oxford University*

13.15 Evidence of loss and damage: Lessons from post-disaster assessments in the Caribbean. *Adelle Thomas, University of The Bahamas*

Small island developing states (SIDS) have been strong advocates for including loss and damage in holistic approaches to address climate change. Assessing loss and damage and reporting these impacts is an area where SIDS have expressed the need for capacity building and guidance, leading to calls for increased support and direction to be provided by the United Nations Framework Convention on Climate Change (AOSIS, 2019). However, SIDS have a

number of existing tools and methodologies that may be built upon to assess and report on current loss and damage. Post-disaster needs assessments of extreme events is a common tool used by SIDS to evaluate the extent and economic costs of damages brought about by tropical storms, floods and other hazards (Thomas and Benjamin, 2018). These assessments are also the basis of recovery plans and programs and are increasingly used as a foundation to discuss international development assistance and other sources of funding for recovery and rehabilitation. This paper evaluates post-disaster needs assessments from Caribbean SIDS to identify common approaches and elements. Additionally, we identify important components of loss and damage assessments and reports for extreme events, drawing from existing literature. Common approaches and elements of post-disaster needs assessments are then compared to important components of loss and damage assessments and reports to identify areas of overlap and gaps. This conceptual paper identifies opportunities and challenges of altering existing methodologies to assess and report on loss and damage associated with extreme events.

Alliance of Small Island States (AOSIS). 2019. Submission of views and inputs on possible elements to be included in the terms of reference for the review of the Warsaw International Mechanism for Loss and Damage associated with climate change impacts by Belize on behalf of the Alliance of Small Island States. Retrieved from: <https://www4.unfccc.int/sites/SubmissionsStaging/Documents/201903111404---AOSIS%20submission%20on%20TORs%20WIM.pdf>. Thomas, A., & Benjamin, L. 2018. Management of loss and damage in small island developing states: implications for a 1.5 C or warmer world. *Regional Environmental Change*, 18(8), 2369- 2378. <https://doi.org/10.1007/s10113-017-1184-7>

13.30 Using probabilistic event attribution to estimate economic costs of climate change: results from studies of Hurricane Harvey and droughts and floods in New Zealand. *Dave Frame, Victoria University Wellington*

In this talk I discuss the results from two studies using a probabilistic event attribution framework to estimate economic costs. One study analyses the costs associated with Hurricane Harvey, one of the costliest tropical cyclones in history. Results indicate that the ‘fraction of attributable risk’ for Harvey was likely about at least a third with a best estimate of three quarters. Combining this fraction with a best estimate of damages from Harvey assessed at about US\$90Bn, yields a best estimate for the damages attributable to human influence on climate of US\$67Bn. This ‘bottom-up’ estimate of climate change damages is far higher than those inferred from ‘top-down’ estimates, such as those implied by prominent integrated

assessment models and subsequently used by regulatory assessments. The second study presents results from an attempt to quantify recent costs related to extreme weather due to human interference in the climate system, focussing on economic costs arising from droughts and floods in New Zealand during the decade 2007-2017. The work was conducted in conjunction with the New Zealand Treasury. The estimates we obtain are not comprehensive, and almost certainly represent an underestimate of the full economic costs of climate change. However, the paper shows the potential for developing a new stream of information that is relevant to a range of stakeholders and research communities, especially those with an interest in the aggregation of the costs of climate change.

13.45 Projected loss of life from heatwaves in US cities under different mitigation scenarios. *Eunice Lo, University of Bristol*

Current greenhouse gas mitigation ambition is consistent with  $\sim 3^{\circ}\text{C}$  global mean warming above preindustrial levels. There is a clear need to strengthen mitigation ambition to stabilize the climate at the Paris Agreement goal of warming of less than  $2^{\circ}\text{C}$ . In this presentation, I will specify the differences in city-level heat-related mortality between the  $3^{\circ}\text{C}$  trajectory and warming of  $2^{\circ}$  and  $1.5^{\circ}\text{C}$  in 15 U.S. cities where reliable climate and health data are available. I will show that ratcheting up mitigation ambition to achieve the  $2^{\circ}\text{C}$  threshold could avoid between 70 and 1980 annual heat-related deaths per city during extreme events (30-year return period). Achieving the  $1.5^{\circ}\text{C}$  threshold could avoid between 110 and 2720 annual heat-related deaths. This means a lack of increased climate action from the current pledges could lead to hundreds to thousands of fatalities per city during extreme heat events. Finally, I will discuss the opportunities and challenges associated with quantifying loss of life from anthropogenic climate change.

14.00 Glacier retreat and its challenges for the people of the Cordillera Blanca Peru – an insight into losses and damages. *Alina Motschmann, University of Zurich*

Under current and projected climate change, the mountain cryosphere is one of the strongest affected systems. Retreating glaciers imply several risks for people living in the adjacent areas of glaciated mountains, including the risk of losing ice, the loss of freshwater as a valuable resource and the risk of glacier lake outburst floods (GLOFs) causing widespread devastation. These are connected to changes of river flow regimes, changes in occurrence and severity of natural hazards, as well as cultural changes associated with landscape character, identity, and religion. In this study, we analyse and quantify the losses and damages to aforementioned

changes for the upper Santa River catchment in the Cordillera Blanca, Peru. This includes specific examples for three major cryospheric changes: (i) ice loss, (ii) glacial hazards and (iii) variability of water availability. Through literature review, glacial lake outburst flood and hydrologic modelling we identify major implications, differentiated for two emission pathways, such as the number of people affected by glacial hazards, monetized agricultural crop loss due to loss of water, as well as non-economic values local people attribute to glacier loss. Our results show that there are notable impacts for local people e.g. potentially increasing social and political conflicts, decrease in tourism revenue or loss of identity that could potentially be exacerbated in the future. Further, more people would be affected by risks from GLOFs and altered provision of water resources. Evaluating specific impacts of climate change through the lens of Loss and Damage (L&D) reveals the numerous cumulative negative impacts, that have so far been insufficiently considered from a L&D perspective on the local level. We could also show that both, the future emission pathways, and governance and adaptation aspects such as water resource management and disaster risk management will critically determine the extent of actual L&D.

14.15 Where does science about Loss and Damage fit into the IPCC reports? *Jan Fuglestedt, CICERO*

14.30 Discussion

15.00 Coffee and poster session

How does an ecological perspective contribute to L&D – what do we know?

15.30 Introduction: Ecological impacts of climate change through the lens of loss and damage. *Richard Walters, Lund University*

15.45 Disentangling climate change impacts on biodiversity in tropical forests. *Dave Edwards, Sheffield University*

16.05 Consequence of extreme weather variations on food production. *Jennie Barron, SLU, TBC*

16.25 Facilitated dialogue between Murray Scown (*Utrecht University/LUCSUS*) and Brian Chaffin (*University of Montana*) exploring ideas about where, when, how and at what scale are climate change impacts occurring? What future L&D framework could support vulnerable ecosystems?

16.40 Audience Q&A

17.00 Summary and key points from Day 1: Interactive session. *Rachel James, Oxford University*

18.00 Welcome reception

### Thursday, 31<sup>st</sup> October 2019

#### Connecting L&D to social and sustainability perspectives - what do we know?

8:30 Introduction: Context of loss and damage and sustainability. *Emily Boyd, LUCSUS*

8.40 Bringing Sustainable Development Perspectives into the Loss and Damage Debate. *Chad Boda, LUCSUS*

Loss and Damage (L&D) is fundamentally about who and what is negatively impacted by climate change, what sort of compensation is appropriate to address these impacts, who is responsible for paying compensation, and who is entitled to receive compensation. This has led to a proliferation of academic research focused on how to conceptualize and measure L&D, what policies are appropriate for addressing L&D, and what role attribution of climate events has in settling the question of who pays and who receives compensation for L&D. However, the role of Sustainable Development (SD) in either preventing L&D or guiding decisions about compensation remains unclear, despite the explicit recognition of the significance of SD for L&D in Article 8 of the Paris Agreement. In this paper, we undertake a comprehensive analytical review of 115 peer-reviewed L&D publications to ascertain to what extent the academic debate can usefully be related to the issue of SD. We analyze the articles to identify explicit, or surface implicit, assumptions about what SD is and how it is best achieved, and organize them in relation to a typology of competing paradigms in SD. Our preliminary results show that an explicit engagement with established theories of SD is almost wholly absent from current L&D scholarship. Implicitly, however, we find that L&D scholarship operates predominantly in the economic-oriented “weak” sustainability paradigm, while “strong” sustainability and “human development” SD paradigms are found to be far less prominent. We argue that oft-reported difficulties regarding how to effectively handle various dimensions of L&D (e.g. economic and non-economic L&D) can be related to the lack of a coherent paradigm of SD. Our analysis, we hope, makes a significant contribution towards fulfilling the ambition

of the Warsaw International Mechanism to promote the implementation of approaches to address L&D in a *comprehensive, integrated and coherent* manner.

8.55 When waves of heat and inequality meet: A relational approach to disproportionate exposure to the extreme urban heat in India. *Maryam Nastar, LUCSUS*

The policy responses to heatwaves are often based on risk management approaches. Such approaches emphasize the importance of technical definitions of heatwaves (e.g. temperature thresholds), designing early warning systems, and planning for emergency conditions especially for vulnerable people, usually determined by epidemiological evidence. Pointing to the shortcomings of these approaches, there is a growing body of research engaging with different understandings of vulnerability based on individuals' social relations, their living circumstances, ethnicity, race and other broadly defined socio-economic categories. By framing extreme heat exposure as an environmental justice issue, research as such, suggest effective policy responses to heatwaves require incorporating and addressing the drivers of vulnerability, i.e. unequal access to resources in the society, to create healthier places for all people to live. Building on the above, this paper aims to explore the underlying factors leading to disproportionate impacts of heatwaves in cities of India. By using a relational approach to inequality, it investigates the relation between the citizens and the state including the local government as well as the relation between the city and the nation-state. More specifically, the case of deadly heatwave in India in 2015 will be explored. This includes mapping the impacts on different groups and resources in Indian cities and analysing the policy responses at different levels of government. The Ahmedabad Heat Action Plan 2018, in particular, as the first comprehensive policy response to extreme heat events in South Asia, will be critically analysed. The paper findings and discussions will shed light on barriers and opportunities for inclusive urban planning and policy responses in India and similar contexts wherein cities are sweltering, and inequality is mounting.

9.10 Climate extremes – a study of vulnerability, loss and damage in relation to the 2018 drought, focusing on Southern Sweden. *Tomas Germundsson and Sara Brogaard, Lund University*

The extreme weather in terms of drought and heat, which prevailed in Northern Europe during the growing season 2018, had serious consequences for agriculture and farmers in Sweden. Many questions regarding farm production came to a head as drought struck directly against farmers land, economy and wellbeing. This paper argues that it is essential to deeper investigate

farmer's and other land user's experiences and actions during the drought period and the immediately following situation, also in a high-income country context. The overall aim is therefore to increase the knowledge on multiple factor vulnerability and adaptive capacities with insights across selected rural livelihoods, focusing on Southern Sweden. We emphasize questions such as who, when and how rural land users are affected. In the study, we interpret loss and damage as "limits to adaptation" and consider both economic and non-economic dimensions for crop growers, animal keepers and horse businesses. The study is mainly based on qualitative data collection methods, such as semi-structured interviews in combination with seasonal calendars and complemented with questionnaires. Preliminary findings indicate that impacts on crop growers are highly related to possibilities for irrigation and access to water use permits, but also to soil quality. In comparison to animal keepers their experienced impact can be considered being 'intermediate' in temporal terms. For animal keepers the experienced impacts are simultaneously more immediate, due to acute fodder shortage, and more long term, because of changing stock compositions, animal health, and reproduction – possibly also giving rise to higher levels of concern and worry. In the paper we further discuss if, and when, rural livelihoods are potentially given up in the wake of extreme weather events. We believe that this study can help define factors of vulnerability, loss and damage in a Global North context.

9.25 Occupy Climate Change: How do social movements address loss and damage from bottom up? *Ethemcan Turhan, KTH*

What does it mean to Occupy Climate Change? In 2012, Occupy Wall Street activists reacted to the destruction brought by Hurricane Sandy, physically moving from the financial district to Brooklyn and Harlem. This shift gave rise to Occupy Sandy, a self-organized mutual aid network to ease the losses and damages incurred by the hurricane where the disaster relief clearly failed to reach the most vulnerable. Nonetheless, the question is still open: why occupy? Occupy speaks of a militant, political act. In the history of social movements, the act of occupying has been both a defensive and prefigurative strategy. Workers occupied factories to resist their foreclosure as well as to experiment with forms of self-management. Peasants occupied lands against big landowners, resisting enclosures and expropriation and sometimes trying to build alternative communities on re-appropriated land. More recently, occupations have become the distinctive political practice of social movements which have chosen to re-appropriate public spaces. From Plaza Catalunya in Barcelona to Gezi Park in Istanbul, from Wall Street in New York to Teatro Valle in Rome, urban movements claim their right to the city. Building on these experiments, we argue that claiming right to the city is the first step

towards building urban climate justice while addressing the losses and damages from bottom up. As part of our comparative research across 5 cities (Malmö, Istanbul, Naples, New York, and Rio de Janeiro), here we present how grassroots and municipal innovations in cities ground the L&D debate prevalent in high politics of UNFCCC. In this context, this paper will focus on new and insurgent citizenship practices in addressing the limits of adaptation and framing loss and damage. Against the grain of neoliberal authoritarian response to climate change, our preliminary findings hint at the emergence of radical urban imaginaries and insurgent citizenship practices to advance urban climate justice.

9.40 Discussant: Societal adverse effects of L&D – what the theory tells us about who is affected, where, when, how and why? *Erin Roberts, Kings College*

As predictions of potential losses and damages from climate change impacts grow increasingly severe calls for transformation as a response to long-term climate change have become more frequent. Loss and damage is often associated with the limits to adaptation. The literature says that in order to avoid loss and damage when the limits to adaptation are reached, transformation will be needed. Transformational approaches to address climate change have also become part of the workplan of the Executive Committee guiding the implementation of the Warsaw international mechanism on loss and damage associated with climate change impacts under the UNFCCC – but there has as yet been no attempt to define what is meant by transformation within this process. This paper attempts to address that gap. Three types of transformation are posited: transformation as adaptation (an intensification of dominant socioecological relationships), transformation as extension (when the limits of established adaptive capacity are reached) and transformation as liberation (adopting development pathways that address the root causes of vulnerability). The paper will focus on better understanding transformation as liberation, as a means of avoiding loss and damage altogether. To provide the kind of information decision makers need to plan and implement transformation as liberation, more research is needed on how to plan in a way that ensures the most equitable outcomes.

9.50 Discussion

10.00 Coffee break and poster session

Defining loss and damage from gender perspectives and humanities - what do we know?

10.30 Introduction: Why gender and humanities have an important role in the discussion on L&D. *Emmanuel Raju, University of Copenhagen*

10.40 Stories of Loss and Healing. *Sonja Ayeb-Karlsson, Sussex University*

It is well-known that the impacts of climate change affect women disproportionately. More empirical studies illustrating how, where, when and who are urgently needed. Similarly, more research efforts investigating the connections between health and climate change are required to better protect the world's most vulnerable. Few studies elaborate around climate-induced mental health impacts, although this is a crucial area for the conceptual framing of loss and damage. Mental wellbeing is at the very core of the non-economic losses taking place all over the world. This article builds upon empirical narratives gathered in Bangladesh, Fiji and the US through storytelling methodology. The stories describe how climate change, or disasters, negatively have affected women's mental wellbeing. In Bangladesh, they cover the rural-urban environmental migration spectrum. The narratives include women wanting to leave rural environmentally stressed areas, as well as women currently living in urban slums after having escaped climatic changes in their rural home areas. People migrating towards the cities generally end up in such informal urban settlements. Recent studies show an association between climate-induced female migration, garment factory work, violence and depression. In Fiji, the narratives describe how food insecure women and children (due to social exclusion and lack of financial resources) are more at risk of facing violent behaviour and sexual abuse after cyclones and floods. In the US, women describe having developed mental disorders, such as depression, anxiety and PTSD, up to a year after the hurricane strikes. Mental health impacts are often difficult to capture. Unlike physical ill-health, mental ill-health often builds on complex, longer-term, causal psychosocial relations. After Katrina for example, researchers found that single mothers were particularly prone to developing PTSD<sup>5</sup>. These findings will provide L&D climate policy with valuable empirical insights.

10.55 Cyclone Idai Disaster: Loss and Damage Narratives of Women in Chimanimani District, Zimbabwe. *Jephias Matunhu, TMMRI*

On 15 March 2019, Zimbabwe experienced the worst climate change induced disaster in living memory. In Chimanimani district, hundreds of lives were lost, and property worth millions of United States dollars was either damaged or destroyed. Loss and damage were recorded in human capital as some of the professionals working in the affected areas succumbed to the disaster. Hopes were shattered and community development gains were reversed. This paper

presents the experiences of women and girls who have lived experiences of the disaster. The study was conducted within the framework of the Paris Agreement and the Warsaw International Mechanism for Loss and Damage. The paper collected data from 37 women selected using the nonprobability sampling method; snowballing was used to identify and track women with the most appealing narratives of the L&D caused by the disaster. Women whose nudity was exposed by the disaster (to men, children, in laws etc) ranked loss of dignity as the topmost damage to their persons. For them, all other belongings can be replaced except their dignity. The loss of life of their loved ones and prospects of a better life, livelihoods and property were important L&D experienced by the women. The study recommended counselling of the community and instituting a climate change resilience building programme for them.

#### 11.10 Accounting for the non-economic dimensions of Loss and Damage in the Arctic: Contributions of the Humanities. *Stephen Woroniecki, LUCSUS*

Important dimensions of Loss and Damage (L&D) may be missed if reduced solely to economic or quantitative indicators. Such risks are recognised both within discussions under the UNFCCC, as well as within the DICE project, of which this conference contributes.

The under-recognised qualitative dimensions of loss and damage are not straightforward and may be direct, indirect, explicit or implicit. The Humanities can play both a methodological role in uncovering such kinds of losses, as well as offering conceptual insights into how people are affected by the impacts of climate change. The humanities show how climate change impacts intervene and disrupt rich historical, cultural, social and social-ecological relations. Such relations are influenced by climate change in complex, place-specific ways, less amenable to standardised methodologies. Humanities lenses offer an important normative dimension to L&D through attention to issues that through their neglect may add ‘insult to injury’.

Here I depart from the insights of Tschakert et al., (2017). I show how contemporary accounts of Loss and Damage in the Arctic add insult to injury by reducing impacts to generic, universal and quantitative indicators. I furthermore show how such numerical accounts of L&D in the Arctic (such as sea ice loss) are used to instrumentalise L&D within contemporary accounts of climate change, where the Arctic has played a vital role. I show how the humanities can better account for the place-specific dimensions of L&D in Arctic Norway, and therefore offer potential for communities to recognise and create meaningful responses to such contemporary and impending upheavals.

11.25 An empirical study on the integration and relevance of gender perspectives in the international consensus of Climate Change Loss and Damage. *Nayab Zafar, BTU, Germany*

Climate change loss and damage impacts all humans. Depending on the societal worth and physical strength, some are affected more than others. The research analyses the state of women impacted by the (non-economic) loss and damage resulting from climate change influenced events. Starting with gender-biased practices at grassroots level which promote and result in gender disparity but at the same time cause stability and development; the role and importance of an international consensus on improving women's status quo is highlighted. Distinct attention is given to the local level difficulties encountered by rural women fighting to improve their situation during and after severe weather events. A qualitative and quantitative assessment of case studies from developing countries which successfully employ respect for gender significance in their policies and frameworks regarding loss and damage events (floods and droughts) is presented. A detailed questionnaire-based study responded by 100 locals is carried out to get a clear understanding of the situation following damaging events. Additionally, interviews of associated officials conducted to see if international policies, in any way, actually contribute in enhancing resilience of women. The research revealed that there exist gaps between policy formulation and implementation meaning that there is disconnection between the policy makers and the local communities resulting in significant difficulties, in terms of implementation. A better exchange of experiences and knowledge between the national and county governments and the communities is needed for the policies to correlate with the needs of the communities in terms of better responding to climate change loss and damage. Climate change policies should also use more clear language for loss and damage and gender so that gender roles can be efficiently incorporated into the effective implementation of the policies and eventually gender position can be stabilized.

11.40 Discussant: Summary of current thought and direction on loss and damage, intersectionality and the humanities. *Petra Tschakert, University of Western Australia.*

11.50 Discussion

12.00 Lunch

L&D from a policy and litigation perspective - what do we know?

13.00 Introduction: So why law? *Kristian Lauta, Copenhagen University*

13.10 Defining loss and damage: identifying normative content of definitional criteria. *Linnéa Nordlander, Copenhagen University*

With the adoption of the Paris Agreement in 2015, loss and damage was explicitly incorporated into the international climate change regime through Article 8. Nevertheless, the provision fails to provide a legal definition of loss and damage, resulting in legal ambiguity surrounding the concept and its consequent implementation. Without a clear understanding of the legal content of loss and damage, implementation through further law and policy may result in inconsistencies or tensions, risking fragmentation and norm conflict. This paper fleshes out the definitional issues surrounding loss and damage, explored through a legal analysis of the UNFCCC regime and related areas of law, including international human rights law. In doing so, four definitional criteria stemming from existing literature are identified and examined, namely that loss and damage must be unavoidable, irreversible, attributable to human activity, and intolerable. The intolerability criterion raises critical concerns as to whose and what types of harm counts as loss and damage, and how these could be objectively defined. Three further underlying considerations of loss and damage are explored, namely the magnitude that an event must reach, the relationship that a given impact must have with human systems, and whether the notion applies exclusively to developing states, and if so, any particular category of developing states. The paper analyses the content and implications of the various criteria from the perspective of the principle of common but differentiated responsibilities and respective capabilities, embodied by the UNFCCC. It appears likely that any legal definition must be sufficiently flexible to adjust to developments in adaptive capacity and climate science, particularly in relation to attribution standards, but must simultaneously be stable enough to allow for effective implementation.

13.25 Climate Change Litigation and Loss and Damage: A Separation of Powers? *Patrick Toussaint, University of Eastern Finland*

As the climate targets pledged by countries under the Paris Agreement are currently insufficient to keep global warming below 2°C (let alone 1.5°C), adverse climate impacts will be unavoidable and already manifest today. While the topic of loss and damage from climate change has already gained greater currency following Paris, it remains one of the most contentious issues in the climate negotiations, and the question of liability and compensation appears to be off the table. At the same time, significant strides have been made in the field of climate change litigation both domestically and internationally post-Paris. This paper aims to

shed light on the evolving relationship of climate cases and the climate negotiations in order to determine what contribution litigation can make to strengthening the international policy response on loss and damage. It sets out with a comparative genealogical analysis of loss and damage and climate litigation with respect to key milestones under the climate regime, relying on doctrinal research and stakeholder interviews. The paper then considers their relationship in the present moment of climate governance after Paris by assessing the degree of cross-pollination between both processes, taking stock of the perspective of stakeholders involved in both processes. Finally, the paper analyses the advantages and limitations of climate change cases as a tool for strengthening loss and damage policy and provides recommendations on how this can be further improved. The paper finds that while the climate regime has effectively outsourced the discussion on liability and compensation to the courts, and litigation on climate loss and damage is still in the early stages, the continued interplay of these two processes may prove critical to advancing the work on loss and damage under the United Nations Framework Convention on Climate Change (UNFCCC).

#### 13.40 National Governance of Climate Change-related Loss and Damage: A Case Study of Antigua and Barbuda. *Lisa Vanhala, UCL*

While there is now a vibrant comparative politics of climate change policy-making the tools of cross-national analysis have not yet been applied to study the governance of climate change-related loss and damage. Yet some countries, particularly those that are threatened on an existential level (such as small island states), have been making climate change loss and damage policy for years (whether they refer to it as such or not). There has been little systematic research on how public, nongovernmental and private actors at the national level navigate the politics of the impacts of climate change. There are important and pressing questions that result from bringing a comparative politics framework that focuses on institutions, interests, ideas and identity to the issue of climate change loss and damage. Which political institutions are involved in climate change loss and damage policy-making either explicitly or implicitly? What are the connections between L&D governance and adaptation governance at the national level? Which are not? Whose interests are being prioritized in decision making processes and why? This paper will draw on data from fieldwork - including 14 semi-structured interviews and participant observation - conducted in April 2019 as part of a pilot study in Antigua and Barbuda - a small island developing state at the frontline of climate change impacts. The research finds that there is (and has long been) awareness of loss and damage as a policy challenge across government ministries but challenges in terms of lack of systematic and shared

data on L&D. It also found that there are a number of intersecting international regimes (e.g. the Sendai Framework for Disaster Risk Reduction, the UNCCD) that are invoked and international actors (e.g. World Bank, UNDP) that are involved in loss and damage governance processes at the national level. Finally, the research found that slow onset impacts receive less attention and funding than extreme weather events given the pressing nature of development needs and post-extreme weather event recovery and rehabilitation.

#### 13.55 Need assessment on the Policy and Institutional Approaches to deal with Loss and Damage at the national level: Context of Bangladesh. *Hafijul Islam Khan, CCJ-B*

A research study has been conducted in the three of coastal villages in Bangladesh to understand the community perceptions on the nature of loss and damage and required responses in terms of approaches and related policy and institutional needs. Community consultations provided some important aspects on the nature of loss and damage and required approaches for addressing loss and damage and also policy and institutional structures needed at the national level, which provides the frameworks for developing national mechanism of loss and damage in Bangladesh. So, this paper, will provides the critical aspects on nature of loss and damage based on community perceptions and also would explore the relevant policy and institutional structure within the framework of national mechanism of loss and damage. This study is undertaking in collaboration with International Centre for Climate and Development (ICCCAD), Centre for Natural Resources Studies (CNRS) and Centre for Climate Justice, Bangladesh (CCJ-B). So, this paper will articulate the research findings in order to provide policy guidance for structuring the National Mechanism of Loss and Damage at the national level within the context of Bangladesh.

#### 14.10 Climate change in the cryosphere: calculating attributable damages in the case of *Lliuya v RWE*. *Rupert Stuart-Smith, Oxford University*

Litigation concerning the influence of anthropogenic greenhouse gas (GHG) emissions on the melt rate of Palcaraju glacier in the Peruvian Andes, and the resultant change in risk of a glacier lake outburst flood (GLOF) from Lake Palcacocha, has entered an evidentiary phase. In the case before the courts, the plaintiff is seeking financial compensation from RWE, a German energy company, for a portion of the cost of reducing the GLOF risk to the nearby city of Huaraz. Most existing attribution studies on anthropogenic influence on glacier mass balance have been regional or global in scale. However, assessment of human influence on the mass balance of this glacier is needed to attribute damages in the case before the courts. In this paper,

we quantify the anthropogenic contribution to the volume of Lake Palcacocha and demonstrate that climate change has accelerated Palcaraju glacier's melt rate, advancing the time at which implementing adaptation measures becomes necessary. Existing literature on climate change-induced loss and damage focuses primarily on the impacts of meteorological events. Our results indicate that applying frameworks based solely on meteorological events to slow-onset events such as increasing GLOF risk or sea level rise impacts is inappropriate. For many extreme weather events, greenhouse gas (GHG) emissions may be thought of as increasing the likelihood of occurrence of a meteorological event of a given intensity, the likelihood of which may otherwise be assumed constant in time. For GLOFs, which occur naturally, GHG emissions bring the next flood forward in time, while the age of emissions determines their cumulative contribution to lake levels as meltwater accumulates over time. In this paper, we propose an original methodology for calculating the costs attributable to the GHG emissions of individual emitters for the impacts of glacial melt or sea level rise, which accounts for these findings.

14.25 Summary. *Kristian Lautu, Copenhagen University*

14.30 Discussion

15.00 Coffee

### Economy of L&D

15.30 Introduction: Why economy is at the heart of L&D. *Chad Boda, LUCSUS*

15.40 Finance for Loss & Damage: Towards a principled approach. *Teresa M. Deubelli, IIASA*

Mounting scientific evidence suggests a close relationship between climate change, loss of biodiversity and ecosystem services and poverty. Loss of biodiversity and ecosystems can shift the 'limits to adaptation' into the contested space 'beyond adaptation'. Nature-based solutions (NbS) such as forest, wetlands and coral reef conservation, or the creation of natural processes in modified ecosystems, can offer a pathway for shifting the trajectory of ecosystems towards longer-term resilience to the benefit of ecosystem services and more cost-effective climate risk management. As such, NbS offers a transformative adaptation option that addresses multiple dimensions of Loss and Damage (L&D) in line with the provisions of the Paris Agreement, from climate risk management to preserving ecosystem services, biodiversity and livelihoods. Yet, NbS remain underexplored in the context of the L&D debate, which has been characterized by a strong focus on market-based risk transfer instruments. In this article, we

suggest a shift in the discourse on L&D to reflect the important mediating role of NbS for preserving ecosystem services and biodiversity as a key factor of societal resilience particularly in the developing countries most vulnerable to climate change. To support this shift, we identify key factors for promoting NbS as part of the adaptation work under L&D and the governance challenges that hinder mainstreaming of ecosystem-based approaches for L&D.

15.55 An assessment of needs, finance, and institutional arrangements for addressing loss and damage in African countries: taking stock and looking forward. *Doreen Stabinsky, College of the Atlantic*

African countries are already experiencing loss and damage due to climate change impacts, from both slow onset and extreme events. Moreover, it is expected that loss and damage will increase throughout the century, with the severity of that loss and damage dependent upon mitigation efforts undertaken now by the main greenhouse gas emitters. In this context, we set out to assess current legal and economic frameworks for addressing loss and damage. Our approach has two elements: first, defining country needs for addressing loss and damage and associated finance needs; and second, evaluating global finance and governance arrangements for adequacy and effectiveness of support for countries to address loss and damage. We start by reviewing national planning and reporting documents (National Communications, National Adaptation Plans, and Nationally Determined Contributions) and project proposals for bilateral and multilateral finance from a subset of African countries. We review these documents in the context of recent extreme events and the latest scientific understandings of slow onset impacts currently experienced and predicted for the decades ahead. We then assess the availability of finance to assist these countries with current and possible future loss and damage needs, including through a non-exhaustive review of related finance and investments in, inter alia: adaptation; disaster prevention, preparedness, and response; and catastrophe risk financing. Finally, we examine the current institutional mechanism to address loss and damage under the UNFCCC, the Warsaw International Mechanism for Loss and Damage (WIM). Considering the above analysis, we evaluate its present suitability for assisting countries to address both current and future climate impacts. The assessment will provide possible directions for the evolution of the WIM to better assist countries to address loss and damage, including the potential for the WIM to mobilize and facilitate access to adequate levels of loss and damage finance.

16.10 What would an effective financing arrangement look like for the poorest flood prone communities in Western Nepal? *Colin McQuistan, Practical Action*

Article 8 of the Paris Agreement formally recognised Loss and Damage (L&D), with action to avert, minimise and address L&D mandated to the Warsaw International Mechanism. Despite this commitment there is little funding for L&D, hence whilst climate impacts are accelerating, communities on the frontline have limited access to the support they need. In Nepal we are exploring options to avert, minimise and address L&D. We recognise in communities that are already poor and struggling with existing socio-economic development deficits, that climate change induced natural hazards are exacerbating these deficits and negatively impacting efforts to address them. We have initiated a joint action research programme to better understand the options available to meet the needs of these communities to avert and minimise the avoidable while considering options to address the unavoidable losses and damages.

This session will present dimensions of the financial viability of the communities and compares their ability to accumulate capital against the potential losses and damages due to climate hazards. Using a simple cost benefit analysis of an existing early warning system to better understand the scale of the risk the communities are facing and the degree of self-financing they have to respond to each hazard type (mostly flooding events). We will explore these dimensions further to identify the factors affecting farmers' willingness to pay for a hypothetical Index Based Flood Insurance (IBFI) product as a means of preparedness to quantify, what degree the communities, and local government can finance their response to climate induced L&D, and the gap remaining to be filled by national government and/or international donors. Finally, exploring the possible changes needed to nurture the required collaboration between municipalities, policy makers and academic institutions to deliver financial viability for poor communities in this extremely flood prone area in Westerns.

16.25 Disaster risk and adaptation finance in the context of Loss and Damage: An investigation of national-level implications for the case of India. *Architesh Panda, LSE*

The 'Loss and Damage' (L&D) debate has featured prominently in climate change negotiations in recent years, representing one of the most contentious and complex areas of climate policy. However, practical policy directions emerging from the debate remains abstract and broad. While the discourse has evolved much more clearly at the global and regional level, there has been less work on integrating the policy dimensions of the issues at the national level for the vulnerable countries of the world. This paper examines the implications of Loss and Damage

for the national level in the context of India. The current disaster risk financing structure in India comprised of three broad aspects of (a) Risk retention measures such as budgetary resource allocation, (b) Risk transfer measures such as crop insurance and disaster micro insurance schemes, and (c) International and multilateral disaster assistance on a case by case basis. However, in the context of ‘Loss and Damage’ new questions arise, such as how to address slow-onset changes and irreversible developments, as well as the challenge of reaching adaptation limits. This paper revisits the current disaster risk and adaptation financing landscape in India and considers the implications of L&D from climate change by investigating two cases: L&D in the agricultural sector and what this means for the existing agricultural insurance system; and financial requirements arising from coastal submergence of islands in India. Based on the analytical framework of adaptation limits we consider the role of agriculture insurance in stretching farmer’s adaptation limits and investigate financial mechanisms to cushion impacts of L&D in the case of coastal inundation, where adaptation limits have been crossed. The paper concludes with a discussion of the current disaster risk and adaptation financing structure in India and its opportunities and challenges in integrating the concerns of Loss and Damage to climate change.

16.40 Summary (Chad Boda, LUCSUS)

16.50 Discussion

17.30 Interactive session summary

18.00 Carbon Ruins Exhibition

19.30 Conference Dinner in Kulturen

## Friday, 1<sup>st</sup> November 2019

### Insurance and L&D

8.30 Introduction: Why insurance matters? *Friederike Otto, Oxford University*

8.40 The Prospect of Weather Index-based Insurance in Addressing Climate Change Induced Loss & Damage. *Sonia Akter, National University of Singapore*

Weather index-based insurance (WII) is widely viewed and tested as an effective tool to address loss & damage in low-income countries. In a WII scheme, insurance pay-outs occur

when a particular weather parameter surpasses a pre-specified threshold. WII is thought to involve low administrative costs as it does not require visual crop damage verification in the field. WII is also associated with low degrees of moral hazard since damage is not correlated with clients' efforts to undertake preventive action. Due to these advantages over the standard insurance scheme, WII has been described as potentially revolutionary in that it increases poor people's access to formal insurance and offers an effective mechanism to address climate change induced loss & damage. The optimism surrounding WII schemes led to substantial investment in WII products worldwide over the last decade. A large number of WII pilots have been implemented in Latin America, Africa and Asia. This article synthesizes evidence from the empirical literature to understand the extent to which WII has been successful in addressing climate change related loss & damage in low-income countries. Four key conclusions are drawn from the synthesis. First, WII is characterized by low adoption rates. The low adoption rate is due to two common drawbacks associated with WII, namely basis risk and design complexity. Second, despite being thought of as inexpensive to administer, high implementation costs have been observed because of the transactions costs associated with responsible and accurate index measurement at reasonable spatial scales for smallholder agricultural systems. Third, the degree of challenges facing WII products vary across climate risks (e.g. floods, drought, storm), product of interest (e.g. rice, maize, livestock), contexts (e.g. farmers' educational level, gender, institutional setting, markets). Finally, in most instances, when pilots are successful, scalability and financial sustainability remain a considerable challenge.

8.55 Developing a funding mechanism for loss and damage: What is needed in small island developing states? *Melanie Pill, Australian National University*

Loss and damage (L&D) is now officially recognised in the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) as well as the Katowice Climate Package. However, L&D finance still remains contentious and unresolved. So far, the only financial mechanisms for L&D are insurance schemes which in their current architecture are only suitable for natural disasters. Insurance does not address the entirety of the problem and neglects other issues arising from L&D, such as slow onset events, economic and non-economic losses as well as human mobility.

Based on 42 interviews with stakeholders from developed countries, UNFCCC negotiators, SIDS government representatives, non-governmental organisations, WIM

Executive Committee members and multilateral organisations all working on L&D, this article determines what a financial mechanism for L&D under the UNFCCC needs to look like in order to be successful. Participants were asked about how they believe L&D aspects should be addressed in an international mechanism, for example through compensation or the polluter pays principle, how funds should be raised and who they believe should bear responsibility. The paper compares responses by participants and determines the actual financial and structural needs of SIDS “on the ground” and what is discussed in international negotiations. It offers valuable insights into where opinions align or misalign. By considering multiple stakeholder views from developed and developing countries the results provide robust data for a comprehensive framework for a financial mechanism that can be adopted by the UNFCCC and reflects political constraints as well as countries’ needs.

#### 9.10 Risk or Resilience? The Contradictory Role of Insurance in Addressing Loss and Damage from Climate Change. *Witchuda Srang-iam, National Institute of Development Administration*

Insurance can play a substantial role in addressing climate-attributed losses and damages, both by spreading the risks of damages and by fostering resilience in the face of rising losses. However, there are still debates on whether insurance can serve as a risk-reducing and equitable compensating instrument, especially in such developing countries as Thailand where the insurance industry is not just emerging, but the clients are resource-poor and climate-vulnerable. This paper proposes a holistic climate risk governance framework for understanding the development and effectiveness of weather index crop insurance schemes in Thailand. Through comparative case studies of micro-insurance for maize, rice and longan, the paper analyses how financial and institutional arrangements available at different scales interact in shaping both farmers’ and insurers’ decisions concerning risk mitigation and adaptation. The analysis reveals some paradoxical relationships between vulnerability and resilience, arising from such interactions in the institutional context of climate risk management. Although the development of weather index insurance aims at increasing adaptive capacity of farmers, the product itself could make insurers vulnerable to rising claim costs. Furthermore, the effectiveness of insurance schemes reinforces farmers’ exposure to risk, while inhibiting change after detrimental events. The paper suggests careful consideration of cross-scale institutional linkages in governing loss and damage from climate change at a particular scale of interest.

#### 9.25 Summary. *Friederike Otto, Oxford University*

### 9.30 Coffee and poster session

#### Governance of L&D – how do we do it? (I)

10.00 Introduction: Setting the scene with the recent Amazon fires. *Patricia Pinho, University of Sao Paulo*

10.10 Clouding Skies: Exploring digital approaches to 'Loss and Damage', and the algorithmization of injustice in a warming world. *Giovanni Bettini, Lancaster University*

As the prospect of dangerous climate change becomes more and more likely (IPCC 2018), a vast consensus exists over the importance of addressing Loss and Damage (L&D) residual to mitigation (i.e. preventing climate change) and adaptation (i.e. adjusting in order to avert adverse impacts). In spite of sharp divisions on how to understand and operationalise L&D (Boyd et al 2018, Calliari 2016, McNamara and Jackson 2019), most approaches draw on classic environmental governance, with discrete analogic interventions implemented by States and international actors. By and large, L&D is envisioned as being staged in an imagined ‘international court of climate justice’ that identifies the culprits (emitters), quantifies harm and compensates victims. While digital technologies and governance have colonized many germane policy fields and virtually all economic sectors, in the L&D field a substantive discussion on the use of Information and Communication Technologies, algorithms, and user-generated data is conspicuous by its absence. However, digital tools and algorithmic governance could contribute – for better or worse – overcoming the obstacles that have hindered the implementation of measures addressing L&D. Taking seriously the prospect of a ‘digitalization’ of L&D, this paper identifies and reviews a number of pioneering projects / cases in three key domains associated with L&D – insurance, disaster risk management, and displacement. These empirical cases are read as ‘seeds’ of future digitalized approaches to L&D, and are used to sketch scenarios on the profound changes in climate politics and justice that would accompany a digitalization/algorithmization of L&D.

10.25 Identifying the Risk and Policy Space for Loss and Damage: A Role for Transformational Risk Management? *Thomas Schinko, IIASA*

“Loss and Damage” (L&D) has gained traction and credibility over the years. Yet, the debate remains heated and political. Some parties have suggested that compensation for losses already incurred is to be its focus, while others have suggested it should focus on identifying and

providing tested risk management measures to tackle future risks shaped by climate change. As a policy proposal, we suggest both positions are to be considered and the policy options space may be defined to encompass transformational measures for avoiding and managing intolerable risks as well as curative measures for addressing unavoided and unavoidable impacts. Particularly, transformational risk management is increasingly debated in the L&D (as well as adaptation) discourse and may include offering alternative livelihoods to those that are being affected (e.g., switching from smallholder farming to service sector employment) and assisting with voluntary migration where needed. Options under this rubric exhibit substantial overlap with interventions of disaster risk reduction and adaptation yet may be focussed further on avoiding and managing intolerable risks that touch on hard and soft limits. Our suggestions build on a principled framework including three lines of analysis, which have seen attention in the debate. The first line includes a broad perspective towards concurrently considering climate change and climate variability as part of a comprehensive climate risk management approach. The second component sees a strong role for understanding risk tolerance and any soft and hard limits to adaptation. The third element builds on aligning distributive (needs) and compensatory (responsibilities) justice principles for addressing needs and defining responsibilities. Focussing on transformational risk management, we illustrate our proposal with examples of recent case studies conducted in Nepal, India and Indonesia, which included interactions with policymakers.

#### 10.40 Climate risk analysis for dealing with critical risks beyond adaptation-Operationalizing the Loss and Damage options space for Bangladesh. *Reinhard Mechler, IIASA*

IPCC's report on 1.5o C warming has shown that even warming of 1.5o C and 2o C will lead to increasingly severe risks, limits to adaptation and a need for also considering transformational adaptation. Critical risks beyond adaptation are part and parcel of the Loss and Damage climate policy negotiations, which have been picking up speed. Yet, the debate remains contested and somewhat devoid of evidence-based arguments for informing future directions in particular as to the overlap and differences with climate adaptation and disaster risk management. Building on some emerging consensus, a conceptual framework that identifies a distinct 'L&D options space' composed of transformational risk management (going beyond standard climate adaptation and disaster risk management) and curative options (unavoided impacts linked to climate change) has recently been proposed to broadly to bridge the gaps in understanding by employing recent insights from climate risk analysis, attribution research and ethics. We set out to further operationalize this approach for the case of

Bangladesh by employing climate risk analytics, using exceedance probability distributions for understanding climate risk (in terms of flooding) and a risk-layer approach for the options space. In doing so, we provide an actionable approach for quantifying potential losses and damages for the case of flood risk in Bangladesh and costs associated with L&D measures to deal with the climate related risk. The analysis is meant to be beneficial for informing effective climate action and ways forward for Loss and Damage related policies and practices at least from two important policy angles. First, it can provide financing need estimates for curative and transformational measures for different levels of risk preference (tolerable, intolerable and unacceptable) and, secondly, it can provide this information for different climate change scenarios. This in turn enables the comparison of costs for curative and transformational measures given different climate mitigation efforts.

#### 10.55 Timescales of improving adaptive capacity and implications for a global L&D regime. *Carl-Friedrich Schleussner, Climate Analytics*

One key obstacle to advancing the science-policy discourse on Loss and Damage is a lack of conceptual clarity to separate it from climate change adaptation. Developing countries often claim that loss and damage is “beyond adaptation”, while developed countries see the range of solutions to loss and damage falling within the scope of adaptation policies. Hiding behind these semantics is the politically and ethically relevant question of responsibility: Who is responsible for avoiding the worst impacts of climate change, and to what extent? Impacts on the ground are to a large part driven by socio-economic factors that determine a state’s or communities’ vulnerability as well as the capacity to adapt to those impacts. This could imply that those tasked with improving socio-economic development – i.e. national or local actors – can be held responsible if their efforts fail. However, given the pace of unfolding and expected climate impacts, what can be reasonably expected in terms of socio-economic development, and thereby adaptive capacity? Using proxy indices derived from the shared socio-economic pathways (SSPs), we report upper limits for improving adaptive capacity throughout the 21st century. We argue that akin to developed countries requiring transitional time for mitigation efforts, there is scientific evidence that overcoming adaptation barriers in developing countries may require decades. Using the projected limits to adaptive capacity, a global loss and damage regime can be conceived that resides on the pragmatic consideration that adverse impacts of climate change may occur while countries are striving to implement adaptation and are improving their adaptive capacities. In such a regime, countries could be eligible for loss and damage support if they can show that their improvement in adaptive capacities was within a

reasonable, previously quantified range. The proposed framework could be embedded within the Global Stocktake under the Paris Agreement.

#### 11.10 Discussant: *Olivia Serdeczny, Climate Analytics*

Multilateral negotiations effectively consist of an exchange of arguments. But can arguments make a difference, particularly when there are material interests at stake? Different theories of international relations place different weight on the power of arguments as factors driving negotiation outcomes. In particular theories of persuasion and constructivist accounts that draw attention to the role of nonmaterial values in driving choices, suggest that arguments can alter the course and outcome of negotiations. However, an analytically sharp distinction between interests, as the underlying motives of actors, and positions, as the observable stance taken in a given setting, shows that in fact these theories tell us very little about the effects of arguments in negotiations in which mostly material interests are at stake, positions are well-defined and outcomes are of distributive consequence. This article proposes an empowering function of arguments that comes to bear during moments of threat-based bargaining, that is even if no arguments are exchanged. According to this function, a negotiator is less likely to engage in threat-based if she did not command sufficient argumentative resources that allowed her to explain and justify the strong position throughout the negotiating process leading up to the endgame. Two hypotheses are developed and tested by process-tracing the history of loss and damage negotiations. On a theoretical plain, this article contributes to our understanding of the effects of science and arguments in international negotiations when material interests are at stake. Empirically, it draws attention to the conditions under which developing countries negotiate and highlights an asymmetry in argumentative resources that is of potential relevance to the question whose interests are considered in governing loss and damage.

#### 11.20 Discussion

#### 12.00 Lunch

### Governance– how do we do it? (II)

#### 13.00 Intro: Why science is cautious about L&D? *Richard Jones, Met Office*

13.10 Bringing the ‘Politics’ back in the Loss and Damage debate: a diagnosis of contentious issues. *Elisa Calliari, UCL*

The Warsaw International Mechanism on Loss and Damage (WIM) has three main functions, namely, to advance i) knowledge generation; ii) coordination and iii) support to address Loss and Damage (L&D) under the UNFCCC. So far, the work undertaken by the WIM Executive Committee has focused on enhancing understanding and awareness of L&D and promoting collaboration with relevant stakeholders within and without the UNFCCC, including the science and practitioner communities. Delivering on the WIM's third function on action and support has instead lagged behind, and 'politics' has often been blamed for this. Key terrains of contention among Parties have included the positioning of L&D vis-a-vis the adaptation space and struggles around liability and compensation. As a way to facilitate discussion on implementation options, recent research has implied potential for aspects of the L&D debate to be depoliticised. We argue, however, that de-politicising L&D may not be eventually feasible -if ever desirable. The paper brings the politics back into the picture by diagnosing underlying issues fuelling contention within UNFCCC L&D negotiations. It gives centre stage to the way norms and material interest affect the debate and challenges the tendency in current L&D literature to glance over its socio-historical and political determinants. We employ a qualitative mixed-methods approach building on content analysis of official Parties' submissions and statements, elite interviews with key L&D negotiators and participant observation at COPs and WIM meetings. Our empirical results show that, rather than being a monolithic dispute, L&D catalyses different yet intertwined unresolved discussions. We identify four areas of contention, including continued disputes around compensation; conflicts on the legitimacy of L&D as a third pillar of climate action; tensions between the technical and political dimension of the debate; and the connection of L&D with other unresolved issues under the UNFCCC. We conclude by exploring opportunities for enhancing informed cooperation under the WIM and UNFCCC L&D negotiations.

13.25 More than climate extremes: Strengthening L&D governance to address slow onset events. *Mariya Aleksandrova, DIE*

This paper explores the conceptual basis for loss and damage (L&D) governance to address slow onset climate impacts through strengthening interlinkages with adaptation. L&D refers to adverse impacts associated with a wide range of climatic processes, from climate extremes to slow onset changes that evolve over a long period of time. From its inception, the Warsaw International Mechanism for Loss and Damage (WIM) has recognized the need for comprehensive, coherent and integrated L&D governance mechanisms to address both sudden and slow onset events. To date, however, L&D policy directions remain centred around

climate-related extremes and disasters, resulting in weak interlinkage with adaptation. Moreover, the comprehensive risk management approaches proposed by WIM (including risk assessment, reduction, transfer and retention) overlook the critical need of linking L&D with the broader climate change and development policy context. To remedy this gap, this conceptual paper draws attention to slow onset events and highlights the importance of envisioning a framework for L&D governance that is strongly connected to adaptation (at the interface of global, national and subnational levels). The discussion is premised on the understanding that incremental and transformative adaptation is crucial to prevent or reduce L&D from slow onset events. Through exploration of three governance domains - structure (policies, institutions); agency (actors); and social capacity (vulnerability, resilience, resources) - the paper proposes pathways to broaden L&D governance mechanisms, allowing interlinkage with adaptation to address L&D along the entire risk continuum. The paper then highlights how these pathways can be facilitated through WIM and considers linkages to other aspects of climate change policy and Sustainable Development Goals (SDGs).

#### 13.40 Climate Resilience or Properly Compensating for Climate Loss and Damage. *Ivo Wallimann-Helmer, University of Fribourg*

Due to the decisions on the adoption of the Paris agreement, it has become very unlikely that climate loss and damage (L&D) is handled within the intuitively most plausible framings; liability and compensation. From an ethical perspective, this paper argues that even in light of decision 1/CP.21 liability and compensation will have an important conceptual role to play for governing L&D. The paper shows how liability and compensation conceptually can be teared apart and why this separation is justified on ethical grounds. This opens up the space for a new way of thinking about compensatory entitlements and the distribution of liabilities. Compensatory entitlements define the measures needed to make whole again the victims of L&D. Liability, by contrast, concerns the differentiated duties of all parties to the UNFCCC according to their varying capacities but irrespective of their contribution to climate change. The Paper has three parts.

First, the usual rationale for thinking about compensation links those causing a harm directly to the remedy of a harm. I show that this link is only one way of considering the fair differentiation of responsibilities for L&D measures. There are many other reasons to assign these responsibilities. Second, once teared apart considering compensatory measures by a closer examination of economic and non-economic losses and damages reveals the

complexities of defining what it means to making whole again those harmed. I suggest climate resilience as a point of departure. Third, since appropriate compensation for non-economic loss cannot be defined independently of those harmed. What climate resilience means for communities affected must be defined by involving all individuals and groups affected.

13.55 Q&A

14.00 Next steps discussion: How can we improve availability of knowledge and governance strategies to address L&D?

14.15 Introduction: Supporting L&D policy – what does L&D mean and what might of evidence might be required? *Richard Jones, Met Office*

14.30 Breakout discussions

15.30 Coffee and farewell to participants