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LONDON'S GLOBAL UNIVERSITY

DEPARTMENT OF SCIENCE, TECHNOLOGY, ENGINEERING AND PULIC POLICY

30th October 2023

Prof. Dan Osborn
Editor-in-Chief
UCL Open Environment

Dear Prof. Osborn,

Re: Article submission for publication

I am writing to submit our research article entitled, '**A sectoral approach to the Loss and Damage fund: exploring potential applications and guiding principles**' for consideration by UCL Open Environment. I confirm that the article is an original piece of research and that it has not been submitted to any other journal for consideration. In this article, we examine the Loss and Damage (L&D) climate fund recently launched at COP27 and consider how it can be applied to different sectors namely, water and water resources, infrastructure, energy and transport, and human rights and justice. This article brought together an interdisciplinary team of researchers who drew on their experiences and expertise in different fields in relation to loss and damage. Although there is not yet an official definition of losses and damages, and it is still early days for the fund, we stress the need to differentiate L&D from other existing climate funds intended for adaptation and mitigation, and insurance. Finally, we offer principles that could guide a high-functioning L&D fund such as consistent contributions, clarity and governance, turnaround and response times, and transparency. We argue that providing L&D funding should be reactive to climate events and predictive in understanding affected communities' needs, and entail commitments to protecting and promoting human rights, and participatory and inclusive fund governance. As we prepare for COP28 in Dubai later this year, this article is both urgent and timely, and we aim to use insights drawn from this article to start dialogue on loss and damage at the meeting. The article is a good fit and valuable contribution to the *UCL Open Environment* and COP series, and it builds upon two articles previously published with UCL Open Environment ahead of last year's COP.

We confirm that the submission conforms to the journal's requirements and welcome any suggestions for revision and feedback. Please send all correspondence regarding the publication of this article to Dr. Simon Chin-Yee s.chin-yee@ucl.ac.uk. Thank you for your time and consideration of our article.

Sincerely,

Penlope Yaguma

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A sectoral approach to the Loss and Damage fund: exploring potential applications and guiding principles

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Abstract

After decades-long advocacy by developing countries, the establishment of a Loss and Damage (L&D) fund during COP27 was monumental. With the fund still in its infancy, we stress the need to understand the differentiation between the types of finance that are suitable for other forms of climate action from those required for addressing loss and damage. We consider potential applications of the funding in the fields of water resources, energy, transport, human rights and human security. Our sectoral analysis allows us to identify both some of the innovative ways in which loss and damage finance could build the climate resilience of societies while also encouraging the transition to cleaner forms of energy, transport and agriculture. We also suggest that loss and damage finance should be delivered in a way that is attentive to and able to redress some of the root causes of vulnerability while also providing developing countries with the support they most need in the face of climate impacts. We offer principles that could guide a high-functioning L&D fund: contribution into the fund, consistent contributions, clarity and governance, turnaround and response times, and transparency. Providing L&D funding should entail commitments to protecting and promoting human rights, and participatory and inclusive fund governance. Ultimately, the fund will need to be reactive to climate events yet proactive in understanding affected communities' needs so that finance allocated is not just a band-aid solution but addresses the root causes of the vulnerabilities.

Keywords: loss and damage, fund, climate change, climate justice, water resources, infrastructure, climate finance

1. Introduction

In 2015, when the Paris Agreement was adopted, it included a separate article on loss and damage establishing the topic as the third pillar of climate change policy; distinct from mitigation and adaptation. Although the interlinkages between the three pillars are strong: averting, minimizing, and addressing losses and damages from climate change will require protective measures (adaptation) and a reduction in greenhouse gas emissions (mitigation) as well as distinctive reparative measures. Over the course of their discussions in 2023, the UNFCCC Transitional Committee tasked with establishing a new fund and financial arrangements to address loss and damage have reached consensus on some matters but (at the time of writing) key issues remain unresolved. By taking a sectoral approach we show the value in creating a distinctive fund that is set apart from existing financial mechanisms that focus on adaptation or mitigation measures. This section presents the key facets of both the science and the global governance of loss and damage and the article then turns to a sectoral analysis of how loss and damage specific funding could be deployed and we then lay out a set of principles that should guide the operationalisation of the fund.

1.1 Defining loss and damage

While the term loss and damage does not have an official, agreed upon definition, highlighting the contentiousness of this area of the climate change negotiations, a 2012 UNFCCC literature review defined loss and damage as “the actual and/or potential manifestation of impacts associated with climate change in developing countries that negatively affect human and natural systems” (UNFCCC, 2012, p. 3). For many, ’loss and damage’ refers to those negative climate impacts that we as an international community have not prevented (or have not chosen to prevent) through mitigation or accommodated through adaptation measures. Many scholars use the term Loss and Damage (L&D with capital letters) to refer to the political negotiations under the UNFCCC and the wider policy agenda on the topic of residual climate change impacts, whereas the lower case ‘losses and damages’ deployed in the IPCC 6th Assessment Report is used to refer to harm from (observed) impacts and (projected) risks from climate change. We make this distinction throughout this paper.

Scholars and policymakers use different frameworks for understanding what loss and damage is, and the relationship between this area of policy making and adaptation. For example, Mechler et al. (2019) highlight the distinction among avoided, unavoided and unavoidable losses and damages. They suggest that avoided losses and damages can and will be averted or minimised through mitigation efforts, adaptation interventions and

effective disaster risk reduction techniques (for example, changing crop varieties to accommodate increasing temperatures or planting mangroves to slow down coastal erosion). Unavoided losses and damages are risks that have not or could not have been avoided due to resource or capacity constraints but where there was, at some stage, the possibility of doing things differently to avoid loss. Unavoidable losses and damages are risks and impacts that go beyond existing mitigation and adaptation measures. This framework is useful for highlighting both the decision-making and temporal dimensions of various forms of climate action.

Losses and damages can result from slow onset events, such as increasing temperatures, desertification, the degradation of land and forests, retreating glaciers and sea level rise, or from climate change-associated extreme weather such as cyclones, floods, heatwaves, droughts, wildfires and storm surges (IPCC 2022). While analytically useful, the problem with dichotomizing climate change drivers of loss and damage in this way is that it ignores the compounding and cascading nature of climate change impacts. For example, a coastal city that faces storm surges is put at greater risk both through the rising of sea levels and the increased frequency and intensity of storms that produce those surges. The latest IPCC report has helped to focus policy-makers attention on this issue of compounding and cascading climate risks.

Another dichotomous categorisation often talked about in the context of loss and damage is the distinction between economic losses, such as impacts on business productivity, damage to infrastructure and buildings and declining agricultural productivity, and what has been referred to as non-economic losses which are those losses or damages that might be more difficult to monetize including loss of life, negative impacts on physical and mental health, a degrading of social cohesion and impacts on human mobility. Within this is the loss of cultural heritage, both tangible in terms of loss of land and infrastructure important for a community, but also intangible, by taking away cultural practices like the disappearance of glaciers representing deities at the centre of cultural cosmologies in East Africa (Uganda and the Democratic Republic of Congo) and the Andes, or the loss of spices/foods needed for important culinary traditions (Fraser, 2009; Uchoa, 2021). Negative environmental consequences such as biodiversity loss and the degradation of ecosystem services have also been grouped under this heading.

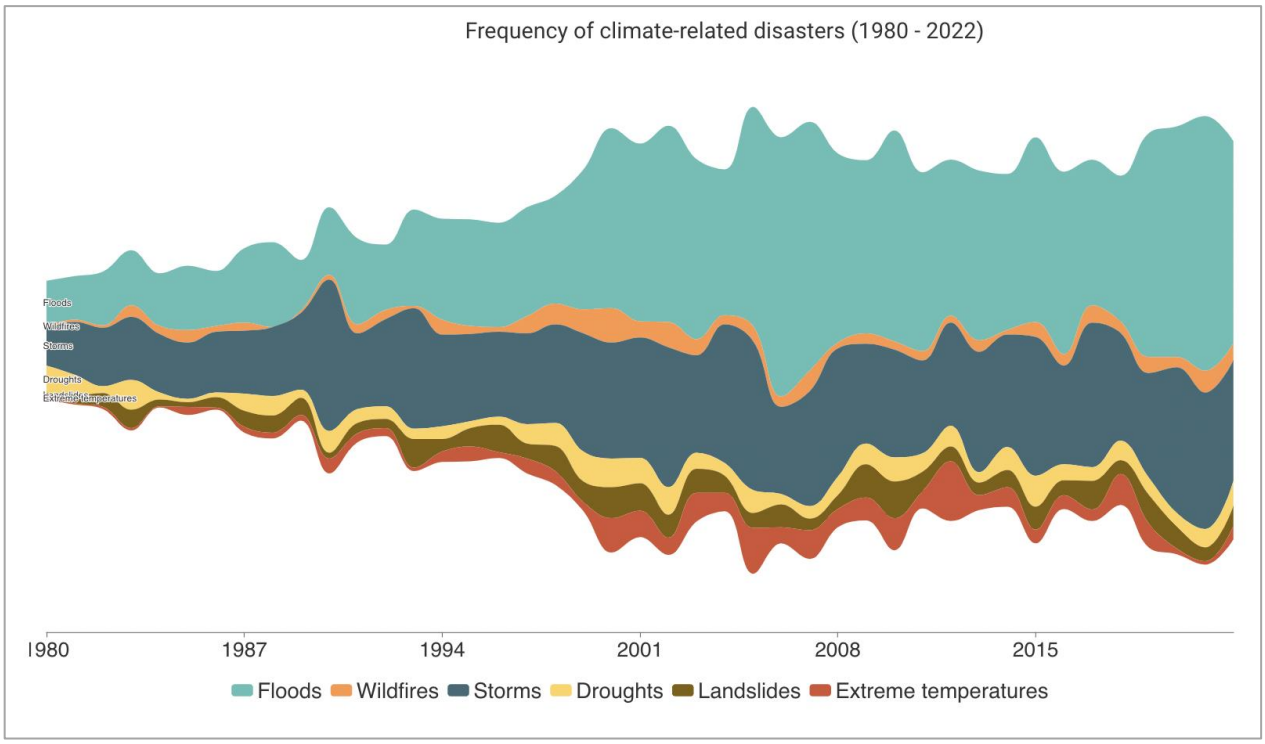
1.2 Loss and damage and attribution

Key to understanding L&D, and how a L&D fund could be successful (or even function) is the question of attribution – who can access the fund and for what? One aspect that L&D could focus on is the impact of extreme weather events on the most vulnerable countries. The IPCC Sixth Assessment Report (Seneviratne et al., 2021) states that it is virtually certain that anthropogenic climate change has caused increases in the frequency and severity of hot extremes and decreases in cold extremes on most continents. The frequency and intensity of heat waves has increased around the world with record-

breaking heat waves over the last decade. Global warming is also the main cause of the observed intensification of precipitation, resulting in fewer but heavier precipitation events and the exacerbation of flooding. Record breaking extreme floods have, for example, been recorded over the past decade in Brazil, Great Britain, Canada, Chile, China, East Africa, Europe, India, Indonesia, Japan, Kenya, Korea, Mozambique, the Middle East, Mozambique, Niger, Nigeria, Pakistan, South Africa, Thailand, Uganda, USA, and Vietnam (Trisos et al., 2022).

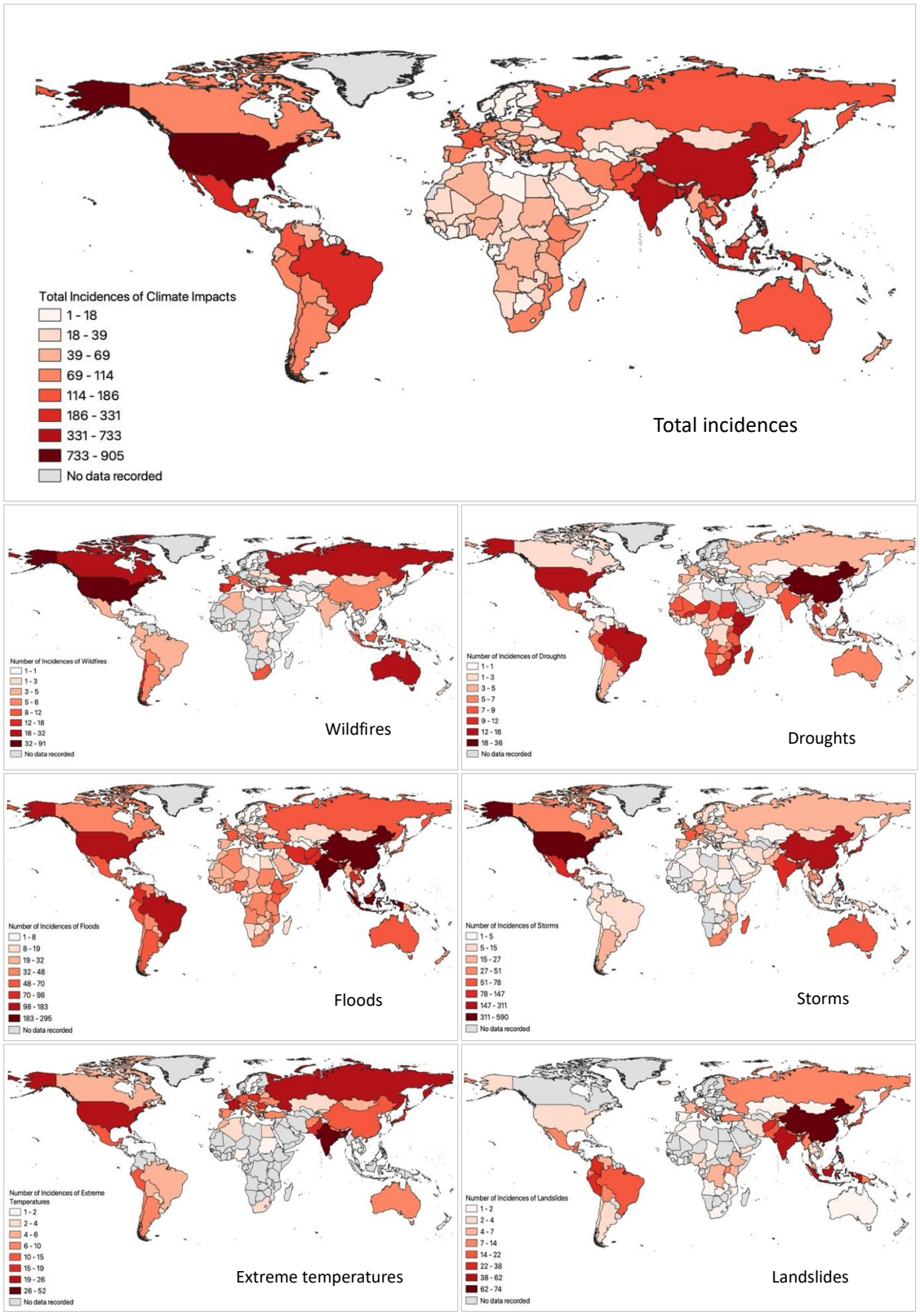
One reason why scientists have growing confidence that many of these extreme weather events are exacerbated by climate change is advancements in attribution science (American Meteorological Society, 2022). Improved computer processing power and methods for modelling the factors that contribute to weather allow scientists to run weather simulations for a region with and without the influence of anthropogenic greenhouse gases. These procedures have been done for decades, but more recently, the sophistication and statistical robustness of the methods have drastically improved. This allows us to determine the probability/likelihood by which climate change has contributed to individual extreme weather events and whether it has increased the intensity or the frequency or both. Over 113 extreme weather events that occurred between 2015 and 2020 have been studied using attribution science (Herring et al., 2022). 70% of events were found to have increased frequency or intensity due to climate change, 26% were found to have a reduced occurrence due to climate change and 4% showed no variation due to climate change. As the likelihood of extreme weather events can be attributed to climate change, it provides a strong scientific basis which helped lead to the adoption of the decision to establish a fund and funding arrangements to address loss and damage.

Figure 1: Global climate related disasters, 1980 to 2022



Source: Compiled with data from The Emergency Events Database (EM-DAT) (Centre for Research on the Epidemiology of Disasters - Université catholique de Louvain, n.d.)

Figure 2: Total climate-related disasters per country between 1980 and 2022



Source: Compiled with data from The Emergency Events Database (EM-DAT) (Centre for Research on the Epidemiology of Disasters - Université catholique de Louvain, n.d.)

1.3 How is the Loss and Damage fund different from other funds?

While newspaper headlines celebrated the establishment of a Loss and Damage fund in the wake of COP27, it is critical to note that the text outlining the decision referred to “new funding arrangements” including “a fund for responding to loss and damage.” Behind this language is a distinct divide between developed and developing countries over whether a new body should be set up or whether existing funding arrangements should be reformed. The insufficiency of finance for dealing with loss and damage is seen as a major issue for developing countries who are bearing the brunt of the impacts. They have been advocating for new and additional finance in this area for more than a decade, but the pace of progress has been very slow. When understood in the context of the failure of the developed countries to deliver the 100 billion USD per year for mitigation and adaptation measures that they promised at the conclusion of the Copenhagen negotiations at COP15 in 2009, there is a degree of frustration and a sense of urgency among low-income countries to establish a new fund. They specifically have been calling for a fund that is well-suited to the specific challenges of addressing loss and damage: they see this as moving away from a project-based, loan-focused way of providing finance and towards the provision of grants that can be rapidly disbursed after climate change impacts have hit. Because the UNFCCC already runs four different funds to address climate change, which have had varying degrees of success in terms of effectiveness and legitimacy it is important to understand how best to design a fund that can deal with the needs to developing countries.

Insurance has often been posited as one way of addressing loss and damage (it is worth noting that the term “loss and damage” itself emanates from the sphere of insurance), but a now voluminous body of academic and grey literature highlights the inadequacy of insurance alone as a financial mechanism that can help countries grapple with loss and damage (Calliari et al., 2019). Ongoing discussions among the Transitional Committee, have sought to understand and identify relevant sources of finance outside the UNFCCC. These lie mainly in the realm of humanitarian assistance and development aid. Some argue that humanitarian funding, which tends to be reactive and discretionary, is unsuitable, not only because levels of such finance are insufficient to meet needs in the wake of disasters but often such funding is only triggered when a disaster reaches a certain scale (IFRC 2023). While new initiatives with forecast-based financing and early action are being put in place they are not yet at a scale able to address the magnitude of the losses and damages already being experienced. There are also finance gaps in terms of rehabilitation and reconstruction after climate-driven weather events. In terms of development funding, developing countries have highlighted some of the negative spirals associated with disasters and debt, showing that the use of concessional finance can overburden vulnerable countries with debt and following a disaster; the combination of increased spending and reduced revenue threatens national fiscal sustainability. In 2016, the Forum of the Standing Committee on Finance recognised a lack of finance to address

slow-onset events, meaning that many countries are getting left behind in the adaptation space, rendering them more vulnerable to loss and damage.

2. What could a high-functioning L&D fund mean for different sectors?

In this section, we consider how L&D funding could be deployed within critical sectors that are especially prone to climate change risks. We refer to ongoing or recent events to highlight practical problems and gaps that the fund could address in water resource management, sanitation, energy and transport, and human rights and justice.

2.1 Water, sanitation and infrastructure

As the hydrosphere is the world's largest distributor of heat (Stephens et al., 2012), global warming manifests most acutely and directly though changes in time and space of our planet's freshwater. The latest assessment report of the IPCC (Douville et al., 2021) reviews the evidence of these consequences, which include the amplification of precipitation and temperature extremes exacerbating the risk of floods, drought, and wildfires in desiccated landscapes. The magnitude of these changes observed that just over 1°C of global warming over the last half century has been greatest in the tropics (Fischer & Knutti, 2016), therefore addressing these consequences in low-income countries of the tropics is a matter of climate justice. The IPCC report also highlights the impacts of sea-level rise and increased risks posed by storm surges as well as the decline in freshwater stored in seasonal snowpacks, alpine glaciers and continental ice sheets.

For water and water resources, a high-functioning L&D fund could address a myriad of consequences and vulnerabilities affecting stakeholders in a range of environments. One pervasive consequence of the intensification of precipitation (i.e., fewer but heavier precipitation events) in a warming world is a reduction in soil moisture. This impact, combined with changes in the seasonality and predictability of precipitation, is projected to increase freshwater demand for irrigation. Such increases are expected to be most pronounced in low-income countries of tropical Africa seeking to regularise and reduce their vulnerability of food production that currently depends on rain-fed agriculture. Indeed, the damage to food production and livelihoods from the recently observed decline (loss) of the 'long rains' (March-April-May rainy season) in the Horn of Africa is considerable (Wainwright et al., 2019). L&D funds could, for example, address loss and the consequences of damage through community-led solutions (e.g., seed banks, changing crop types, small-scale irrigation) as well as improved seasonal forecasts and the delivery of climate information. Given existing vulnerabilities (e.g., inadequate capacity and understanding of environmental change), L&D funds could support the development and expansion of monitoring infrastructure as well as long-term capacity-strengthening and not just the replacement of damaged infrastructure as per insurance schemes.

Other permanent consequences of climate change include the loss and reduction of tropical alpine glaciers in the East African Highlands (e.g., Kilimanjaro, Mount Kenya, Rwenzori Mountains) and the Andes. Deglaciation affects not only distinctive alpine ecosystems that are hotspots of biodiversity but also water supplies (e.g., Lima, Peru) and cultural references as the cosmology of communities living in these regions often revolves around the presence of glaciers. How L&D funds can be used to address the injustice of climate change impacts experienced by communities with little or no responsibility for these requires a longer conversation analogous to discussions taking place with indigenous communities around the world (e.g., Canada, USA, New Zealand) around the historical theft of lands. Colonisation and centuries of resource exploitation are at the very heart of climate injustice and continues to affect action on climate change in low-income countries, exacerbating global inequalities (Williams et al 2023). In low-lying regions such as the Bengal Basin of Bangladesh and Small–Island Developing States (SIDS) such as the Maldives, global sea-level rise together with the salinisation of coastal water supplies is leading to forced migration. L&D funds could be used to compensate those who have lost their land, homes, and livelihoods.

An increased frequency and intensity of flood events is a key consequence of climate change. During the COP27 period, the International Federation of Red Cross (IFRC) responded to 74 floods globally (Wyns, 2023). Floods in Pakistan caused US$30 billion in damages which is beyond what national governments can fund (Wyns, 2023). L&D funds have the potential to leverage investment in local, regional and national water resource management and delivery of water infrastructure. On this climate risk and others, a key question is whether L&D funds are channelled through governments, insurance companies, private sector or philanthropic organisations. With most of these funding mechanisms, there is a risk of focus on large-scale, top-down project interventions which may be less appropriate for or less resilient to shocks and stresses (Pill, 2022). Consequently, vulnerable and marginalised communities and migrants may not directly benefit from such infrastructural interventions (Wyns, 2023).

Nature-based solutions (NBS) are seen as a panacea for addressing both climate change and biodiversity simultaneously. A systematic review of NBS and its effectiveness for addressing climate change-related impacts identified that most of the evidence concerned effects on reduced water availability (23% of studies) (Chausson et al., 2020). L&D funds, if targeted to localised NBS solutions especially for water resource management, could, for example, enable development of rainwater harvesting solutions to recharge distributed groundwater resources (e.g., managed aquifer recharge). The efficacy, operation and maintenance of such off-grid infrastructure require urgent study and, despite a few exceptions, are largely in their infancy of deployment.

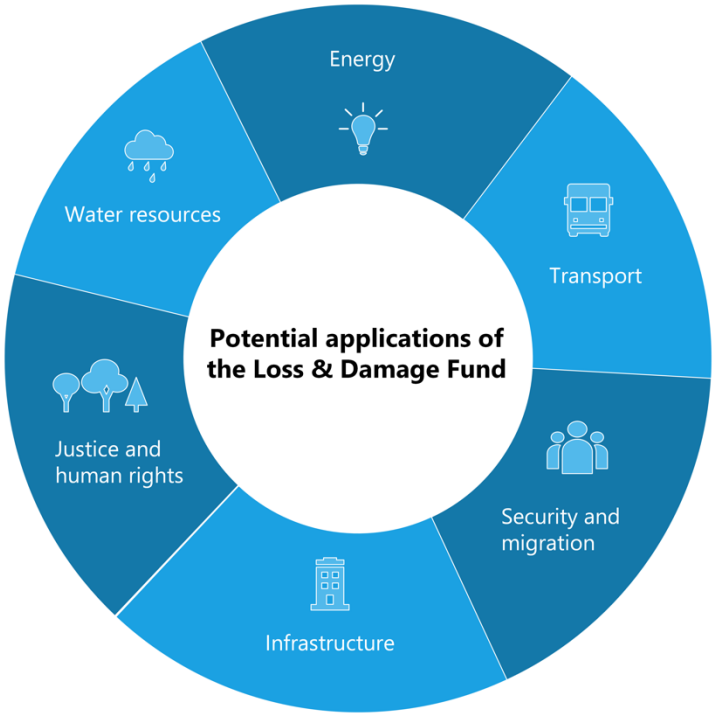
With sanitation infrastructure, it is likely that the SDG6 Target will be missed as globally, 2 billion people still lack access to safe sanitation services. The sector employs on-grid

and off-grid (on-site) sanitation solutions to address current service gaps. Most off-grid sanitation options such as septic tanks and pit latrines are at risk of increased flooding. Such off-grid solutions are most commonly deployed in low-income settings which are already more vulnerable to climate shocks and stresses. There is a fundamental question on looking at how sanitation infrastructure can be rebuilt and whether nature-based treatment options can be combined with both grid and off-gird solutions. A scoping study of requirements of post-disaster shelter highlighted the need for 'healthy shelter', access to safe sanitation services and clean water to reduce transmission of disease. Thus, leveraging L&D funds towards damaged sanitation services post-climate disaster would also address public health and economic productivity (Nath et al., 2017).

Pill (2022) interviewed 43 global L&D practitioners who noted that the concepts Disaster Risk Reduction (DRR), preparedness, adaptation, resilience and avert/minimise, showed the largest agreement for inclusion in L&D. This is particularly pertinent for investment in infrastructure as it enables funding to be channelled to rebuilding infrastructure post-disaster. The inclusion of resilience and adaptation also implies that L&D funds could be used to design and deliver climate-resilient infrastructure which has the flexibility to withstand future shocks and stresses induced by climate change (Woolf et al., 2016). One example is the Rockefeller Foundation's Building Climate Change Resilience Initiative ($70 million; launched in 2007) and the Asian Cities Climate Change Resilience Network (ACCCRN) (2009) which developed city resilience strategies focusing on infrastructure services (energy, transport, water) (The Rockefeller Foundation, 2014).

Estimates show that the number of climate migrants/refugees could rise to 1.2 billion people by 2050 (World Economic Forum, 2021). Migration overall leads to populations living in a humanitarian crisis deprived of access to basic infrastructural services. In theory, the L&D fund could address infrastructure service delivery for migrants/refugees. In practice, this is challenging to implement as quantifying migration due to climate change and disentangling it from economic migration is difficult. Also, when migrants/refugees move into cities they often move into locations with inadequate provision of infrastructure. This moves into the debate of whether funds – adaptation or Loss and Damage could be used for longer term development needs and addressing existing inequities in infrastructure services.

Figure 3: The Loss & Damage fund could be effectively leveraged for different sectors.



2.2 Energy and transport

Climate impacts like sea level rise, heavy rains and storm surges, and extreme heat impact transportation and related infrastructure. These risks weaken or damage roads, bridges, railway lines, airports, and ports, compromising the performance, safety, reliability of transport systems. Mudslides and landslides block transport networks, sometimes cutting off entire communities or regions (Zhang et al., 2020). The Third UK Climate Change Risk Assessment (CCRA) found that an increase in the number and intensity of heatwaves caused road surfaces to soften, train tracks to buckle and signaling failures as has been observed during the most recent summers (Jaroszweski et al., 2021). With transportation infrastructure now increasingly vulnerable, loss and damage funds can be put to rebuilding damaged infrastructure and fortifying vulnerable transport networks in a way that is synergistic with climate mitigation targets. The key challenge with transport projects is the lack of profitability and recovery as this is a public good. This is coupled with a disconnect between the longer timelines of delivering large scale public transport and the short-medium term financial constraints that governments often face. Loss and Damage funds could play a role in plugging this short-medium term resource gap.

In July 2023, the International Maritime Organization (IMO) agreed its revised Greenhouse Gas Strategy. This non-legally binding agreement is a set of guiding principles on decarbonization rates and a ‘broad’ timeframe in which this should be achieved. While this agreed strategy has been criticized for not aligning with the Paris

Agreement's 1.5°C temperature goal (it is not as ambitious as the IPCC ARG report stipulates), it was a step forward for the global shipping community in agreeing to the need to decarbonize their sector (Smith et al., 2023). Shipping is a critical mode of transport for people, goods, energy, and communities all over the world, but, in particular, island states that are remote and reliant on goods being shipped in. For example, the Comoros, despite being an agricultural country, imports over US$100 million of food products evert year (World Bank 2022), and the Marshall Islands rely on shipping for their energy needs. By taking the shipping sector into account, an L&D fund has the potential to provide guidance on how countries can invest in both using this sector for their economic and social needs while at the same time greening the sector itself to become more sustainable. Additionally, the fund is an opportunity to engage the sector when a natural disaster occurs, both in getting aid/goods to those in need in the aftermath of an extreme weather event, while at the same time building the sector back better to avoid future losses and damages. Largely ignored in the UNFCCC space, the maritime sector could play a much bigger role in addressing the economic realities of vulnerable or remote countries.

Post disaster, the L&D fund likewise would provide an opportunity to invest in resilient distributed energy systems. Large, centralised energy systems like hydropower dams affected by prolonged droughts and flooding events can be replaced with off-grid and decentralised energy solutions that diversifies the energy mix and boost resilience to future climate related hazards. Increase in forest fires for instance makes a compelling case for communities to move away from the use of biomass-based cooking fuels, and L&D funds can support and incentivise communities to transition to cleaner cooking fuels. Whilst it would be difficult to make the case for using L&D funds to subsidise clean fuels in entirety, this could be used as a principle for building new energy systems, or the replacement of clean fuels in the transport sector when rebuilding infrastructure such as ports or ships. Given that one of the key objectives of the L&D fund is to boost resilience, this would only be achieved in a setting where existing water, sanitation and energy infrastructure meet current needs and the funds could be used to top up following a crisis.

2.3 Human rights

Climate change has been referred to as the most significant human rights challenge of this century. Losses and damages pose a severe threat to a number of human rights of affected communities. This includes fundamental rights like the right to life; economic, social and cultural rights such as the right to work, education and the highest attainable standard of physical and mental health, adequate food and housing. Loss and damage also compounds more systemic risks that could exacerbate threats to civil and political rights as well, such as liberty and property rights. While a general survey of existing and potential future human rights violations driven by loss and damage is beyond the scope of the paper, it may be worth highlighting that literature in disaster studies shows that

human rights violations increase during climatic and weather-related disasters. For example, violence against women and girls increases and the consequence of the mass movement of people fleeing extreme weather events results in human rights violations.

By adopting a human rights-based approach the fund could take a strategic approach in strengthening the UNFCCC's response to loss and damage. Toussaint and Martínez Blanco (2019) argue for the integration of the normative dimension of human rights into the design, implementation and evaluation of policies and actions on loss and damage and this could apply to the development of funding arrangements. It is worth noting that a human rights-based approach emphasizes the obligations states already have under existing international and regional human rights treaties in addition to the language on human rights included in the preamble to the Paris Agreement. Taking a human rights-based approach to providing funding for loss and damage would entail both substantive commitments to protection, respecting and promoting human rights in the activities that are funded but also ensuring that the fund's governance processes and ways of accessing funding are participatory, inclusive and non-discriminatory.

2.4 Human security

In taking a human rights-based approach to understanding both human security as well as the delivery of loss and damage funding, many of the injustices and pitfalls of the funds that have come before it could be avoided. For many around the world, climate change has exacerbated insecurity – natural disasters (fires, floods, cyclones) and slow onset events (sea level rise, desertification and drought) combined with poverty levels and epidemics lead to migration and conflict, undercutting any chance for sustainable development. The General Assembly resolution 66/290 has called for "people-centred, comprehensive, context-specific and prevention-oriented responses that strengthen the protection and empowerment of all people." Arguably, any new fund on L&D needs to both be reactive to extreme weather events, but also predictive in understanding those communities (not just countries) most vulnerable in order to be prepared to react but also be able to 'build back better.' Meaning, they must understand the complex needs of these communities so that any finance allocated is not just a band-aid solution but goes to the root causes of vulnerability.

Small island developing states (SIDS) are particularly vulnerable (Pacific, Carribean, Indian Island delegates, COP27). Geographically, they are not only small in physical size, but tend to have single commodity economies that can be devastated following an extreme weather event. And many island states (the Comoros, Tonga, Kiribati, etc.) have reported that cyclones and hurricanes are growing in strength as well as frequency. In the Comoros, Cyclone Kenneth (2019) devastated the country's burgeoning fishing industry. Although the Comoros Islands had experienced cyclones in the past, they were unprepared for the sheer strength of this storm. A well-functioning L&D fund could inject finance into the communities in the immediate post-disaster period. The 2017 Hurricane

Season in the Caribbean was particularly devastating. Hurricane Irma ripped through Barbuda damaging 90% of the property. Only two days later, Hurricane Jose followed a similar path to Irma, and the entire population of the island was evacuated to nearby Antigua (Lyons 2017). Many islands in the region are overly dependent on tourism revenue, and in the wake of a natural disaster, it can take years to build back damaged infrastructure, as well as attracting tourists back. Through linking climate and environmental justice to sustainable development (Sheller 2020), a fund on L&D, has the opportunity to build back equitably, where the tourism economy is balanced with the need to serve the local communities, including building roads, addressing energy needs, and health crises – see the 2010 earthquake recovery efforts in Haiti or the 2017 hurricanes that affected Barbuda and Puerto Rico among others (Sheller 2021).Tonga has also been trying to push the international community to recognise a category 6 hurricane (they currently go as high as 5), as they have been experiencing hurricanes of over 250 km/hour in recent years. In 2018, Cyclone Gita hit Tonga as they were trying to recover from Cyclone Ian that occurred four years previously (Tonga delegate, COP27). From the beginning, it has been the Pacific Island states that have been particularly forceful in pushing for an L&D fund at the UNFCCC (see Vanuatu back in 1992), as their whole identity, culture and way of life is at risk because of hurricanes and sea level rise.

Countries in Sub-Saharan Africa have also pushed for an L&D fund. In many African countries, temperatures have already exceeded the 1.5°C limit that was set out 8 years ago in the Paris Agreement. Desertification and droughts, extreme weather events and even plagues of locusts have exacerbated greatly in recent years. As countries are facing widespread climatic events, this has resulted in economic instability and loss of lives and livelihoods leading to insecurity and conflict over remaining resources (Black et al., 2011). In 2019, Cyclone Idai made landfall in East Africa, this was followed by Cyclone Kenneth, which also hit Comoros. The immediate storm was catastrophic to the town of Beira, and the subsequent flooding affected nearly 2.2 million people in Mozambique, Zimbabwe and Malawi. A year later, over 100,000 people were still living in resettlement sites (World Vision, 2019). For Mozambique, a L&D fund could address not only the immediate needs of communities suffering from destroyed infrastructure, loss of lives as well as health concerns (cholera outbreaks), but also the longer-term economic losses for towns, businesses and the loss of agricultural productivity had a great impact on food and water security.

As has been argued throughout this paper, at its best, a L&D Fund has the potential to address structural issues in society but at its worst it becomes another bureaucratically cumbersome and inefficient institution. By taking a grassroots level understanding to reconstruction, alternative forms of sustainable development that is not just about building back, but also provides pathways to ‘more resilient and regenerative tourism practices in tourism’ in island states (Cave et al 2020, n.p). It needs to be both urgent and quick moving

when a community is devasted by fires, floods, cyclones, but can also be used to put proactive policies in place that can build back infrastructure that is both climate resilient (in terms of buildings, roads etc.) and climate friendly (use of green technologies, energies etc.).

3. Proposed guiding principles

This paper suggests that, at its best, a L&D Fund has the potential to address structural issues in society and can help to address some of the root causes of vulnerability. However, there is also the risk that it becomes another bureaucratically cumbersome and inefficient institution that is not able to meet needs in a rapid-response and community-driven way when a community is devasted by fires, floods, cyclones. There is also a risk that it fails to deliver the scale of funding that is required to meet the challenges associated with the wide range of losses countries are already facing because of climate change.

Our sectoral analysis has shown that there are significant advantages for the fund to emphasize building back infrastructure that is both climate resilient (in terms of buildings, roads etc.) and climate friendly (use of green technologies, energies etc.). We have also shown that it is important to be aware of the social dimensions of loss and damage: from the need for communities to be involved in decision-making to the application of human rights-based approaches in post-disaster service delivery to an attentiveness to the many dimensions of human security. Throughout this paper we have made the case that many sectors in society – water resources, energy needs, transportation, the realisation of human rights and human security – would benefit if such a fund was both established and equitably run. It is through taking a climate justice approach to an L&D fund, that ingrained structural issues in society can be addressed through community led projects. The needs of the community (energy, infrastructure etc.) should be balanced with building back the economy after a natural disaster. Alternative forms of sustainable development that considers community needs around resilient practices in the different sectors (e.g., tourism) with immediate needs (health care, food security etc.) of people will allow this fund to reach those most vulnerable.

Based on this analysis we propose guiding principles that should be taken into consideration if we are to ensure effective and equitable distribution of new forms of climate finance. If developed and implemented, these principles could help overcome barriers and enhance the impact of L&D funds. The four principles are consistency, clarity, community driven and corruption free:

1. Consistency:

This fund needs consistency in the amount of funding, how it is distributed and timescales of distribution. Reliable funding streams are essential for long-term planning and implementation. It is also necessary that there may a window for rapid disbursement of funding when necessary. Unlike the experience with the GCF, countries should commit

to providing finance consistently year after year. This will provide the stability often missing when looking at loss and damage. If countries know that financial support will be made available, they will be able to plan proactive resilient and/or clean energy practices into their projects, while at the same time knowing that there is support there during and after climate change disasters.

2. Clarity:

Clear rules and regulations on how to access this fund and when and what will be funded. This sounds straightforward but has plagued past financial mechanisms and continues to stymie the discussions of the transitional committee (TC). Clear roles and responsibilities will be essential for the effective operation of the fund – who needs to provide consistent finance and how it can be accessed. This last point is key, a major complaint about other funds has been (1) the complexity of applying for the fund (2) the types of projects funded (3) who can apply for the fund in the first place. If the funds are to go to those most vulnerable, clarity on both contribution and attribution is essential.

3. Community-Driven

A real understanding of where the finance is needed, and then who should be distributing these funds. Normally, UN funds can only be applied for at the national level – but any fund on L&D needs to ensure that the finance reaches the local communities most in need. If the fund develops a governance structure that takes into account local knowledge and solutions, as well as allowing for those entities (civil society groups or community governance structures) that are already adept and finance distribution the turnaround of getting the resources in the hands to those actors that can implement, it would be much faster and more efficient. Further, empowering local communities in their own projects will lead to more effective and sustainable solutions.

4. Corruption Free

The distribution of any funds needs to be corruption free. Transparency and accountability for any fund are paramount in preventing misuse of funds. This goes back to point 3 (community driven) on who can apply for such a fund, and then who distributes it. Establishing robust mechanisms for monitoring and reporting on fund utilization can help maintain public trust and prevent misuse of resources.

Figure 4: Principles that can guide an effective Loss and Damage fund

If these 4 principles are properly considered when designing and operationalising an L&D fund, the pitfalls of past mechanisms might be avoided. The design of a new financial mechanism is a complex task. Incorporating these principles into the design and operation of an L&D fund can help address the frustrations and challenges associated with climate funding. It can also lead to more effective and equitable climate action, ultimately contributing to the global effort to combat climate change, while at the same time supporting communities affected by its impacts. These principles align with the goals of transparency, accountability and inclusivity in climate finance, which are crucial for achieving the objectives set out in the Paris Agreement. Ultimately, the fund will need to be reactive to climate events and predictive in understanding affected communities' needs so that finance allocated is not just a band-aid solution but addresses the root causes of the vulnerabilities.

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Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data used in the article are publicly available and have been referenced wherever they are used.

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