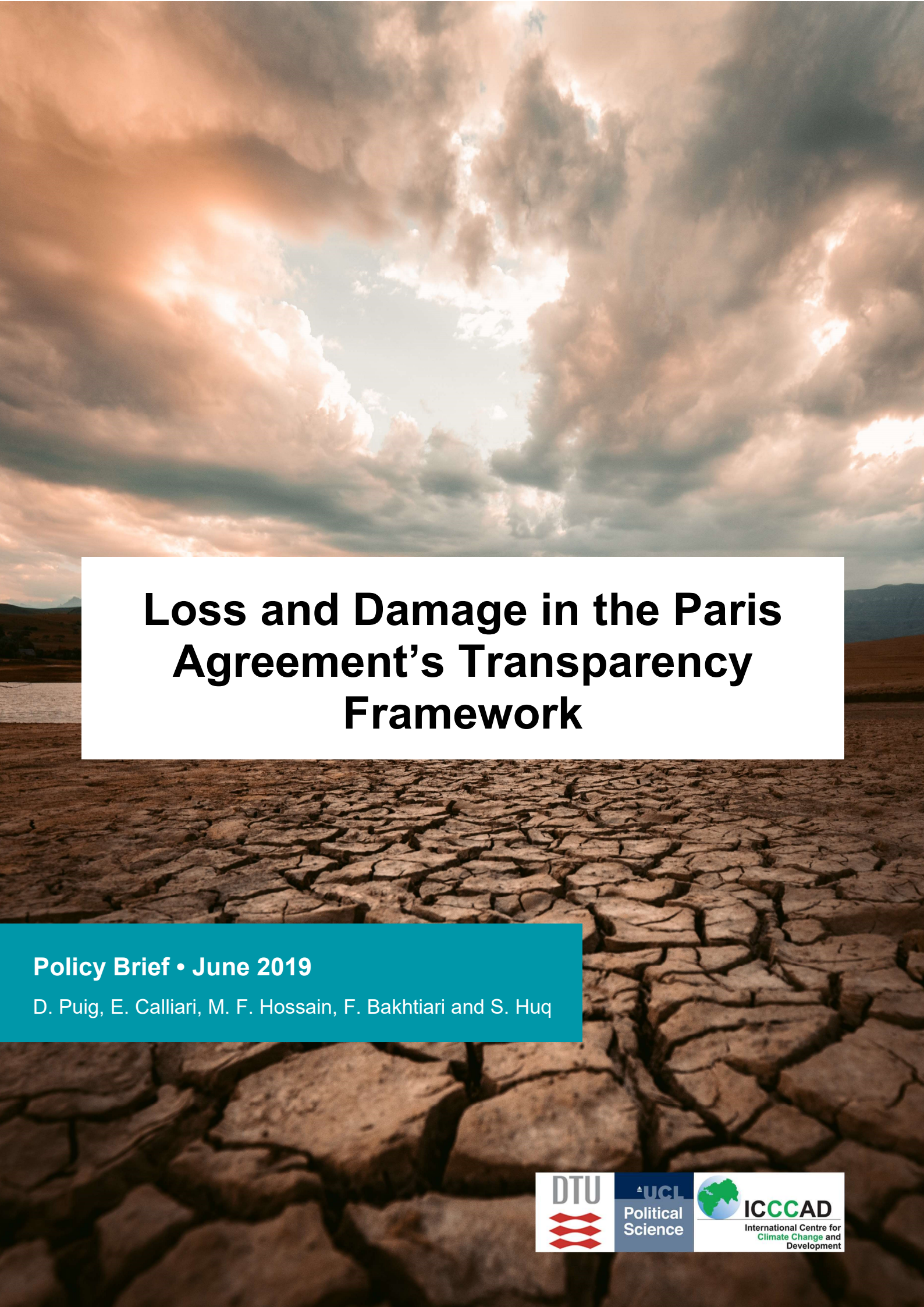

Loss and Damage in the Paris Agreement's Transparency Framework

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INTRODUCTION

The 2015 Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) introduces a 'transparency framework', to promote accountability in the implementation of the Agreement. A set of "modalities, procedures and guidelines", agreed upon in 2018, sketch how to put the transparency framework into practical operation. These "modalities, procedures and guidelines" include a voluntary provision to report information related to loss and damage (that is, the impacts of climate change to which the world cannot adapt). However, guidance is not yet available as to the specific information a country may want to report, or the types of evidence that could underpin the reporting.

Drawing on scientific journal articles and technical reports, this working paper offers suggestions on the types of information a country may want to report, and the data that can be used to evidence claims made about loss and damage. Although these suggestions are no replacement for official guidance, they shed light on a number of central aspects associated with national-level reporting of information related to loss and damage. The working paper will be useful to developing country stakeholders who are responsible for reporting under the 'transparency framework'. Readers' feedback concerning potential improvements to the document will be most welcome.

The document consists of two main sections. The first section provides contextual information on loss and damage, and includes an overview of approaches to manage extreme events and slow-onset events. The second section provides suggestions about key issues of direct relevance to reporting on efforts to manage loss and damage. This text focuses on four issues: measurements, costs, policies and financing. The document closes with a number of considerations that cut across these four issues.

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BACKGROUND ON LOSS AND DAMAGE

Loss and damage refers to the negative impacts of climate change that occur despite mitigation and adaptation efforts [1]. In the context of international climate change negotiations, the first formal recognition of loss and damage is included in the decisions adopted during the thirteenth conference of the parties to the UNFCCC, held in Bali, Indonesia, in 2007. Nonetheless, the notion of loss and damage had been put forward already in December 1991, during the fourth session of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change. At that time, and speaking on behalf of the newly established Alliance of Small Island States, the representative of the Republic of Vanuatu proposed the creation of an international insurance pool to compensate small-island developing states for the impacts of sea-level rise, a proposal that ultimately was rejected [2].

The 2015 Paris Agreement includes an article exclusively focused on loss and damage (Article 8). This article recognises "the importance of averting, minimizing and addressing loss and damage" and encourages "enhance[d] understanding, action and support" for loss and damage. The outcomes of the twenty-fourth conference of the parties to the UNFCCC, held in Katowice, Poland, in 2018, afforded further recognition to loss and damage. Specifically, one of the decisions adopted states that "each interested Party may provide as appropriate, information related to enhancing understanding, action and support [with regard to] loss and damage" [3]. The reference was made in the context of the Paris Agreement's Article 7 (on adaptation), since Article 8 (on loss and damage) is not referred to in Article 13 (laying out the transparency framework). In addition, a further decision adopted in Katowice states that "the global stocktake may take into account, as appropriate, efforts related to its work that […] avert, minimize and address loss and damage" [4].

APPROACHES TO MANAGING LOSS AND DAMAGE

Two types of events can give rise to loss and damage [5]: extreme events and slow-onset events. In the context of international climate change negotiations, "extreme events" refers to events such as storm surges, droughts, heatwaves, and floods, whereas "slow-onset events" refers to sea-level rise, salinization, ocean acidification, desertification, loss of biodiversity, and glacial retreat, for example. Because of the markedly different time horizons associated with each type of event (short, for extreme events, and long, for slow-onset events), the approaches used to manage loss and damage will differ, depending on the type of event considered.

To understand the range of approaches available to manage loss and damage, a further distinction is necessary. Losses associated with goods and services that are commonly traded in markets are referred to as economic losses. These include losses affecting private property such as real estate or land, and those affecting government-owned assets, such as infrastructures. As one may expect, most approaches to manage economic losses are based on market instruments. Losses associated with goods and services that are not traded in markets are referred to as non-economic losses. These include human lives and health, cultural heritage, and biodiversity, for example. Although there is some literature on the management of non-economic losses [6], practice remains scant [7].

Extreme events

Risk-based approaches are suitable for managing most types of economic losses associated with the impacts caused by extreme events. Generally, these approaches are structured around three sets of measures, commonly referred to as risk reduction, risk retention and risk transfer.

Risk reduction measures encompass efforts to anticipate future risks, reduce existing exposure, vulnerability or hazard, and strengthen resilience [8]. Risk-reduction measures based on infrastructure

are referred to as structural measures. They include engineering solutions (for example, the construction of dams, flood levies, ocean wave barriers and evacuation shelters), the retrofitting of existing infrastructure, and the introduction of extreme event-safe building-codes for new constructions. Non-structural risk-reduction measures focus on contingency and disaster planning, early warning systems and forecasting, and behavioural change (typically, through improved coordination mechanisms across institutions, and public awareness campaigns).

Risk retention measures are those that "[allow] a country to 'self-insure' against climatic stressors, [by] building up the resilience of the population through social protection and related measures, or through financial means, such as establishing reserve funds for the purpose of offsetting unexpected financial burdens associated with climatic stressors" [5]. Risk retention measures differ substantially, depending on whether they are adopted before, or after, a disaster. The former are generally called planned measures, and include the mobilisation of financial resources for building up resilience, notably through contingency loans, social funds and reserve funds (also called catastrophe funds). In the aftermath of a disaster, the risk retention measures deployed include emergency assistance loans, humanitarian assistance, reconstruction and rehabilitation.

Risk transfer measures are used to shift the risk of loss and damage from one entity to another, with a focus on financial risks and most often under a fee-for-service basis [5]. Risk transfer "is undertaken when a country or entity assesses that the potential loss and damage that it could experience could be greater than its ability to manage that loss and damage" [5]. The main risk transfer measures are insurance, catastrophe bonds, conditional risk transfer and combined insurance-credit programmes. Market-based insurance mechanisms alone are unlikely to eliminate climate change-induced loss-and-damage and introduce equitable compensation options, unless subsidies and other types of support are combined with insurance, thus making insurance affordable to poor households [9].

Slow-onset events

There is little documented experience with regard to managing the impacts associated with slow-onset events [10]. The measures suggested in the literature can be divided into two broad categories: institutional arrangements and governance schemes:

- **Institutional arrangements:** No single government agency can determine what loss and damage means with regard to intrinsic values such as cultural heritage and indigenous knowledge, or material values, notably those related to ecosystem services and biodiversity [11]. For this reason, cooperation among agencies is required. Such cooperation can encompass a range of tasks, from assessing current and emerging climate stressors, to consulting with stakeholders in the context of the policy formulation process, to enacting legislation [12]. Although in a broader context, it has been argued that cooperation can be promoted through an already existing body, such as a climate change coordination unit, when one has been set up and enjoys the high-level support required for it to be effective [13].
- **Governance schemes:** Slow-onset events can reduce the availability of resources, notably water and land [11]. Indirectly, through stressed resources, slow-onset events may force communities to migrate, a phenomenon that can be accelerated by extreme weather events in the region concerned [11]. Regional agreements can be useful to manage stressed resources, building on existing transboundary agreements such as the United Nations Convention to Combat Desertification or the Mekong River Commission, for example [14]. Similarly, regional or even global agreements can be useful to manage both planned and unplanned migration (typically, following a disaster), as well as to improve the mobility of people who must be temporarily displaced [14]. The 2016 New York Declaration for Refugees and Migrants provides a basis for establishing such agreements [15]. The Declaration called for increased international cooperation on migration, and paved the way for the establishment of the Global Compact for Migration, a non-binding agreement.

REPORTING ON EFFORTS TO MANAGE LOSS AND DAMAGE

In the "modalities, procedures and guidelines for the transparency framework for action and support", reporting information on loss and damage is voluntary. For this reason, it is likely that only the countries that are most vulnerable to the impacts of climate change will choose to report this information. Because these are the poorest countries, which have the most precarious institutional capacities, the only realistic expectation is that the evidence put forward to underpin the information reported will be drawn from existing data collection systems, or straightforward expansions of these.

The remainder of this document provides suggestions as to how to approach this kind of reporting. These suggestions focus on short- to mid-term actions that governments may want to consider, with a view to preparing themselves for more robust reporting in the years to come. The suggestions are structured around four topics that are covered in the literature on loss and damage: measurements, costs, policies and financing.

Measurements

Most countries operate early warning systems that are suitable for monitoring storms and other extreme events, and they have experience with assessing the actual impacts associated with such events. However, experience is limited with regard to slow-onset events such as sea-level rise or ocean acidity. Compounding these technical challenges, countries also face institutional capacity shortcomings, mostly related to poor inter-ministerial coordination, and the resource and capacity imbalances found between local and national layers of government. These challenges limit the ability of governments to measure, and report on, loss and damage. To overcome these challenges, two types of efforts are needed: centralised data collection, based on existing infrastructure and approaches, and the co-production [16] of new knowledge with those directly affected by loss and damage:

- Several databases exist, both at the supra-national and national levels, which collect disaster-loss data [17]. If loss metrics and hazard classifications are broadened, these databases can be of use in the context of extreme events. For them to be relevant in the context of slow-onset events, time horizons should be expanded and loss estimate techniques improved [17].
- Loss and damage "cannot be adequately verified without some assessment of where vulnerability exists and where the limits to adaptation are, or are likely to be, exceeded" [18]. For this reason, any assessment of loss and damage will require vulnerability indicators and indices. It has been suggested that established indicators and indices can be adjusted to track loss and damage [18]. Similarly, reporting on loss and damage can draw – at least to some extent – on methods used to assess climate-related risks [19], adaptive capacities [20] and exposure [21].
- The analysis of loss and damage will inevitably involve qualitative data collection, due to prevailing uncertainties (both related to lack of knowledge about, and the inherent variability of, the impacts of climate change), limited availability of data, not least quantitative data, and the nature of loss and damage, which is essentially linked to (subjective) values [22]. To collect this kind of information from those most directly affected by loss and damage, one can rely on tools such as household questionnaires, participatory rural appraisals, expert interviews, and different types of briefings and debriefings [23].

Costs

A number of estimates of the costs of loss and damage have been put forward [24]. These estimates are partial, in that they cover only selected aspects of loss and damage. They are also uncertain, mainly because of data shortcomings and the long time-horizons associated with slow-onset events.

In addition, the various individual estimates are not comparable with one another, because they have been prepared using different methodologies, and some of the underlying definitions and assumptions are not consistent across estimates [25]. For these reasons, such estimates will be indicative at best. As experience with estimating the costs of loss and damage grows, it will be easier to overcome these shortcomings. Nonetheless, a number of recommendations can be made, with a view to improving current practices:

- Estimates of the costs of loss and damage should take into account both infrastructure costs and the costs associated with policy planning and implementation [26]. This is especially relevant in the context of non-economic losses, where infrastructure costs can be negligible.
- Most estimates of the costs of loss and damage focus on direct costs, namely those associated with the specific impact, or set of impacts, considered [27]. However, as with assessing the economic impacts of disasters more generally, in some instances of loss and damage it may be relevant to reflect indirect costs to society, in as much as funding for disaster relief often reduces other allocations in a national budget, thus affecting the policy areas concerned.
- In their efforts to assess the costs of loss and damage, countries can rely on regional bodies [28], such as the Indian Ocean Commission, to provide technical assistance and mobilise the financial resources required. Not least, this type of cooperation helps increase knowledge transfer. Global entities such as the World Bank can play a similar role with regard to providing technical assistance and mobilising finance.

Policies

Given the relatively recent institutionalisation of loss and damage under the UNFCCC, few countries have set up explicit domestic strategies, policies, plans and actions to manage loss and damage. However, there are important exceptions. For example, in the case of Saint Lucia, the country's National Adaptation Plan includes a section on the "limits to adaptation", outlining potential risk-based measures (assessment, reduction, transfer and retention) in the context of loss and damage [29]. Similarly, the National Climate Change Plan of El Salvador includes loss and damage as a specific area for action, and pledges to establish an institutional insurance mechanism to "protect public finances and reduce climate change-induced loss and damage" [30]. The Government of Bangladesh has gone a step beyond by launching a two-year pilot programme that kicked off in 2019 with the goal of setting up a national mechanism on loss and damage [31]. This mechanism has three objectives: "to embed climate change perspectives into disaster policymaking, to address the gaps in the current policy framework and to design a comprehensive system to [*sic*] for a stronger response to losses and damages from climate impacts" [31].

Yet, only a minority of countries have introduced explicit references to loss and damage in domestic policies, plans or programmes. A number of countries have policies that relate to loss and damage, although the reference to it is only implicit. Examples include Tuvalu's national labour migration policy, enacted in 2015, or South Africa's national climate change and health adaptation plan, adopted in 2014. Additional examples can be found in other policy areas that relate to climate change, notably food security and water management.

Under the UNFCCC, the work programme on loss and damage is organised around five areas [32]: slow-onset events; non-economic losses; risk management approaches; human mobility (including migration, displacement and planned relocation); and action and support (including finance, technology and capacity building). These areas appear to be consistent with the key elements of loss and damage, as identified in the latest assessment report by the Intergovernmental Panel on Climate Change [33]. In light of this, countries that choose to report on policies that are relevant to loss and damage may want to structure their reporting around some or all of the areas above.

For a range of topics, information may be reasonably easy to identify. These topics include risk-based measures (encompassing risk assessment, reduction, transfer and retention), emergency preparedness mechanisms (notably early-warning systems), post-disaster recovery and rehabilitation programmes, and social protection instruments that are relevant in the context of extreme events (including social safety nets and measures to protect the most vulnerable).

Conversely, policies of relevance to non-economic losses and slow-onset events are likely to be rare or absent altogether. Human health, cultural heritage and ecosystem services are the areas in which some countries may have enacted policies that are relevant to non-economic losses [34]. With regard to slow-onset events, two existing reporting processes may be of relevance: the national biodiversity strategies and action plans under the United Nations Convention on Biological Diversity, and the national action programmes and related target-setting efforts under the United Nations Convention to Combat Desertification.

More generally, National Communications and National Adaptation Plans capture some of the policies that are relevant in the context of loss and damage, as do national disaster-risk reduction strategies and plans. Sectoral planning documents, notably in areas such as natural resource-based sectors and social policy, are also likely to include relevant policy initiatives.

Finance

Agreement remains elusive with regard to financing for loss and damage under the international climate change regime. As a result, loss and damage is not eligible under any of the existing international climate funds [35]. Domestic financing goes largely unreported. This is unfortunate, because systematic reporting would enable governmental agencies to assess the suitability of the various financing instruments available, and would help them to identify financing gaps and improve the way financing is managed [36]. Not least, systematic reporting could promote increased accountability on the part of both donors and recipients of climate finance [36]. However, the lack of an internationally agreed definition of loss and damage, and a range of capacity constraints in developing country institutions make systematic reporting a challenge. Nonetheless, it is possible to make a number of suggestions that represent improvements on current practice:

- A number of financing options for loss and damage have been put forward, notably risk pooling and transfer (including catastrophe risk insurance), contingency finance, and climate-themed bonds and catastrophe bonds [37]. Considering that these options are not applicable to the "full spectrum of losses and damages" [37], innovative approaches have been suggested, including a financial transaction tax, an international airline passenger levy, a bunker fuels levy and a global carbon tax, among others [38]. If a country is considering introducing a financial transaction tax, the plans to do so and the anticipated implementation mechanisms could be reported.
- Disentangling finance targeting loss and damage from finance targeting adaptation (or development) is challenging. To overcome this problem, two possible strategies have been suggested [39]. First, financial flows could be screened against a set of "criteria or guiding questions" of what constitutes loss and damage, developed on the basis of article 8.4 of the Paris Agreement. Second, multilateral development banks use a three-step system for tracking adaptation finance, which could be adjusted for application in the context of loss and damage finance. Experiences with these or other approaches to track loss and damage funding could be reported.
- Mobilising and managing climate-change financing remains a challenge for many developing country government agencies. Doing so in the area of loss and damage, about which there is limited or no experience, is especially problematic. Aligning domestic practices with international fiduciary standards helps the process of mobilising and managing climate-change finance [40] and, by extension, loss and damage finance.

Programmes to exchange experiences between national governments [36] and to build the capacities of both the public and private sectors [37] represent useful means to make progress in this area. In countries where this kind of programmes have been tested, the particulars of the programmes could be reported.

SUMMING UP

Most countries are in a position to report on loss and damage associated with extreme events. Some data on impacts is collected through existing monitoring mechanisms. However, in nearly all countries these data focus on economic losses only. Thus, additional efforts are needed to identify the main non-economic losses associated with the impacts that are most relevant in a given region, and to asses these losses. The latter can be done through case studies and, especially for natural resource-related impacts, with the help of valuation techniques [41]. To assess the costs associated with extreme events, insurance data provide a proxy at best. For this reason, qualitative assessments, which are typically based on interviews with affected communities, are needed to complement insurance data. Thanks to the impetus created by the International Strategy for Disaster Risk Reduction, most governments are able to report on policies associated with extreme events. Taking a broad view, which spans beyond climate change-driven policy actions and into sectoral concerns such as human health or cultural heritage, is critical to capture the breadth of policy efforts that are relevant in the context of extreme events. Finally, although (defining and) reporting on finance targeting loss and damage is challenging, in the context of extreme events there is a basis for both broadening reporting processes and the mobilisation of additional financing.

Reporting on slow-onset events is a far more challenging task. Nonetheless, in most countries there is enough evidence to report on (i) policy measures taken to manage individual slow-onset events and (ii) the measurement of trends associated with individual slow-onset events. With regard to reporting on policy measures, consider for example ocean acidification and salinization. As part of a fuller set of options [11], developing shellfish mariculture facilities and removing excess salt from soils by installing drainage systems have been proposed as potential remedial measures. To the extent that a country has implemented these or other relevant measures, the experience gained through the design and implementation processes could be reported. With regard to measuring trends, it is reasonably easy to measure some types of slow-onset events, such as sea level-rise and deforestation. However, in most countries the resources allocated to measurement are seldom sufficient to afford an accurate and representative assessment at the national level. Still, imperfect as they may be, existing measurements can be of use. Considerably less progress has been made with the appraisal of the cost of the impacts associated with slow-onset events. Because loss and damage relates fundamentally to values, which differ across communities and even individuals, and to irreplaceability, some aspects of loss and damage are incommensurable, thus making it difficult to estimate the full cost of loss and damage.

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