

Defining climate vulnerability in the context of Loss & Damage: a scientific, legal and political question

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COP27 in Sharm el-Sheikh ended with a breakthrough decision on Loss and Damage to establish new funding arrangements for assisting developing countries that are particularly vulnerable to respond to loss and damage; and to establish a fund for addressing loss and damage (Decision -/CP.27-/CMA.4). A newly formed Transitional Committee has to lay the groundwork for the operationalization of new funding arrangements, including mapping existing sources of funding—within and beyond the Convention—referred to by the climate community as a “mosaic of solutions”, and the identification of new and additional resources. In addition, key questions are on the table regarding the allocation of funds and recipients and how vulnerability to climate change will be factored into decision-making processes. It is worth recalling evolutions in the scientific, legal, and financial domains on defining and characterizing vulnerability, to better understand implications for Parties to the United Nations Framework Convention on Climate Change and find potential avenues forward around this polarized issue.

KEY MESSAGES

The IPCC has evolved in characterizing vulnerability as biophysical/geographic to focusing on socio-economic drivers (institutional, economic, cultural), with a shift towards a “risk framing” that also recognizes *structural vulnerabilities* (as independent of climate change, exogenous). It is understood that vulnerability differs across communities and contexts, that it is changing and that cross comparisons risk losing important contextual place-based specificities.

Officially established in 1992, the UNFCCC lists small island developing States and a range of biophysical characteristics prone to climate vulnerability as “particularly vulnerable”; and the Bali Action Plan (2007) highlights “especially” Least Developed Countries (LDCs), Small Island Developing States (SIDS), and African countries (i.e. 91 countries out of the 134 developing countries members of the Group of 77 and China).

Multilateral funding mechanisms for adaptation (e.g. Adaptation Fund, Least Developed Countries Fund and Special Climate Change Fund) target developing countries, and use vulnerability as a criteria for eligibility and allocation of funding. Given that no metric is available for vulnerability, economic (developing country income status), physical and geographic features (low-lying

coastal areas, SIDS) and hazards (droughts, desertification) have important weight on how funding is prioritized on a project basis.

Components of vulnerability (income indicators, biophysical features and geographies) correspond to Party groups under the UNFCCC such as LDCs, SIDS and Africa regional group. However, strict interpretations of vulnerability under the Convention limits consideration of evolving countries (i.e. those recommended for graduation to higher income status) and underrepresented regions (South East Asia, South and Central America) that are vulnerable to climate change and Loss and Damage.

Current international climate policy and multi-lateral agenda items on Loss and Damage, climate finance reforms (Paris Summit, Bridgetown Agenda, World Bank roadmap) suggest there is room for transforming adaptation finance, and vulnerability has a space in these discussions. To address systemic and structural vulnerabilities, some consideration of the multi-dimensional vulnerability index developed by the UN and endorsed by the Association of Small Island Developing States could help understand evolving countries’ needs, including facing limits beyond adaptation.

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INTRODUCTION

At COP27 in Sharm el-Sheikh, Parties decided to establish new funding arrangements for assisting developing countries that are particularly vulnerable to the adverse effects of climate change in responding to loss and damage (L&D) (Decision 2/CP.27, paragraph 2.); and to establish a fund (2/CP/27, paragraph 3). After decades of incremental progress and a pushback at COP26 in Glasgow on the financing facility proposal by the G77+China, this was considered a significant step forward on setting up dedicated funding to specifically address L&D. It demonstrates a political recognition of climate impacts occurring and climate risks remaining even beyond adaptation efforts and the need for additional resources. Further the decision has been anchored in strong evidence based on occurred and projected losses and damages, as provided by the latest IPCC Working Group II 6th Assessment Report (Anisimov *et al.*, 2022)

Much remains to be done on the operationalization of the future fund such as identifying sources (existing and innovative ones), deciding on the modalities and institutional governance arrangements as well as procedural rules (allocation). There is also an "elephant in the room"—how to uncrack the political tensions around vulnerability—and a particularly contentious question: can vulnerability enable a prioritization of recipients? Indeed, this could be viewed as a deterrent from the critical discussions on building up the resources or too thorny a topic ultimately dividing Party groupings. Yet, in the context of funding arrangements for L&D, where is the crossroad between the scientific and political footing of vulnerability?

This *Study* first provides elements of definition of vulnerability, looking at both (1) scientific assessments from the Intergovernmental Panel on Climate Change (IPCC) and (2) legal texts since the United Nations Conference on Environment and Development. It then assesses (3) how vulnerability has been treated as an eligibility criteria in existing climate finance mechanisms, and (4) how different Party groupings might be affected by various options of definitions. Based on these analyses, the final section (5) provides a discussion on implications for L&D funding, specifically drawing attention to adaptation limits.

1. CLIMATE VULNERABILITY FROM AN IPCC PERSPECTIVE

There is no agreement upon the definition of vulnerability; and the IPCC glossary highlights this multiplicity of perspectives in its definition, "the propensity or predisposition to be adversely affected, and encompasses a variety of concepts and elements..." (IPCC, 2022: 43).

In the field of climate change science, vulnerability is framed by the relationship between risk, hazard and exposure. As per the Technical Summary of the IPCC Assessment Report Six (AR6) Working Group II (2022), climate change risks (potential) and impacts (occurred) occur through the interaction between hazards (e.g. heatwaves, floods, storms), exposure (presence of people, assets, livelihood, ecosystems, species that could be adversely affected by a hazard) and vulnerability (a combination of propensity, predisposition, sensitivity, susceptibility, and adaptive capacities).

Characterizing vulnerability has evolved, most notably from a strong focus on biophysical features (dating back to the beginning of the UNFCCC in 1992) towards socio-economic, cultural, institutional factors, including historical development trajectories (see Weikmanns, 2023) (Table 1). Vulnerability used to be viewed as something immutable, fixed in geographic/biophysical contexts, but there has been a gradual shift to also incorporate socio-economic drivers, which are both dynamic in nature and emphasize the agency that societies have over their vulnerability.

Adaptive capacities and resilience have been factored in, as well as path dependencies of development, the role of equity, power, institutions, gender, politics and global processes (e.g. economic) that influence vulnerability and are relatively independent from climate change. The latter point has made way for more recognition of *structural vulnerability*, understood as exogenous factors and lasting over time (Guillaumont, 2023). Most relevant to L&D is also the inclusion of adaptation limits in the conceptualization of risk in the latest IPCC assessments (Assessment Reports)—referring to hard and soft limits (i.e. that cannot or can be overcome, respectively).

TABLE 1. Evolution of the scientific definition of vulnerability

Emphasis on geographic/biophysical context	Emphasis on both geographic context and socio-economic drivers	Emphasis on structural vulnerability; social and economic conditions
<p>IPCC AR1 and AR2</p> <p><i>"the extent to which climate change may damage or harm a system; it depends not only on a system's sensitivity, but also on its ability to adapt to new climatic conditions."</i> (IPCC, 1997: pg. 504)</p> <p>Focused on hazards and exposure, specifically biophysical and impact assessment models; ability to adapt entrenched in the natural system.</p> <p>outcome vulnerability, equated to total impacts after a climate related event</p>	<p>IPCC AR3 (Third Assessment Report TAR)</p> <p><i>"the extent to which a natural or social system is susceptible to sustaining damage from climate change."</i> (IPCC, 2001: pg. 89)</p> <p>Function of three components : sensitivity, adaptive capacity, and exposure.</p> <p>IPCC AR4</p> <p><i>"the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes."</i> (IPCC, 2007: pg. 6)</p> <p>Interacting social and natural systems (socio-ecological contexts); emphasis on resilience</p> <p>Brought climate and development together linked to Special Report on Disasters ("social construction of disasters")</p> <p>multidisciplinary perspectives and increased attention to adaptive capacities (physical in natural systems and social)</p>	<p>IPCC AR5 and AR6</p> <p><i>"the propensity or predisposition to be adversely affected and encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt."</i> (IPCC, 2022: pg. 43)</p> <p>Focus on risk, and the socio-economic drivers of vulnerability and development; distinction of structural vulnerability</p> <ul style="list-style-type: none"> • contextual vulnerability that would exist even in the absence of climate change • increased attention to inequity, the role of power, gender, different knowledge systems and values, and bottom up participation in vulnerability assessments • disproportionate effects of climate change and climate justice

It is complex to agree on a universal and scientifically established definition of vulnerability that would capture diverse populations, capacities, knowledge systems and values (e.g. impacts on ecosystems, social networks, wellbeing). Some approaches such as hazards and exposure models can provide quantitative information, and can help understand certain common elements of social vulnerability (for example, using demographic data on income, gender, race and age). In some cases, these approaches can allow for cross comparison between different places, for example that some hazards (e.g. heatwaves) pose higher risks to particularly vulnerable segments of society such as children, the elderly, disabled, migrants and women. Of course, that does not explain the idiosyncratic and context-specific drivers of vulnerability, such as place dynamics and issues of governance, power structures, representation, racism, inequalities and more.

2. CLIMATE VULNERABILITY FROM AN INTERNATIONAL LEGAL PERSPECTIVE

The delay in reducing greenhouse gas emissions has triggered a series of international climate policy actions aimed to enhance adaptation, financing and capacity building—and the provision of support to developing countries, which are often referred to in the legal text as particularly vulnerable. Therefore, **under the UNFCCC international legal framework, vulnerability is understood as shared** (all countries have some degree of vulnerability), **but also linked to development contexts and access to support** (technical and financial).

Vulnerability and the formulation of *"particularly vulnerable countries"* is recurring in the texts of the Convention and

outcomes of the Conference of the Parties (COPs). The preamble of the Convention highlights hazards and biophysical characteristics and/or geographies, or ecosystems, and refers to vulnerable countries as:

"low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems" (UNFCCC, 1992: 2).

Further, Article 4.4 in the Convention commits developed country Parties (Annex II Parties) to assist developing country Parties that are particularly vulnerable to climate change in meeting adaptation costs (UNFCCC, 1992: 7). This is additional to existing financing axes such as Overseas Development Aid (Weikmans, 2016). In terms of funding, which includes insurance and the transfer of technology, Article 4.8 outlines that developed country Parties shall consider the *"specific needs and concerns"* of developing country Parties in the face of climate change and lists the following:

"(a) Small island countries; (b) Countries with low-lying coastal areas; (c) Countries with arid and semi-arid areas, forested areas and areas liable to forest decay; (d) Countries with areas prone to natural disasters; (e) Countries with areas liable to drought and desertification; (f) Countries with areas of high urban atmospheric pollution; (g) Countries with areas with fragile ecosystems, including mountainous ecosystems."

Successive COPs have interlinked adaptation decisions with specific attention to vulnerable countries, such as at COP8 in New Delhi that called for adaptation as a high priority in all

countries, followed by: *“Developing countries are particularly vulnerable, especially the least developed countries and small island developing States”* (Decision 1/CP.8). At COP13 in 2007, the Bali Action Plan (Decision 1/CP.13) called for enhanced action on adaptation (paragraph 1.c), highlighting the role of international cooperation to support implementation of adaptation action, and for Parties to take in account “the urgent and immediate needs of developing countries that are *particularly vulnerable* to climate change”. The text also mentions “*especially vulnerable*” potentially suggesting various degrees of vulnerability:

“...reduce vulnerability of all Parties, taking into account the urgent and immediate needs of developing country Parties that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries (LDCs) and small island developing States (SIDS), and further taking into account the needs of countries in Africa affected by drought, desertification and floods” (UNFCCC, 2007: pg.4)

Based on these texts, that would account for: 46 LDCs, 39 SIDS, and 55 countries in Africa (assuming they are all vulnerable to one or more of the climate related hazards indicated). That culminates in a total of 91 countries when accounting for those that belong to more than one category.

No official list is provided of developing countries that are “*particularly vulnerable*”, and some UNFCCC Decision texts show references to Party groups such as LDCs, SIDS and the Africa regional group. Similarly, the Copenhagen Accord at COP15 in 2009 (Decision 1/CP.15) demonstrated similar language to the Bali Action Plan, with additional inputs relevant to the collective commitment of developed countries on mobilizing USD 100 billion per year until 2020. Paragraph 8 outlines:

“Scaled up, new and additional, predictable and adequate funding as well as improved access shall be provided to developing countries...” and states that, “Funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa” (UNFCCC, 2009: pg. 7).

More recently, Article 7 on the global goal on adaptation in the Paris Agreement mirrors the Bali Action Plan calling for international cooperation on adaptation and points to the importance of taking into account the urgent and immediate needs of developing countries. It states “*especially those that are particularly vulnerable to the adverse effects of climate change*”, with no further specifications (UNFCCC, 2015: pg. 9). In contrast, Article 8 on L&D does not refer to developing countries nor vulnerability; and Article 9 on finance mentions least developed countries and small island developing States in reference to particularly vulnerable developing countries that face significant capacity constraints (UNFCCC, 2015: pg. 13).

At COP27 (Decision 2/CP.27) on funding arrangements for L&D, the text is formulated as “*developing countries that are particularly vulnerable*” (UNFCCC, 2022: pg. 12), therefore, no Party groups or geographies are mentioned leaving more room for interpretation on the prioritization of relevant funds.

3. VULNERABILITY AS AN ELIGIBILITY CRITERIA FOR EXISTING CLIMATE FUNDS

Multilateral and bilateral financing for climate and sustainable development accounted for USD 83.3 billion in 2020—a 4% increase from 2019 (Bhandari, Warszawski & Thangata, 2022). The latest Adaptation Gap report shows adaptation needs are to be expected at 300 billion USD per year by 2030 (UNEP, 2023). Overseas Development Assistance (ODA) makes up a significant portion of climate finance, and up to 59% is channeled through direct bilateral donors (OECD, 2022). And some of these latter have set up internal dedicated facilities to adaptation, such as the Adapt'Action at the Agence Française de Développement (AFD). However, over 70% of climate finance is directed to mitigation instead of adaptation, and there is increasing concern about funding accessibility (OECD, 2022; Weikmanns, 2022).

This calls into question whether climate finance for adaptation is actually going to the most vulnerable countries in priority. In addition, growing countries' debt and costs of capital generate compounding risks. So much so that besides vulnerability to climate change, other criteria emerge as decisive for access to resources, especially outside of the Convention—such as the use of credit ratings and access to capital.

Given this financing landscape, the Convention and adoption of the Paris Climate Agreement commits developed countries to finance adaptation, and this has led to the establishment of new entities under the UNFCCC (Green Climate Fund, 2010; Adaptation Fund, 2011) and opened up windows of opportunity in existing international financial organizations such as the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) under the aegis of the Global Environment Facility (GEF) as well as the pilot program for climate resilience (PPCR) (2008) under the Climate Investment Funds (Klein and Moher, 2011). These financial institutions have a specific commitment to finance adaptation and resilience building in developing countries; and have disbursed up to 5.077 billion USD since inception (under climate finance, which counts for also mitigation projects) (Climate Funds Update, 2023). How do these entities treat vulnerability in terms of overall criteria for projects, country eligibility and disbursement?

The Pilot Program for Climate Resilience (PPCR) is designed to target LDCs and SIDS (small islands that are included as developing). On decision-making around eligible countries, at its establishment, an expert group designed different sets of criteria using IPCC projections and expert judgment and then a

TABLE 2. Overview of existing relevant climate funds

Fund and year created	Funding amount in million USD % allocated to adaptation	Funding focus	Some of the top country recipients (from highest amount received)
PPCR, 2008	Pledged: 1,155.79 Deposited: 1,155.79 Approved: 1,029.43 Disbursed: 734.70 Projects approved: 116 100% adaptation	Focus on adaptation	Bangladesh, Niger, Bolivia, Mozambique, Zambia, Cambodia, Nepal, Tajikistan and small islands : Jamaica, Papua New Guinea, Samoa, St. Lucia, Grenada, Haiti, Dominica, Tonga
Adaptation Fund, 2011	Pledged: 1,423.92 Deposited: 1,243.35 Approved: 996.65 Disbursed: 588.88 Projects approved: 296 100% adaptation	Focus on adaptation	Costa Rica, Uganda, Rwanda, and regional/multi country: Sub-Saharan Africa; Argentina and Uruguay; Chad and Sudan; Colombia and Ecuador; Comoros, Madagascar, Malawi and Mozambique (Adaptation Fund has a funding cap per country of \$20 million since 2021)
LDCF, 2001	Pledged: 2,075.02 Deposited: 1,803.31 Approval: 1,429.99 Disbursed: 530.22 Projects approved: 312 100% adaptation	Focus on adaptation	Lesotho, Comoros, Congo Dem. Rep., Burkina Faso, Uganda, Gambia, Lao PDR, Bangladesh, Malawi, Regional (Pacific islands), Sudan, Senegal, Sao Tome and Principe
SCCF, 2001	Pledged: 380.64 Deposited: 373.98 Approved: 284.91 Disbursed: 180.66 Projects approved: 73 100% adaptation	Focus on adaptation	Regional (East Asia and Pacific); Egypt; Morocco; India; Honduras; Kenya; Belize; Vietnam; Peru, Ecuador, Bolivia; Lebanon, Philippines
GCF, 2010 (GCF-1 + GCF IRM)	Pledged: 20,323 Deposited: 15,475 Approved 11,658 Disbursed: 3,043 Projects approved: 691 44.15% adaptation 27.27% mitigation 28.57% multiple foci	Adaptation and mitigation	India; Mongolia; Global (Armenia, Egypt, Georgia, Jordan, Moldova, Mongolia, Morocco, Serbia, Tajikistan, Tunisia); Bangladesh; Costa Rica; Latin America and Pacific; Indonesia
Total	Total disbursed: 5.077 billion USD	Adaptation and mitigation	India; Bangladesh; China; Latin America and Pacific; Mongolia; Indonesia; Costa Rica; Regional Sub-Sahara Africa; Brazil

Source: [Climate Funds Update, 2023](#).

screening exercise (see Klein & Moher, 2011). Klein & Moher take a deep dive into how vulnerability and eligibility were treated (2011: pg. 18):

Vulnerability: based on vulnerability to multiple climate risks, relevant special needs (as recognized by the IPCC and UNFCCC articles) and a country's exposure, sensitivity and adaptive capacity

Eligibility: ODA-eligible (using OECD DAC guidelines), if multilateral development bank country programs are in place, and highly vulnerable LDCs eligible for concessional funds from multilateral development banks, including LDC SIDS.

The **Adaptation Fund** was set up by the Conference of the Parties (Decision 10/CP.7) to finance adaptation projects and programs specifically in developing countries (Adaptation Fund, 2019). Eligible parties are identified as: *developing countries part of the Kyoto Protocol and that are particularly vulnerable*. The fund's strategy around the allocation of resources considers a list of criteria starting with (a) level of vulnerability. No other information is provided on how this level of vulnerability is informed or measured. Another factor is (b) "*level of urgency and risks arising from delay*", which could be viewed eventually as a step towards incorporating adaptation limits and residual risks as a sub criteria for Loss and Damage funding.

The **Global Environment Facility (GEF)** is one of the oldest environmental funding bodies and provides support for government projects working with United Nations programs (UNDP, UNEP). According to its website, eligible countries are those that have ratified the conventions the GEF serves, are eligible for World Bank financing or are eligible recipients of UNDP technical assistance. The GEF focuses funding on mitigation and multiple foci, using a "STAR" system (System for Transparent Allocation of Resources) to determine how much a recipient country will get from the Trust Fund for each replenishment period.

Since the GEF has a strong focus on mitigation, under its aegis are dedicated adaptation funding mechanisms: the Least Developed Countries Fund (LDCF) and Special Climate Change Fund (SCCF). Both funds' councils oversee that policies and strategies are updated and aligned with COP Decisions (which also takes into account the latest IPCC Assessment Reports) (GEF, 2022). The **LDCF** works with the LDCs group (46 countries), and targets countries "particularly vulnerable" to the adverse impacts of climate change with a view of supporting adaptation priorities (e.g. implementation of National Adaptation Plans, technical assistance etc.) and aims to ensure "equitable and balanced access" (GEF, 2012). The LDCF is also run by LDCs at the board level and funding is capped for projects at 2 million USD.

The **SCCF** focuses funding on adaptation and technology transfer projects. Any Non-Annex I country who is a Party to the UNFCCC is eligible. According the UNFCCC's division of three main Party groups (UNFCCC, 2023), this means funding

targets developing countries, some of which are recognized as more vulnerable, referred to as "*low lying coastal areas and those prone to desertification; as well as countries that rely on fossil fuels income and are vulnerable to economic impacts*". The SCCF focuses funding on a project basis using different criteria (adaptation benefit, additional cost argument of adaptation). It has a new strategy in place (2022-2026) which prioritizes adaptation in SIDS (i.e. funding window "adaptation support for SIDS") (GEF, 2022) and for those that are not classified as LDCs (currently, 6 small islands). The aim of this program is to reach the most vulnerable populations across these islands that cannot access the LDCF, and so fill a climate finance gap. This applies to small islands that are in higher income groups or that are expected to graduate from LDCs in the coming years.

The **Green Climate Fund** is a key financial mechanism of the UNFCCC. It uses an investment framework to direct disbursements. Investment criteria indicators are considered for funding eligibility for both projects and recipients. For recipients, vulnerability and financing needs of the beneficiary country and population are considered. Vulnerability is associated with capacity barriers specifically in regards to access to other sources of climate finance both domestically and internationally (GCF, 2023). The GCF's replenishment program 2020-2023 aims to direct more funds to developing countries, and balance 50:50 between mitigation and adaptation. Similar to the SCCF, the GCF tries to cover developing countries that face barriers to access other funding mechanisms.

Across these different multilateral funding mechanisms for adaptation, it is clear that eligibility and the allocation of funding/recipients is based on different criteria; and while vulnerability comes up in the funding strategy and policies, sometimes as an indicator, it is characterized differently, hence economic (developing country income status) and physical/geographic features (low lying coastal areas, SIDS) and hazards have important weight on prioritization of funding allocation on a project basis.

4. DEFINING L&D RECIPIENTS - GROUPING DEVELOPING COUNTRIES, LDCS, LLCS, SIDS

The Decision on new L&D funding under the Convention calls for "*assisting developing countries that are particularly vulnerable to the adverse effects of climate change, in responding to loss and damage*" (Decision 2/CP.27).

A definition of vulnerability is not provided by the UNFCCC, and some vulnerable communities to L&D may not be in low-income developing countries (e.g. Dominica, Grenada (Higher Middle Income) and Nigeria and Pakistan (Lower Middle Income), creating a wide landscape of country profiles that are or could be interested in accessing relevant funds.

Development conditions (i.e. developing country status) are considered as a key feature of vulnerability—both in climate research and the Convention. Under the UNFCCC, developing

countries are non-Annex I Parties. The UN Committee for Development Policy (CDP) uses a combination of income (gross national income per capita); human assets index; and economic and environmental vulnerability factors to determine developing countries. Vulnerability in this case is associated with economic and environmental factors, although the economic lens is highly pronounced as it can be quantified and thus enable setting a baseline and comparisons.

If the developing country status is determined by eligibility for ODA (as determined by the OECD Development Assistance Committee), that counts for 143 countries in total across different income groups (least developed countries: 46; low income: 2; lower middle income: 38; Upper middle income: 57). The ODA-eligible group covers the most number of countries (there is also the Vulnerable 20 group which has 58 members). Further, the G77+China Group has been supporting L&D financing in the UNFCCC negotiations; yet it is not clear if they will be able to access relevant funds.

A prioritization based on vulnerability as through an interpretation of the Convention's text focusing on developing countries, and those with specific needs and concerns, would suggest: 24 SIDS (only developing), 8 LDCs, 30 African countries that are also LDCs and an additional 18 African countries, totaling to 80 countries. This would be through a very strict interpretation of the legal text, however of course this does not suggest that other developing countries are excluded from eligibility and receiving climate finance for adaptation.

Several South-East Asian countries are part of the LDCs group such as Cambodia and Myanmar. However, the geography most underrepresented is South and Central America, such as countries represented in the Independent Association of Latin America and the Caribbean (AILAC). Two countries in this region (Bolivia and Paraguay) have a space in the Least Developed Landlocked Countries (LLDCs) group. However, the poorest countries in the region based on Gross National Income (GNI) such as Ecuador, Peru, Suriname, Brazil, Colombia, Venezuela, Uruguay, Argentina, Guyana and Chile are also vulnerable to climate change and L&D, yet do not fit in the narrower boundaries of vulnerability (criteria that are additional to ODA-eligibility) (World Population, 2023).

Other LLDCs that are ODA-eligible but not in the LDC group include countries in central Asia and Europe: Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, North Macedonia, Tajikistan, Turkmenistan and Uzbekistan.

SIDS have been the most proactive on L&D since Vanuatu submitted a proposal to the UNFCCC in 1991. This group, with a total of 38 official country members, is likely to face the most questions about the weighting of development (as economic/income based) and climate vulnerability for L&D given that Antigua and Barbuda, Bahamas, Bahrain, Barbados, Seychelles and Singapore are members of the SIDS group yet have middle to higher income status.

The SIDS group is evolving and several members recommended for graduation from LDC in 2021 such as Kiribati, Solomon Islands, Timor-Leste and Tuvalu. The argument from some of these small islands that are middle-, higher- income economies

is geography and biophysical exposure, including relative isolation (i.e. trade/import dependencies), in addition to legacies of colonialism on development trends (e.g. focus on tourism, issues of disaster capitalism) that led to higher vulnerability conditions while least contributing to greenhouse gas emissions.

IN FOCUS. UN OHRLLS MULTI-DIMENSIONAL VULNERABILITY INDEX (MVDI)

The United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UNOHRLLS) was set up in 2001 to represent a group of vulnerable member states that are facing unique conditions for sustainable development such as SIDS. The Alliance of Small Islands (AOSIS) and OHRLLS have endorsed a vulnerability index led by the United Nations: the Multi-Dimensional vulnerability Index (MVDI) (Paragraph 8(a) of Resolution 75/215 United National General Assembly).

The main goal of such an index is to support criteria for access to and allocation of concessional resources among countries. SIDS vouch for the multidimensionality that looks beyond limited economic and income criteria but also structural vulnerability. It looks more holistically at issues of trade and resources under climate change, and the nexus of social and environmental dynamics. The MDVI includes structural and general vulnerability, resilience (also addressing structural resilience) as linked to capacities and gives particular attention to social contexts, including acknowledgement of the influences of conflicts.

The MVDI is promising in support of the current agenda to restructure climate finance, insofar that it can capture some of the complexities and dynamics of different "vulnerable (and developing) countries". Such a tool could be a stepping stone towards moving from potentially outdated and limited models determining vulnerability as heavily focused on economic/income indicators (such as used to define "developing and least developed countries"), towards understanding and better characterizing the structural vulnerabilities in countries that are evolving and need support for adaptation. Indeed, some discussions are taking place on the characterization of the LDC group and its current role, analyzing evolutions since it was first set up in 1971 and implications for international support, particularly whether such support is really addressing structural vulnerability (also put as "structural handicaps to development") (FERDI, 2023).

The MVDI, endorsed by SIDS, could support addressing a clear climate finance gap in terms of access to concessional finance by acknowledging evolving contexts of small islands and potentially other countries (i.e. those that are graduating from least developing country status); as well as more broadly help to inform a much needed transformation in climate finance and overseas development assistance to consider structural vulnerabilities and their drivers (past to present trajectories) (Guillaumont, 2023).

5. DISCUSSION ON L&D CRITERIA: SHIFTING FROM VULNERABILITY TO ADAPTATION LIMITS

Given this ambiguity and at the same time policy appetite around vulnerability, especially in the context of climate finance, what does this mean for L&D funding arrangements? The appetite for a vulnerability measurement tool is long standing and several indices are available, each using different sets of data and information sources (e.g. [FERDI](#), [ND-GAIN](#), World Risk Index). At the same time, several analyses shed light on the limitations of measurement tools or indices, especially for comparative assessment and/or ranking (Klein 2009; Klein & Möhner, 2011). Therefore, it boils down to: who and in what context is vulnerability characterized and for what reasons/interests; and with the current international climate policy and multilateral agenda looking at L&D, climate finance and development reforms (Paris Summit, Bridgtown Agenda, World Bank roadmap), there is room for transforming adaptation finance, and vulnerability has a space in these discussions. As this paper reminds, the political dimension of vulnerability lays at the crossroads of a variety of legal and scientific definitions.

L&D represents a new stream of climate finance as distinguished from adaptation. The MVDI developed by the UN has brought back into focus the need for vulnerability profiles (as described by Guillaumont, [2023](#)) to take into account changing characteristics of developing countries (e.g. LDC group), and reform climate finance to better address structural vulnerability. That means looking more closely at exogenous and long-lasting factors, and the root drivers of vulnerability. This can help refocus what funding is appropriate for adaptation, and development, and separately narrow in on the limitations (impacts and projected beyond adaptation).

Scientific evidence (specifically, IPCC AR6 WG II) on losses and damages could make links to addressing adaptation constraints and limits (hard and soft) to support operationalization of funding for L&D, including the establishment of the fund.

On the one hand there is more work to be done on the suitability of sources to different kinds of L&D, which is reflective of the mosaic of solutions (Warner & Weisberg, 2023), and this will warrant new proposals at the Paris Summit for a New Financing Pact and through dialogues led by the Transitional Committee. For example, on appropriate and acceptable approaches to non-economic L&D (cultural heritage, identities) and limitations of threshold/trigger/parametric approaches such as for slow onset processes.

Developing taxonomies of adaptation limits and associated losses and damages could be helpful to inform L&D eligibility, especially given the contentious topic of vulnerability. Of course, similar issues arise on standalone metrics, such as analyzing soft limits (adaptive capacities) across very different contexts. Nevertheless, developing some categories could support countries to start reporting to the UNFCCC on occurred impacts and projected risks (in line with the Global Stocktake (see Ormond-Skeaping and Richards, 2023)). Mapping out these limits could help inform the disbursement of funds in the short term (where funding is urgently needed now), and prepare for medium to long-term L&D. This would take the discussion away from comparing across countries to prioritizing resources on specific contexts beyond adaptation.

This implies different scales, both at a country level given the way the UNFCCC functions, and bridging bottom-up human rights based approaches to support allocation to the most vulnerable and in need communities on the ground (see Richards *et al.*, 2023).

Addressing these different aspects (i. taxonomy; ii) suitability of financial sources; iii) multi-scale governance and operationalization of funding) will also ensure that adaptation and L&D funding is not duplicated or double counted in climate finance; thereby some further work on definitions and concepts is merited to foothold an accountability framework to track financing gaps, equity issues and needs as funds are mobilized over time. The vulnerability concept and spaces (legal, financial, scientific) can support this process as it will be linked to understanding what is beyond adaptation and hence, a tagging of L&D.

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Defining climate vulnerability in the context of Loss & Damage: a scientific, legal and political question

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The Institute for Sustainable Development and International Relations (IDDRI) is an independent think tank that facilitates the transition towards sustainable development. It was founded in 2001. To achieve this, IDDRI identifies the conditions and proposes the tools for integrating sustainable development into policies. It takes action at different levels, from international cooperation to that of national and sub-national governments and private companies, with each level informing the other. As a research institute and a dialogue platform, IDDRI creates the conditions for a shared analysis and expertise between stakeholders. It connects them in a transparent, collaborative manner, based on leading interdisciplinary research. IDDRI then makes its analyses and proposals available to all. Four issues are central to the institute's activities: climate, biodiversity and ecosystems, oceans, and sustainable development governance.

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