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Whose ‘Loss and Damage’? Promoting the Agency of Beneficiary States

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Abstract

The discussions on loss and damage associated with climate change that opened up within the UNFCCC in recent years constitute the latest attempt of developing states to obtain something akin to compensation from major greenhouse gas emitters for the adverse social impacts of climate change. These discussions generally contemplate a mechanism financed by developed states that would provide direct support to individuals, corporations, and governments in developing countries (‘vertical’ approach), for instance, through insurance. This article argues that, for practical as well as normative reasons, a loss-and-damage mechanism should instead support vulnerable developing states, in a states-to-states ‘horizontal’ approach. Accordingly, financial support would be provided to developing states that incorporate vulnerable populations and are responsible for protecting them. Three sets of arguments are developed in support of this proposition. First, attributing loss and damage at the individual level is particularly challenging, whereas horizontal approaches allow consideration of probabilistic harm and compensation through bundle payments. Second, horizontal approaches are more suitable for pursuing goals such as economic efficiency, the reduction of loss and damage, the creation of an incentive for climate change mitigation, and broader goals of social justice. Third, vertical approaches go against prevailing principles of international law and involve unjustified interference in the domestic affairs of developing states.

Keywords

loss and damage – climate finance – compensation – state sovereignty

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1 Introduction

From the outset of the international negotiations on response measures to anthropogenic climate change, some developing states have advanced political arguments on the responsibility of industrial nations and have claimed reparation, although, until now, they have had little success. Such arguments recently came back to the fore with a new concept placed on the agenda of the UNFCCC: the question of eventual approaches to address 'loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change.'¹ While part of the debate on loss and damage regards possible international guidance on how best to *reduce* loss and damage (thus essentially replicating discussions on adaptation), the crux, for developing countries, is to establish an international financial mechanism implementing something akin to compensation. This mechanism would implement the principle, affirmed by the UNFCCC, according to which developed countries shall 'assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.'²

A 'country' can be conceived of as a population (nation) or as a state (the legal person in charge of representing a population in international forums). The tendency in the current political and academic discussions on loss and damage is to consider potential donor countries as states, but vulnerable countries as populations. Thus, on the one hand, it is understood that a mechanism on loss and damage would mostly be funded by states, because there is little discussion on the option of levying a tax in developed states,³ and private contributions (e.g. through philanthropy) would likely remain insufficient.⁴ Accordingly, developed states would be free to decide how to raise finance for a financial mechanism on loss and damage. On the other hand, it often remains unquestioned that such a financial mechanism should provide assistance directly to the persons affected by the adverse impacts of climate change in developing countries that are themselves particularly vulnerable to the adverse

1 UNFCCC, Decision 1/CP.13, 'Bali Action Plan', FCCC/CP/2007/6/Add.1 (2007), para. 1(c)(3).

2 UN Framework Convention on Climate Change, 9 May 1992, 1771 UNTS 107, art. 4(4).

3 See however Rosemary Lyster, *A Fossil Fuel-Funded Climate Disaster Response Fund under the UNFCCC Loss and Damage Mechanism* (SSRN Scholarly Paper ID 2346616, 2013).

4 It is estimated that, in international finance for climate change adaptation, voluntary or philanthropic sources represent US\$210 million of US\$4.4 billion, while virtually no private finance addresses adaptation. See Barbara Buchner et al., *The Landscape of Climate Finance* (Venice: Climate Policy Initiative, 2011) at 8.

effects of climate change,⁵ even though, as will be argued, this raises intractable practical issues and other important concerns.

'Vertical' approaches to address loss and damage is my term for those measures that would be funded by the states who are major greenhouse gas emitters and would be designed to benefit directly persons and communities in particularly vulnerable developing countries. Vertical approaches do not necessarily deny the relevance of legal personality for the purpose of receiving compensation: such approaches often contemplate that support could be provided not only to individuals but also to corporations and governments – although, regarding the last category, only in relation to direct loss, for instance through the destruction of public property. Vertical approaches do not recognize that a state may claim loss and damage on behalf of an individual or a legal person within its jurisdiction.

By contrast, 'states-to-states' or 'horizontal' approaches to address loss and damage suggest mechanisms consisting of financial transfers from states that are major greenhouse gas emitters to states that have particularly vulnerable populations.⁶ States would accordingly receive compensation not only for their direct loss, but also for the loss incurred by their populations or by corporations within their jurisdiction. Since a state is responsible for the protection of its population, any financial support to a state should be deemed to indirectly benefit its population. Yet, horizontal approaches to

5 For a synthesis of the initial submissions of states and relevant organizations on the work programme on loss on damage, see in particular UNFCCC SBI, 'Synthesis report on views and information on the thematic areas in the implementation of the work programme', FCCC/SBI/2011/INF.13 (9 November 2011), paras. 33, 37, 57, and passim. For academic policy proposals, see e.g. Joanne Linnerooth-Bayer et al., 'Insurance, Developing Countries and Climate Change', 34(3) *The Geneva Papers on Risk and Insurance: Issues and Practice* 381 (2009); Joanne Linnerooth-Bayer and Reinhard Mechler, 'Insurance for assisting adaptation to climate change in developing countries: A proposed strategy', 6(6) *Climate Policy* 621 (2006), at 624; Rachel James et al., 'Characterizing Loss and Damage from Climate Change', 4 *Nature Climate Change* 938 (2014); and Karen Elizabeth McNamara, 'Exploring Loss and Damage at the International Climate Change Talks', 5 *International Journal of Disaster Risk Science* 242 (2014). For existing regional institutions under consideration within the UNFCCC, see 'A literature review on the topics in the context of thematic area 2 of the work programme on loss and damage: A range of approaches to address loss and damage associated with the adverse effects of climate change', FCCC/SBI/2012/INF.14 (15 November 2012).

6 Another type of horizontal approach that is not discussed in this paper would involve individuals in both donor and beneficiary countries, without any state intermediary. This is in substance what Lyster, *supra* note 4, suggests. However, such a 'persons-to-persons' horizontal approach would face many of the issues raised in this article, in particular with regard to attribution and efficiency.

loss and damage allow beneficiary states to determine how best to use such financial support.

In this article, I argue that horizontal approaches to address loss and damage should be preferred to vertical ones for three reasons. First, assessing loss and damage at the scale of the state tackles some (though not all) of the practical issues encountered when attempting to assess individual loss and damage. In particular, the scale and perennality of the state allows for loss and damage to be contemplated on the basis of probabilistic harms rather than actual injuries. Second, horizontal approaches appear to be more suitable for pursuing goals such as economic efficiency, the reduction of loss and damage, the creation of an incentive for climate change mitigation, and the broader goals of social justice. Third, horizontal approaches conform to the general guidance of public international law, where a state, exercising its own right to diplomatic protection, can receive compensation for the injury suffered by its citizens.⁷ Thus, horizontal approaches recognize the agency of developing states as required by normative considerations (e.g. the prohibition of interference in the domestic affairs of a state), but also by more practical considerations (assessment of loss and damage and efficiency of the mechanism).

The article starts with a historical and conceptual background on loss and damage (section 2), before mounting a defence of horizontal approaches to address loss and damage based on arguments of practicality (section 3), efficiency (section 4), and a principled approach to sovereignty (section 5).

2 From Responsibility to Loss and Damage

This section provides a general historical and conceptual background for the substantial discussion that follows. Claims about responsibility in the context of climate change have been made since the very beginning of international climate negotiations. The concept of loss and damage has recently entered the international negotiations, but important debates remain open regarding alternative approaches to address loss and damage.

2.1 *Political Claims for Historical Responsibility*

The G77's Caracas declaration of 1989 set the position of developing states by stating that, 'Since developed countries account for the bulk of the production

⁷ *Mavrommatis Palestine Concessions* case (Greece against United Kingdom), PCIJ Series A, No. 2, Judgment on preliminary objection, 30 August 1924, at 11.

and consumption of environmentally damaging substances, they should bear the main responsibility in the search for long-term remedies for global environmental protection and should make the major contribution to international efforts to reduce consumption of such substances.⁸ By contrast, developed states have largely remained hostile to a recognition of historical responsibilities. The principle of common but differentiated responsibilities is based on a constructive ambiguity. In the perspective of the United States, rather than reflecting causal responsibility, this principle aims to 'highlight the special leadership role of developed countries, based on [their] industrial development, [their] experience with environmental protection policies and actions, and [their] wealth, technical expertise and capabilities.'⁹

Article 4(4) of the UNFCCC provides an important concession to the demands of small island developing states by calling on developed states to 'assist [developing states] that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those effects.'¹⁰ Yet, climate finance has done little to fulfil this pledge. The Marrakesh Accords adopted at the 7th Conference of the Parties to the UNFCCC in 2001 established the Special Climate Change Fund, the Least Developed Country Fund, and the Adaptation Fund, which were followed by the Green Climate Fund created by the Cancun Agreements of 2010.¹¹ Developed states approached adaptation finance not as a

8 *Caracas Declaration of the Special ministerial meeting of the Group of Seventy-seven*, 21–23 June 1989, paras. II–34.

9 Statement of the United States on Principle 7 of the Rio Declaration on Environment and Development, in *Report of the United Nations Conference on Environment and Development*, vol. II: Proceedings of the Conference, A/CONF.151/26/Rev.1 (Vol. II) (1992), 17. A second paragraph adds: 'The United States does not accept any interpretation of principle 7 that would imply a recognition or acceptance by the United States of any international obligations or liabilities, or any diminution in the responsibilities of developing countries.'

10 UNFCCC, *supra* note 3, art. 4(4). See Daniel Bodansky, 'The United Nations Framework Convention on Climate Change: A Commentary', 18 *Yale Journal of International Law* 451 (1993), at 528; Philippe Sands, 'The United Nations Framework Convention on Climate Change', 1 *Review of European Community and International Environmental Law* 270 (1992), 275 (considering this provision as 'an implicit acceptance by developed [states] of responsibility for causing climate change').

11 UNFCCC, Decision 5/CP.7, 'Implementation of Article 4, paragraphs 8 and 9, of the Convention (decision 3/CP.3 and Article 2, paragraph 3, and Article 3, paragraph 14, of the Kyoto Protocol)', FCCC/CP/2001/13/Add.1 (2001); Decision 7/CP.7, 'Funding under the Convention', FCCC/CP/2001/13/Add.1 (2001); Decision 10/CP.7, 'Funding under the Kyoto Protocol', FCCC/CP/2001/13/Add.1 (2001); and Decision 1/CP.16, 'The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention', FCCC/CP/2010/7/Add.1 (2010) (hereinafter 'Cancun Agreements').

duty but as essentially *ex gratia* assistance. While international climate finance is estimated to represent \$97 billion per year, only about \$4.4 billion is directed to adaptation efforts, mostly channelled through bilateral agencies.¹² The IPCC noted that a ‘Comparison of the global cost estimates with the current level of adaptation funding shows the projected global needs to be orders of magnitude greater than current investment levels particularly in developing countries.’¹³

The Bali Action Plan of 2007 (COP 13) reflected a new emphasis on adaptation accompanied by a lukewarm language on responsibility. This turn was justified by a growing understanding of the adverse impacts of climate change (in particular following the publication of the fourth assessment report of the IPCC in the same year) and by the perception of a need to ‘support national and regional action on adaptation,’¹⁴ including through ‘long-term funding and support.’¹⁵ It was also partly motivated by the desire of developed states to convince developing states to adopt mitigation policies, as even a sharp decrease in the emissions of developed states would not suffice to offset the growing emissions of emerging economies. Timid allusions to responsibility appeared in later COP decisions, most notably in a recital of the Cancun Agreements recognizing that developed states must take the lead in combating climate change and its adverse effects ‘owing to [their] historical responsibility,’ as ‘the largest share of historical global emissions of greenhouse gas originated in developed countries.’¹⁶ Yet, beyond some discursive concessions, developed states remain generally wary of any measure akin to compensation in the context of climate change, agreeing with US Senator Byrd that ‘the time for pointing fingers is over.’¹⁷ The growing emphasis on adaptation did not come with concrete commitments to adaptation finance, beyond a vague call for ‘a balanced allocation’ of climate finance ‘between adaptation and mitigation.’¹⁸

12 Buchner et al., *supra* note 5, at iv.

13 Carolina Dubeux et al., ‘Economics of adaptation’ in IPCC, *Climate Change 2014: Impacts, Adaptation and Vulnerability, Working Group II Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press: 2014) (hereinafter AR5 WG2).

14 UNFCCC Secretariat, ‘Report on the dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention,’ FCCC/CP/2007/4 (19 October 2007), para. 37.

15 *Ibid.*, para. 42.

16 UNFCCC, Decision 1/CP.16, ‘Cancun Agreements,’ *supra* note 12, 2nd recital before para. 36 (emphasis added).

17 Statement of Senator Byrd, Cong. Rec. S8117 (daily ed. 25 July 1997).

18 UNFCCC, Decision 1/CP.16, ‘Cancun Agreements,’ *supra* note 12, para. 95.

2.2 *Political Negotiations on Loss and Damage*

In 1991, the Alliance of Small Island States proposed to the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change the establishment of an international insurance mechanism whose revenues would be drawn ‘from mandatory sources’ in developed states, and which would be used ‘to compensate the most vulnerable small island and low-lying coastal developing countries.’¹⁹ While this proposal was limited to ‘loss and damage resulting from sea level rise,’²⁰ the submission recognized that similar mechanisms could eventually be established to cover other adverse impacts that could be attributed to climate change.²¹ The proposal was given little consideration at the time, given that the most vulnerable states ‘had [little] to offer the developed world in exchange for financial transfers.’²²

The concept of loss and damage came to the fore in 2007. That year, as part of an ‘enhanced action on adaptation,’ the Bali Action Plan invited consideration of ‘means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change.’²³ The discussions initially took place within the AWG-LCA.²⁴ However, the concept soon appeared to be side-lined in the arduous negotiations focusing for the greatest part on climate change mitigation. Consistently with their opposition to a recognition of responsibility, some developed states attempted to ‘avoid discussions related to proposals around compensation for loss and damage’²⁵ by proposing an alternative focus on risk

19 Submission by Vanuatu on behalf of AOSIS, ‘Draft annex relating to Article 23 (Insurance) for inclusion in the revised single text on elements relating to mechanisms (A/AC.237/WG.II/Misc.13) submitted by the Co-Chairmen of Working Group II’ (1991), reproduced in Intergovernmental Negotiating Committee for a Framework Convention on Climate Change, 4th session, ‘Elements relating to mechanisms’, A/AC.237/WG.II/CRP.8 (1991) 2, at 2, para. 1(5).

20 Ibid.

21 Ibid., at 7 (para. a) and 9 (para. i).

22 Bodansky, *supra* note 11, at 528.

23 UNFCCC, Decision 1/CP.13, ‘Bali Action Plan’, *supra* note 2, para. 1(c)(iii). The provision in a preliminary draft extended to all ‘vulnerable developing countries.’ See UNFCCC COP 13, Draft decision 1/CP.13: Consolidated text prepared by the co-facilitators on agenda item 4 (Report of the co-facilitators of the dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention), FCCC/CP/2007/CRP.1 (13 December 2007), para. 1(c)(iii).

24 UNFCCC, Decision 1/CP.13, *supra* note 2, para. 1 (chapeau).

25 Koko Warner and Sumaya Ahmed Zakieldean, *Loss and damage due to climate change: An overview of the UNFCCC negotiations* (Oxford: European Capacity Building Initiative, 2012), at 4.

management, in particular through risk-sharing mechanisms and disaster-risk-reduction strategies.

After three years of little progress, the Cancun Agreements established a 'work programme,' assigned to the Subsidiary Body for Implementation, 'to consider, including through workshops and expert meetings, as appropriate, approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change.'²⁶ Three thematic areas were defined the following year in Durban (COP 17, 2011) in order to identify possible measures to be taken under the Convention.²⁷ While developed states continued to oppose any reference to 'redress' or 'compensation,'²⁸ they came slowly to admit that addressing loss and damage should include financial support. COP 18 (Doha, 2012) defined 'the role of the Convention in promoting the implementation of approaches to address loss and damage' as including (a) 'enhancing knowledge and understanding,' (b) 'strengthening dialogue, coordination, coherence and synergies,' and (c) 'enhancing action and support, including finance, technology and capacity-building.'²⁹ At COP 19 in Warsaw (2013), an international mechanism for loss and damage associated with climate change impacts was

26 UNFCCC, Decision 1/CP.16, 'Cancun Agreements,' *supra* note 12, para 26.

27 UNFCCC, Decision 7/CP.7, 'Funding under the Convention,' *supra* note 12. These thematic areas are: (1) 'Assessing the risk of loss and damage ... and the current knowledge of the same,' (2) developing 'a range of approaches to address loss and damage,' and (3) defining 'the role of the Convention.'

28 A draft decision text adopted at the 37th session of the SBI included multiple references to compensation. See UNFCCC SBI, 'Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity, Draft conclusions proposed by the Chair,' FCCC/SBI/2012/L.44 (1 December 2012), Annex. Yet, Decision 3/CP.18, adopted on the basis of this draft, contains no reference to compensation. See UNFCCC, Decision 3/CP.18, 'Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity,' FCCC/CP/2012/8/Add.1 (2012) (hereinafter 'Approaches to address loss and damage'). Discussions on compensatory financial mechanisms remain generally side-lined in the work programme on loss and damage. See e.g. 'Report on the expert meeting to consider future needs, including capacity needs associated with possible approaches to address slow onset events,' Note by the Secretariat, FCCC/SBI/2013/INF.14 (16 October 2013), where a compensatory financial mechanism is addressed in no more than a single sub-paragraph (para. 32(b)).

29 UNFCCC, Decision 3/CP.18, 'Approaches to address loss and damage,' *supra* note 29, para. 5.

established.³⁰ COP 20 (Lima, 2014) approved a two-year work plan as well as rules on composition and procedure for the Warsaw international mechanism,³¹ but it rejected a proposal for the inclusion of a ‘financial facility to assist Parties’ within this mechanism.³² The Warsaw international mechanism is set to be reviewed at COP 22 (in 2016).³³

2.3 *Different Approaches to Address Loss and Damage*

The concept of loss and damage has never been properly defined in the UNFCCC regime.³⁴ The two components of the concept may appear redundant for, as Ian Brownlie noted, “‘damage’ denotes loss.”³⁵ It has been suggested that loss relates to ‘the negative impacts of climate change that are permanent,’ while damage refers to ‘those impacts that can be reversed.’³⁶ In any case, loss and damage now forms a unique concept, relating to the detriment sustained because of anthropogenic climate change. The Cancun Agreements clarified that loss and damage includes ‘the impacts related to extreme weather events and slow onset events’ such as ‘sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification.’³⁷

Loss and damage can be approached in different ways. As mentioned above, developed states generally favour approaches that reduce loss and damage or respond to it through appropriate actions, for instance through disaster-risk

30 UNFCCC, Decision 2/CP.19, ‘Warsaw international mechanism for loss and damage associated with climate change impacts’, FCCC/CP/2013/10/Add.1 (2013) (‘Warsaw international mechanism’), para. 1.

31 UNFCCC, Decision -/CP.20, ‘Warsaw international mechanism for loss and damage associated with climate change impacts’ (advance unedited version).

32 UNFCCC SBI, ‘Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts: Draft conclusions proposed by the Chair’, FCCC/SB/2014/L.4 (14 June 2014).

33 UNFCCC, Decision 2/CP.19, ‘Warsaw international mechanism’, *supra* note 31, paras. 9 and 10.

34 See ‘Current knowledge on relevant methodologies and data requirements as well as lessons learned and gaps identified at different levels, in assessing the risk of loss and damage associated with the adverse effects of climate change’, Technical paper, FCCC/TP/2012/1 (10 May 2012), para. 31 (‘No agreed definition of the term “loss and damage” under the Convention exists’).

35 Ian Brownlie, *State Responsibility* (Oxford: Clarendon Press, 1983), at 199.

36 Saleemul Huq, Erin Roberts, and Adrian Fenton, ‘Loss and Damage’, 3(11) *Nature Climate Change* 947 (2013), at 948. The UNFCCC negotiations generally do not consider ‘loss’ and ‘damage’ independently, but rather as the unique concept of ‘loss and damage.’

37 UNFCCC, Decision 1/CP.16, ‘Cancun Agreements’, *supra* note 12, para. 25 and note 3.

reduction.³⁸ The issue with this perspective is that such approaches to address loss and damage would essentially replicate ongoing efforts to adapt to climate change, with, at most, an increased emphasis on building resilience.³⁹ By contrast, for the developing states that have advocated measures on loss and damage, an international mechanism on loss and damage should involve a financial mechanism based on the principle of common but differentiated responsibilities and should implement a form of compensation. Transferring some of the financial burden of loss and damage to greenhouse gas emitters could provide an economic signal to consumers by internalizing economic externalities, or at least a political signal to various political stakeholders (in particular voters in democratic systems) by raising awareness on the loss and damage generated, in support of adequate mitigation policies.

While the nature of such a mechanism appears to be at the centre of the debate, virtually no attention has been paid to the identification of the beneficiaries of approaches to address loss and damage – whether the physical or legal persons directly affected, or the developing states on their behalf. The 1991 submission of AOSIS considered a mechanism that would have compensated states rather than the persons directly affected.⁴⁰ Yet, political and academic discussions held since 2007 have generally assumed that a financial mechanism should directly address the loss and damage incurred by physical

38 See in particular *supra* note 26.

39 Thus, developed states have sometimes rejected the concept of loss and damage as duplicative of existing efforts on climate change adaptation. See for instance: Submission of Norway, 'Work programme on approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity' (2 October 2012), reproduced as Paper 2 in UNFCCC Secretariat, 'Views and information from Parties and relevant organizations on the possible elements to be included in the recommendations on loss and damage in accordance with decision 1/CP.16', FCCC/SBI/2012/MISC.14, 13, at 14. While the Bali Action Plan and the Cancun Agreements included loss and damage as part of 'enhanced action on adaptation,' developing states have constantly claimed that loss and damage should constitute a third pillar (along with mitigation and adaptation). See e.g. 'Warsaw establishes international mechanism for loss and damage' *Third World Resurgence* 279/280 (November-December 2013), at 15–18.

40 See *supra* note 20. The proposal aims at insuring 'countries' – an ambiguous term that it uses, in other instances, as a synonym of 'states.' Thus, the proposal uses the phrase 'insured countries' twice (paras. c and m), and proposes an arbitration tribunal to settle eventual disputes between the administering authority and any 'participating countries' (para. 17). See also paragraph 15: 'All assets and interests intended to be insured under the scheme shall be listed by Group 1 countries for registration with the Authority.'

or legal persons, including governments, rather than the loss and damage indirectly incurred by states – that is to say, these discussions have most often inclined to vertical rather than horizontal approaches to addressing loss and damage.⁴¹ Most worrisome is that vertical approaches have not been supported by explicit argument so much as implicitly taken for granted.⁴² Developing states themselves rarely ‘dare’ to suggest horizontal approaches. International action on adaptation has apparently eroded the idea of state sovereignty in responses to climate change, accustoming us to the idea that international institutions have a legitimate role to play in the determination of domestic policies taken in response to the adverse impacts of climate change. While most financial claims relate to compensation for individual ‘climate victims,’⁴³ for instance through risk-sharing mechanisms or even social-protection systems,⁴⁴ there are fewer references to possible financial arrangements to the benefit of developing states, for instance in a passing proposal for ‘deferral of payments to international institutions, debt relief, and other similar measures.’⁴⁵

41 See references in *supra* note 6. See, however, Declarations of Kiribati, Fiji, Nauru, and Tuvalu upon signature of the UNFCCC, 1771 UNTS 317–318.

42 For instance, a submission of the United States highlights the importance of consulting ‘intended beneficiaries,’ that is, ‘insured individuals and governments.’ See ‘Views and information on elements to be included in the work programme on loss and damage, Submissions from Parties and relevant organizations’ (25 February 2011), reproduced as Paper 20 in UNFCCC SBI, *Views and information on elements to be included in the work programme on loss and damage*, FCCC/SBI/2011/MISC.1, 66, at 72.

43 Submission by Bangladesh, quoted in UNFCCC AWG-LCA, ‘Summary of views expressed during the second session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention,’ FCCC/AWGLCA/2008/11 (11 August 2008), para. 44(b)(iv) (‘financial compensation for climate victims and refugees’). See also, e.g., Submission by Gambia on behalf of the Least Developed Countries Group to the 37th session of the Subsidiary Body for Implementation (7 October 2012), at 13, calling for ‘Compensating residual or unavoidable loss and damage (incl. for individuals)’ and for ‘rehabilitation of loss and damage, redress and compensatory mechanisms for individuals within developing countries.’

44 See for instance the submission by the Third World Network to the Executive Committee of the International Warsaw Mechanism, ‘Input for the interim Executive Committee of the Warsaw International Mechanism for Loss and Damage’ (1 July 2014), at 2.

45 Submission of Bolivia, Ecuador, China, El Salvador, Guatemala, Thailand, the Philippines, and Nicaragua to the 37th session of the SBI (7 November 2012), at 7. See also the submission by the Third World Network, *supra* note 45, at 2, noting the ‘need to consider options to relieve financial pressure brought upon countries due to loss and damage – options such debt swaps, debt relief (including debt cancellation), and contingency funds’.

3 Attributing Loss and Damage to Climate Change

The prevalence of vertical approaches is highly questionable. For one, this section argues that scale matters when attributing loss and damage to climate change. Whereas identifying individual loss and damage raises intractable issues, horizontal approaches may realistically be based on a rough assessment of the probabilistic loss and damage suffered by each state. The section starts with an exposition of the issue of attribution and its specific relevance with regard to loss and damage, before demonstrating that horizontal approaches are better able to address this issue.

3.1 *The Issue of Attribution*

Attributing specific impacts to anthropogenic climate change is an important conceptual challenge that has attracted a great amount of literature over the last few years, in particular in the context of political debates on loss and damage.⁴⁶ This challenge is particularly great with regard to extreme weather events. The IPCC's Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) and its Fifth Assessment Report acknowledge clear evidence that extreme temperature extremes, heat waves, and heavy precipitation have become more frequent in many regions of the world,⁴⁷ and that such trends will amplify in the future, being accompanied by a likely increase in the severity of cyclones and, possibly, of droughts.⁴⁸ Yet, any given weather event could also 'have occurred by chance in an unperturbed climate,'⁴⁹ and it is impossible to make a clear distinction between 'human-caused weather' and 'tough-luck weather.'⁵⁰

46 For a recent synthesis, see Mike Hulme, 'Attributing weather extremes to "climate change": A review', 38(4) *Progress in Physical Geography* 499 (2014).

47 IPCC, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation: A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change* (New York: Cambridge University Press, 2012) (hereinafter SREX), at 8. See also *Summary for Policymakers*, in IPCC, 'Summary for Policymakers', in *Climate Change 2013 – The Physical Science Basis Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2013) (hereinafter AR5 WG1) 3, at 5.

48 See IPCC, SREX, *supra* note 48, at 13; IPCC, 'Summary for Policymakers', AR5 WG1, *supra* note 48, 3, at 20.

49 Dáithí A. Stone and Myles R. Allen, 'The End-to-End Attribution Problem: From Emissions to Impacts', 71(3) *Climate Change* 303 (2005).

50 Mike Hulme, Saffron J. O'Neill, and Suraje Dessai, 'Is Weather Event Attribution Necessary for Adaptation Funding?' 334(6057) *Science* 764 (2011), at 764.

In this context, a ‘new science of weather event attribution’⁵¹ has approached attribution not in terms of particular events, but in terms of changes in the risk of the occurrence of particular events.⁵² This body of research was spurred by the assumption that probabilistic attribution might help conceiving approaches to address loss and damage associated with climate change.⁵³ To date, the findings of this new science remain limited, especially in relation to the ‘very rare weather events for which – by virtue of their rarity – it is difficult to gain sufficient statistical power to detect any trends.’⁵⁴ Nevertheless, rapid progress with regard to climate modelling, in particular the ‘downscaling’ of particular models, may lead to more accurate weather-event attribution in the coming years.⁵⁵

Furthermore, meteorological hazards result in disasters only in specific political, social, and economic circumstances.⁵⁶ In addition to the attribution of an extreme weather event to anthropogenic climate change, there is thus the challenge of assessing a causal link between the weather event and any specific social impacts (such as impacts on lives, livelihood, health, economies, societies, cultures, services, and infrastructure).⁵⁷ The impacts of a given extreme weather event on a society depend on the society’s exposure⁵⁸ and

51 *Ibid.*

52 Stone and Allen, *supra* note 50. See also e.g. Pardeep Pall et al., ‘Anthropogenic Greenhouse Gas Contribution to Flood Risk in England and Wales in Autumn 2000’, 470(7334) *Nature* 382 (2011), proposing a ‘probabilistic event attribution framework’; Huggel et al., ‘Loss and Damage Attribution’, 3(8) *Nature Climate Change* 694 (2013); Myles Allen et al., ‘Scientific Challenges in the Attribution of Harm to Human Influence on Climate’, 155 *University of Pennsylvania Law Review* 1353 (2006).

53 See e.g. Pall et al., *supra* note 53, at 385 (arguing that, ‘[b]y demonstrating the contribution of [greenhouse gas] emissions to the risk of a damaging event, [the science of weather-event attribution] approach could prove a useful tool for evidence-based climate change adaptation policy’).

54 Huggel et al., *supra* note 53, at 695. See also Hulme, O’Neill and Dessai, *supra* note 51, at 764–765 (on ‘uncertainty and subjectivity’); IPCC, SREX, *supra* note 48, at 8.

55 See in particular Babatunde Abiodun et al., ‘Evaluation of Climate Models’, in IPCC, AR5 WG1, *supra* note 48, 741. See also Reto Knutti and Jan Sedláček, ‘Robustness and uncertainties in the new CMIP5 climate model projections’, 3(4) *Nature Climate Change* 369 (2013).

56 Pall et al., *supra* note 53, at 385.

57 IPCC, ‘Summary for Policymakers’, in AR5 WG2, *supra* note 14, at 5.

58 Exposure can be defined as ‘[t]he presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected.’ *Ibid.*, at 5.

vulnerability.⁵⁹ In a developing world with a growing population, SREX expressed high confidence that ‘increasing exposure of people and economic assets ha[d] been the major cause of long-term increases in economic losses from weather- and climate-related disasters.’⁶⁰ No perceptible influence of climate change on loss and damage from disasters could be demonstrated over the past decades,⁶¹ and the statistical ‘signal’ of climate change is likely to remain concealed behind more important changes in exposure and vulnerability in the coming decades.⁶²

Identifying loss and damage arising from slow-onset events is slightly less challenging than that arising from extreme weather events in terms of the physical science, but it is also fraught with difficulties with regard to the assessment of social impacts. Global slow-onset events such as sea-level rise, increasing average temperatures, ocean acidification, and glacial retreat can be relatively straightforwardly attributed to anthropogenic climate change. Yet, anthropogenic climate change is only a contributing factor and may sometimes play a very minor influence in more localized, slow-onset events such as land and forest degradation, loss of biodiversity, and desertification.⁶³ Moreover, like in the case of extreme weather events, the impacts of any slow-onset event on a society largely depend on that society’s exposure and vulnerability. In this regard, the IPCC’s Fifth Assessment Report notes in rather cautious language that ‘Some impacts on human systems have ... been attributed to climate change, with a major or minor contribution of climate change distinguishable from other influences.’⁶⁴ For instance, ‘only a few recent species extinctions have been attributed to climate change,’⁶⁵ and ‘the worldwide burden of human

59 Vulnerability is ‘[t]he propensity or predisposition to be adversely affected.’ It ‘encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.’ *Ibid.*, at 5.

60 IPCC, ‘Summary for Policymakers’, in AR5 WG1, *supra* note 48, 3, at 9. See also Huggel et al., *supra* note 55, at 695.

61 IPCC, ‘Summary for Policymakers’, in AR5 WG1, *supra* note 48, 3, at 9; Laurens M. Bouwer, ‘Have Disaster Losses Increased Due to Anthropogenic Climate Change?’ 92(1) *Bulletin of the American Meteorological Society* 39 (2010).

62 See in particular Laurens M Bouwer, ‘Projections of Future Extreme Weather Losses under Changes in Climate and Exposure’, 33(5) *Risk Analysis* 915 (2013), noting that ‘the signal from anthropogenic climate change is likely to be lost among the other causes for changes in risk, at least during the period until 2040.’

63 Slow-onset events that may cause loss and damage are listed in UNFCCC, Decision 1/CP.16, ‘Cancun Agreements’, *supra* note 12, note 3 under para. 25.

64 IPCC, ‘Summary for Policymakers’, in AR5 WG2, *supra* note 14, at 4.

65 *Ibid.*

ill-health from climate change is relatively small compared with effects of other stressors.⁶⁶ For the most part, the IPCC concludes, ‘Differences in vulnerability and exposure ... shape differential risks from climate change.’⁶⁷

3.2 *The Centrality of Attribution in Identifying Loss and Damage*

The previous considerations show that it is not generally possible to attribute to climate change any specific social impact, be it in relation to an extreme weather event or to a slow-onset event, even when an increase in the probability of such impacts has been associated with climate change. This conclusion challenges dominant ways of conceiving responses to the impacts of climate change, whether through adaptation policies or through approaches to address loss and damage.

Adaptation policies generally surmount the issue of attribution by relaxing the requirement of attribution.⁶⁸ Thus, adaptation policies often boil down to a management of climate risks in general, for instance through efforts at reducing social vulnerability or building resilience – efforts that do not respond specifically to anthropogenic climate change. Some academic work suggests that a similar ‘solution’ could be applied to loss and damage. For instance, what claims to be ‘the first ever multi-country, evidence-based study on loss and damage from the perspective of affected people’ considers virtually any ‘negative effects of climate variability’⁶⁹ as loss and damage, including indirect effects highly dependent on exposure and vulnerability. Policy proposals have also been made for the protection of ‘climate migrants,’ ignoring the challenge of attributing a specific individual decision to migrate (or not to migrate) to anthropogenic climate change.⁷⁰ The representatives of states affected by

66 Ibid.

67 Ibid.

68 E.g. Hulme, O’Neill, and Dessai, *supra* note 51, at 764.

69 Koko Warner and Kees van der Geest, ‘Loss and Damage from Climate Change: Local-Level Evidence from Nine Vulnerable Countries’, 5(4) *International Journal of Global Warming* 367 (2013), at 369.

70 See e.g. Frank Biermann and Ingrid Boas, ‘Preparing for a Warmer World: Towards a Global Governance System to Protect Climate Refugees’, 10(1) *Global Environmental Politics* 60 (2010); Jane McAdam, *Climate Change, Forced Migration, and International Law* (New York: Oxford University Press, 2012). For critical discussions, see Benoît Mayer, ‘Constructing “Climate Migration” as a Global Governance Issue: Essential Flaws in the Contemporary Literature’, 9(1) *McGill Journal of International Sustainable Development Law and Policy* 87 (2013); ‘Climate Change and International Law in the Grim Days’ 24(3) *European Journal of International Law* 947 (2013), at 962-964; and Calum Nicholson, ‘Climate Change and the Politics of Causal Reasoning: The Case of Climate Change and Migration’, 180(2) *Geographical Journal* 151 (2014).

natural disasters have been keen to attribute such disasters to climate change rather than to inadequate or insufficient preparedness and responses,⁷¹ or to engage in media-friendly depictions of ‘climate change victims and refugees’⁷² to generate a political momentum for assistance.

Yet, if the attribution requirement can be relaxed in adaptation policy, it is because adaptation is predominantly grounded on a utilitarian rationale: the aim of adaptation is to adjust to the climate and its impacts in order to maximize social utility.⁷³ Following this rationale, the adverse consequences of any climate-related phenomenon need to be minimized, notwithstanding its possible attribution to anthropogenic climate change. For instance, there is an ethical argument to protect forced migrants even if their migration cannot be attributed to climate change. From this perspective, anthropogenic climate change *demonstrates* and *exacerbates* but does not necessarily *create* the need for specific policies. Accordingly, adaptation finance is generally approached as *ex gratia* assistance and does not differ in any essential way from international development aid – of which it only represents a small fraction.⁷⁴

If approaches to address loss and damage do not simply duplicate adaptation, it is because they also pursue (at least in part) a restorative function.⁷⁵ Rather than being simply a form of *ex gratia* assistance, a financial mechanism on loss and damage should pursue compensation – and compensation requires an assessment of a damage. Thus, while the requirement of causal attribution

71 See, in particular, the emotional plea of Filipino representative Yeb Sano at COP 19 (Warsaw, 2013) following typhoon Haiyan (despite the paucity of scientific evidence of a statistical change of intensity of typhoons in the region), reported in John Vidal and Adam Vaughan, ‘Philippines Urges Action to Resolve Climate Talks Deadlock after Typhoon Haiyan,’ *The Guardian* (12 November 2013).

72 Submission by Bangladesh, quoted in UNFCCC AWG-LCA, *supra* note 44, para. 44(b)(iv).

73 The IPCC defines adaptation as ‘The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.’ IPCC, ‘Summary for Policymakers,’ in AR5 WG2, *supra* note 14, at 5.

74 See Buchner et al., *supra* note 5, at iv, estimating that adaptation receives US\$4.4 billion per year. By contrast, net official development assistance reached US\$134.8 billion in 2013 (and it was complemented by a substantial amount of private aid). See OECD, ‘Aid to developing countries rebounds in 2013 to reach an all-time high’, available at <www.oecd.org/newsroom/aid-to-developing-countries-rebounds-in-2013-to-reach-an-all-time-high.htm>.

75 See *supra* note 40 and accompanying text.

is not necessary for action on 'adaptation' that follows a utilitarian rationale, this requirement is fundamental to the restorative function of approaches to address loss and damage.

3.3 *Attribution in Vertical Approaches to Address Loss and Damage*

One possible way to deal with the issue of attribution, with regard to impacts that climate change made more likely but did not determine, is through a probabilistic apportionment of responsibility.⁷⁶ In debates regarding 'tortious risk' in domestic laws, it has sometimes been argued that 'Focusing on the probabilistic character of causation leads logically, if not ineluctably, to ... the assignment of liability among multiple contributors in accordance with their probabilistic contribution.'⁷⁷ To this, it has been objected that a probabilistic apportionment of responsibility raises 'daunting practical problems,'⁷⁸ in particular with regard to a diffuse increase in risk.⁷⁹ As noted above, climate change results in a small and often imperceptible increase in the likelihood of particular social impacts triggered by either extreme weather events or slow-onset events.⁸⁰ As a result, a probabilistic apportionment of responsibility through vertical approaches to address diffuse individual loss and damage would generally be impossible.⁸¹ A system of 'compensation for climate change victims', it was argued, would only cover 'the most predictable forms of harm' while favouring 'the most easily administered measures of

76 See, for instance, Pall et al., *supra* note 53, at 385.

77 Glen O. Robinson, 'Probabilistic Causation and Compensation for Tortious Risk', 14(3) *Journal of Legal Studies* 779 (1985), at 781. See also Joseph H. King Jr., 'Causation, Valuation, and Chance in Personal Injury Torts Involving Pre-existing Conditions and Future Consequences', 90(6) *Yale Law Journal* 1353 (1981), at 1376; Mario J. Rizzo and Frank S. Arnold, 'Causal Apportionment in the Law of Torts: An Economic Theory', 80 *Columbia Law Rev* 1399 (1980).

78 Robinson, *supra* note 78, at 798. See also, e.g., David Kaye and Mikel Aickin, 'A Comment on Causal Apportionment', 13(1) *Journal of Legal Studies* 191 (1984).

79 Daniel A. Farber, 'Toxic Causation', 71(5) *Minnesota Law Review* 1219 (1986), at 1257, arguing that: 'Although compensation rules can be adapted to deal with less than certain knowledge of causation, there comes a point at which uncertainty becomes overwhelming. Any attempt to press compensation beyond that point is counterproductive.'

80 See *supra* note 63 and 65. See for instance submission by the United States for consideration at the 37th session of the SBI (16 November 2012), at 3, arguing that 'Attribution of specific incidences of loss and damage to climate change, as opposed to natural climate variability and/or vulnerabilities stemming from non-climatic stresses and trends like deforestation and development patterns, is technically impossible in almost every case.'

81 Farber, *supra* note 80, at 1256.

damages,⁸² thus addressing a tiny fraction of the impacts of loss and damage.

Alternatively, it has been suggested that increased climate risks could be addressed through an insurance mechanism.⁸³ A two-tier system has been considered, whereby local or national insurance would be supported by an international reinsurance pool. In such a system, international financial support to the international reinsurance pool could be provided as a form of compensation.⁸⁴ While local or national insurance would insure climate risks without a requirement of attribution, the reinsurance pool could benefit from a financial support from high-emitting industrial countries on the principle of common but differentiated responsibilities, using an estimate of the additional loss and damage that could be attributed to anthropogenic climate change.

Yet, an insurance mechanism would be unable to address some important aspects of loss and damage. Some risks are non-insurable because they do not include a substantial element of uncertainty, such as slow-onset events that are relatively foreseeable and may have already begun, or extreme weather events whose likelihood is particularly high (such as drought in certain regions).⁸⁵ Furthermore, an insurance mechanism would only address the consequences of disasters that have already occurred, and not the expenses invested in disaster-risk reduction. Therefore, although an insurance mechanism could help to address specific climate risks in particular local or national contexts, it certainly is not a magic bullet able to address all loss and damage. Whether or not insurance is the best way to address loss and damage in a specific context is arguably a political decision which might better be left to the judgement of national authorities, which are directly accountable to their citizens.

82 Daniel A. Farber, 'Basic Compensation for Victims of Climate Change', 155(6) *University of Pennsylvania Law Review* 1605 (2007), at 1640.

83 The possibility of an insurance mechanism is not new. It was mentioned in UNFCCC, *supra* note 3, in article 4(8).

84 See e.g. submission of Nauru on behalf of AOSIS to the SBI, 'Views and information on elements to be included in the recommendations on loss and damage in accordance with decision 1/CP.16' (28 September 2012), containing an insurance component and a compensation component; submission of Munich Climate Insurance Initiative to the SBI (21 February 2011); UNFCCC Secretariat, 'Report on the UNFCCC workshops on insurance,' FCCC/SBI/2003/11 (25 August 2003), para. 24, citing the example of the Turkish Catastrophe Insurance Pool with reinsurance by the World Bank.

85 UNFCCC Secretariat, 'Report on the UNFCCC workshops on insurance,' *supra* note 85, para. 30.

3.4 *Attribution in Horizontal Approaches to Address Loss and Damage*

From social contract theories to the modern concept of sovereignty as responsibility, the institution of the state has been justified as a tool for the protection of its population. The state – not insurance funds – is the paradigmatic institution responsible for, and presumably best suited to address loss and damage associated with climate change. As argued above, an international financial mechanism implementing a form of compensation as guided by the principle of common but differentiated responsibilities would be an essential element of any meaningful approach to address loss and damage. Yet, such an international financial mechanism need not interfere with the domestic affairs of beneficiary states. Rather than dictating specific domestic financial mechanisms, horizontal approaches to address loss and damage call for financial transfers to the states most affected by adverse impacts of climate change, the latter being responsible for making the best use of these funds for the protection of their population.

Approaching loss and damage at the level of the state allows more abstract ways to address the issue of attribution, in particular through the notion of *probabilistic* loss and damage. Liability for probabilistic harm, rather than for actual injury, is a concept that emerged in domestic legal debates regarding tortious risk. In this perspective, a probabilistic harm results in a duty to make reparation independently of the possible materialization of an actual harm.⁸⁶ A probabilistic, horizontal approach to loss and damage would allow compensation to be assessed on the basis of downscaled climate change modelling in connection with an assessment of the consequential social impacts that such events are likely to have if appropriate measures (e.g. adaptation and disaster-risk reduction) are taken by domestic authorities. Compensation could be made through bundle payments, made on a regular basis, and adjusted following renewed scientific assessments. In other words, compensation would be paid whether or not there was any actual social impact related to climate change suffered during the relevant period, solely on the ground of the infliction of a risk. Thus, loss and damage could be addressed without a detailed account of actual social impacts that followed multiple physical events whose probability may have changed.

Liability for probabilistic harm is problematic when it is approached at an individual level because it disconnects compensation from financial need: all individuals subjected to an increased risk receive a minimal compensation, largely insufficient for those whose risk materializes. Yet, probabilistic harms make considerably more sense when states are the beneficiaries because of the

86 Robinson, *supra* note 78, at 781. See also William M. Landes and Richard A. Posner, 'Tort Law as a Regulatory Regime for Catastrophic Personal Injuries', 13(3) *Journal of Legal Studies* 417 (1984).

larger scale of the state (compared with the person) and because states are perennial institutions able to share risks over time. It follows from the law of large numbers that, at the scale of a state (especially a large state)⁸⁷ and over a long period of time, actual loss and damage attributable to climate change would tend to equalize probabilistic loss and damage, and compensation would more or less be received by the states who need it because they suffer actual damage. Complementary forms of international solidarity when a state is hit by a major disaster, whether related to climate change or not (such as in the case of an earthquake or a tsunami), should of course continue to be dispensed, but this is outside of the climate regime.

Horizontal approaches to address loss and damage could thus avoid some of the daunting practical issues of vertical approaches that relate to the attribution of actual individual loss and damage. Nevertheless, horizontal approaches do not solve all the issues relating to attribution. First, the science necessary for a reliable assessment of probabilistic loss and damage is not developed yet, although rapid progress in downscaling climate modelling gives hope that rough approximations could become available in the coming years.⁸⁸ Scientific uncertainty will always remain as to the probabilistic attribution of any event to climate change.⁸⁹ Second, the proposition that probabilistic loss and damage could be assessed on the basis of downscaled climate modelling in connection with an assessment of the consequential social impacts should not 'obscure significant ethical judgments behind a façade of scientific analysis.'⁹⁰ The valuation of social impacts is inherently political, and the valuation of non-economic loss (such as loss of life) can be particularly controversial in an international context.⁹¹ This, however, is an issue

87 Horizontal approaches to address loss and damage do not oppose a voluntary resource-pooling scheme, especially for the benefit of small states with limited financial capacities that are undergoing severe increases in exposure to extreme weather events. Yet, such a pooling of resources should be considered as a form of adaptation, through building resilience, rather than compensation for loss and damage. Compensation should not be conditioned on the participation of states in such a scheme.

88 See *supra* note 56.

89 See e.g. Suraje Dessai et al., 'Do We Need Better Predictions to Adapt to a Changing Climate?' 90(13) *Eos: Transactions American Geophysical Union* 111 (2009).

90 Hulme, O'Neill, and Dessai, *supra* note 51, at 765. See also Richard J. T. Klein, 'Identifying Countries that Are Particularly Vulnerable to the Adverse Effects of Climate Change: An Academic or Political Challenge', 3 *Carbon and Climate Law Review* 284 (2009).

91 UNFCCC Secretariat, 'Non-economic losses in the context of the work programme on loss and damage, Technical Paper,' FCCC/TP/2013/2 (9 October 2013). Already, in 1935, Feller wrote: 'No part of the law of international claims is more fragmentary or confused than that

shared by horizontal and vertical approaches. Third, difficult questions exist regarding the assessment of future loss and damage, in particular in relation to the discount rate (if any) to be used to value future loss and damage.⁹² Nevertheless, although important political decisions are still to be made, horizontal approaches appear to be more convenient methods through which to approach loss and damage.

4 Efficient Ways of Addressing Loss and Damage

In addition to the practical argument developed in the previous section, this section argues that horizontal approaches to address loss and damage are generally more efficient than vertical approaches. Efficiency, of course, can be assessed in different ways depending on which purpose one pursues. Here, it is argued that horizontal approaches involve fewer transaction costs and are more likely to reduce loss and damage, constitute a disincentive for greenhouse gas emissions, and contribute to social justice.

4.1 *Transaction Costs*

Vertical approaches to address loss and damage would involve three operations resulting in dissuasive transaction costs: first, the impacts suffered by each person should be assessed; second, causation should be determined; third, a payment should be made. Admittedly, some of these steps could be simplified, for instance, as Daniel Farber once suggested, through a ‘schedule of damages’ providing a standardized method of valuing specific impacts.⁹³ Even then, individual attribution of loss and damage would remain highly problematic and often impossible with regard to the diffuse adverse effects of slow-onset events. For this reason, Farber recognized that the ‘most likely claimants would be governments rather than individuals.’⁹⁴

An insurance mechanism does little to reduce the prohibitive transaction costs generated by personalized compensation. At the moment, most of the putative individual beneficiaries of a loss-and-damage mechanism do not have

relating to the measure of damage.’ Abraham H. Feller, *The Mexican Claims Commissions, 1923–1934: A study in the Law and Procedure of International Tribunals* (New York: Macmillan, 1935), at 290.

92 See William D. Nordhaus, ‘A Review of the Stern Review on the Economics of Climate Change’, 45(3) *Journal of Economic Literature* 686 (2007).

93 Farber, *supra* note 83, at 1654.

94 *Ibid.*, at 1608.

access to any insurance⁹⁵ – there is less insurance in developing states than in developed ones,⁹⁶ and, within each state, the poor have generally less access to insurance than the rich.⁹⁷ Extending insurance to cover the world's most vulnerable populations would come at an enormous administrative cost – an investment that would mostly benefit insurance companies in developed states.⁹⁸ While it may be suggested that administrative costs could be partly supported by developed states, this would not be an efficient or advisable utilization of available international finance. For insurance, evolving climate risks raise specific issues because of the 'lack of confidence in the calculated risk estimates, i.e. the reliability of estimates for potential future losses.'⁹⁹ To deal with systemic uncertainty relating to the evolution of the risks covered, insurance companies would likely increase their premiums – even though, as noted above, the statistical influence of climate change on social impacts from extreme weather events are most likely to remain imperceptible in the coming decades.¹⁰⁰ For these reasons, experts at a workshop organized by the UNFCCC Secretariat expressed concern that the cost of an insurance mechanism to address loss and damage 'could substantially exceed that of traditional state-supported, loss-sharing financing

95 See in particular UNFCCC Secretariat, 'Report on the UNFCCC workshops on insurance', *supra* note 85, paras. 11–13. See also UNFCCC Secretariat, 'Mechanisms to manage financial risks from direct impacts of climate change in developing countries', Technical Paper, FCCC/TP/2008/9 (21 November 2008), para. 187, noting that 'only 1 per cent of households and businesses in low-income countries, and 3 per cent in middle-income countries, have insurance coverage for catastrophe risks, compared with 30 per cent in high-income countries.'

96 UNFCCC Secretariat, 'Report on the UNFCCC workshops on insurance', *supra* note 85, para. 13.

97 See e.g. *ibid.*, para. 11.

98 See, generally, Swenja Surminski and Jillian Eldridge, 'Observations on the Role of the Private Sector in the UNFCCC's Loss and Damage of Climate Change Work Programme', Centre for Climate Change Economics and Policy Working Paper No. 159, Grantham Research Institute on Climate Change and the Environment No. 142 (2013), noting that 'Private sector engagement is mainly seen in the context of utilizing private sector expertise based in developed countries.'

99 UNFCCC Secretariat, 'Report on the UNFCCC workshops on insurance', *supra* note 85, para. 16, adding that 'The high uncertainty associated with estimating the risk of climate change impacts has serious implications on establishing an effective climate change insurance regime and for developing a framework for the implementation of insurance-related activities in disaster-prone countries.' See also Joanne Linnerooth-Bayer and Stefan Hochrainer-Stigler, 'Financial Instruments for Disaster Risk Management and Climate Change Adaptation', *Climatic Change* (forthcoming), doi: 10.1007/s10584-013-1035-6.

100 See *supra* notes 62 and 63.

mechanisms.¹⁰¹ The main beneficiaries of an insurance mechanism might end up being insurance and reinsurance companies themselves, some of which have openly called for the creation of such a mechanism.¹⁰²

By comparison, horizontal approaches to address loss and damage would significantly decrease transaction costs, because centralized payment would reduce the sheer number of transactions (albeit significantly increasing the complexity of each transaction) and individual benefits would be distributed through existing institutions within states. Overall, as mentioned above, horizontal approaches would not need to be based on a complete valuation of exposed assets and actual impacts, as they could consist of bundle payments based on an assessment of probabilistic harms. Thus, horizontal approaches would require neither an assessment of the actual impacts, nor a finding on the causal relation with climate change.

4.2 *Reducing Loss and Damage*

In addition, one expects loss-and-damage approaches to benefit vulnerable populations by helping them to cope with risk (e.g. post-disaster assistance) and to avoid risk (e.g. adaptation or disaster-risk reduction). Yet, vertical approaches would probably fail on both grounds. On the one hand, while individualized compensation may in principle help populations to cope with risk, the complex transactions entailed by it are likely to result in a vast bureaucracy that would probably preclude timely financial support for disaster recovery.¹⁰³ On the other hand, compensation for the loss and damage incurred may create an incentive not to take appropriate measures to reduce exposure and vulnerability to climate risks,¹⁰⁴ for instance through ‘choosing to locate housing in

101 UNFCCC Secretariat, ‘Report on the UNFCCC workshops on insurance’, *supra* note 85, para. 37.

102 For example, Munich Climate Insurance Initiative, founded by Munich Re (one of the world’s leading reinsurers), has made seven submissions to UNFCCC bodies between 2008 and 2012 to promote insurance mechanisms as a way to address loss and damage.

103 See e.g. submission by the United States (2012), *supra* note 81, at 3, arguing that ‘an international insurance pool operated under the Convention would not have the agility to make quick payments, due to bureaucratic delays and political influences.’ This issue would not be unique to an insurance mechanism but would apply to any vertical mechanism.

104 UNFCCC Secretariat, ‘Report on the UNFCCC workshops on insurance’, *supra* note 85, para. 27. See also Submission by Cyprus and the European Commission on behalf of the European Union and its Member States to the 37th session of the SBI (5 November 2012), at 3, arguing that ‘efforts to transfer risk by providing insurance should be nested in a broader context of risk reduction in order to ensure that while some financial risk is transferred, processes to reduce and manage risk and build resilience continue as essential complements.’

high-risk flood-plain areas.¹⁰⁵ A conceivable fix would consist in a complementary international mechanism to monitor disaster preparedness, but it is unlikely that the moral hazard could be entirely avoided at all levels where adaptation measures could be taken (e.g. state, local communities, households), and a monitoring mechanism would add to the transaction costs.

An insurance mechanism would raise additional issues. One is that the payment of insurance premiums could divert resources from adaptation, especially in the case of particularly vulnerable populations.¹⁰⁶ As a submission of the United States to the SBI highlighted, policy proposals for an insurance mechanism 'presume ... that all vulnerable countries want a significant portion of adaptation resources to be used for insurance premiums or set aside for later use in rehabilitation, rather than invested in urgent implementation of adaptation approaches today that can actually avert or reduce losses and damages in the first place.'¹⁰⁷ Furthermore, as some risks are more insurable than others, or are easier to attribute to climate change, a vertical financial mechanism would not result in an efficient distribution of limited funds.¹⁰⁸

By contrast, horizontal approaches to address loss and damage are able to avoid this moral hazard by considering probabilistic harm on the basis of downscaled climate modelling in connection with an assessment of the consequential social impacts that such events are likely to have if appropriate measures are taken. In an economic analysis of tort law, Landes and Posner argued that liability for probabilistic harm rather than for full-blown injury 'has attractive properties in dealing with the serious problem of giving victims of catastrophic accidents incentives to make "life-style" changes that will reduce the severity of the delayed consequences of such accidents.'¹⁰⁹ Similarly, disconnecting international financial support from actual social impacts supports a

105 UNFCCC Secretariat, 'Report on the UNFCCC workshops on insurance', *supra* note 85, para. 25.

106 Submission by the United States (2012), *supra* note 81, at 2.

107 *Ibid.*, at 2.

108 *Ibid.*, at 3, arguing that an 'international insurance pool would favor some countries over others because climate change will impact different countries very differently. Some countries are at risk of frequent tropical storms, for example, and those countries could receive a disproportionate amount of payouts, draining the pool for other countries facing less frequent or less severe types of risks. Some countries may have more insurable risks and would benefit from an international insurance pool, while others may not have many insurable risks and would not benefit.'

109 Landes and Posner, *supra* note 87, at 434.

strong, positive incentive at all levels to adapt to climate change. This approach also allows national political bodies and individuals themselves, rather than foreign experts, to take decisions on inherently political matters such as through defining the acceptable levels of risk and the optimal amount of resources to be invested in avoiding loss and damage.¹¹⁰

4.3 *Disincentive for Greenhouse Gas Emissions*

Another function of approaches to address loss and damage might be to incentivize climate change mitigation, in particular in countries contributing to the financial mechanism of the UNFCCC, through providing an economic or, more probably, political signal of the costs of negative externalities. However, vertical approaches to address loss and damage would provide only a very weak economic signal, and possibly a misleading political signal, because they would necessarily be limited to specific loss and damage. For one, if a vertical approach to loss and damage were to be followed, the issue of attribution would probably result in a selection of specific impacts that can most convincingly be attributed to climate change while leaving 'a wider range of less measurable impacts'¹¹¹ unaccounted for. Furthermore, vertical approaches to address loss and damage are likely to focus on present loss and damage and could not readily be extended to the predictable impacts that are being caused to future generations. Yet, present loss and damage or even the loss and damage that will be incurred by current generations represents only a tiny part of the externalities caused by greenhouse gas emissions, whose negative impacts will unfold over many centuries.¹¹² As a result, a vertical mechanism is likely to result in a very minimalist definition of loss and damage. This minimalist definition of loss and damage could be used politically to convey the false idea that the adverse consequences of greenhouse gas emissions are marginal, and to downplay the importance of immediate mitigation measures.

110 See, in this sense, the submission by the United States (2012), *supra* note 81, at 2: 'We believe vulnerable countries should be able to decide to reduce risks and avert loss and damage.'

111 UNFCCC Secretariat, Technical paper on current knowledge, *supra* note 35, para. 33. See also e.g. Farber, *supra* note 83, at 1608, isolating 'some core, highly foreseeable harms resulting from climate change.'

112 See Deliang Bruaer et al., 'Introduction', in IPCC, AR5 WG1, *supra* note 48, 119, at 128–129, noting that 'Even if anthropogenic emissions were immediately ceased or if climate forcings were fixed at current values, the climate system would continue to change until it came into equilibrium with those forcings. Because of the slow response time of some components of the climate system, equilibrium conditions will not be reached for many centuries.'

By contrast, horizontal approaches to loss and damage could (but would not necessarily have to) take a wider range of impacts into account. They could in particular extend to diffuse impacts by assessing their aggregated value. They could also apply to future harms, including harms that will unfold in a distant future, because states, as perennial institutions, have a plausible claim for reparation for future injuries. The concept of probabilistic harm could again be useful, as one of its main advantages is to dissuade harmful conduct in situations characterized by a 'long delay between accident and full-blown injury.'¹¹³

The possibility of extending loss and damage to diffuse and future harms through horizontal approaches would not necessarily result in a very much larger financial mechanism. Compensation is likely to be partial, limited by political resistance. Yet, a more inclusive assessment of the probabilistic harms caused by current greenhouse gas emissions could generate a stronger political signal in favour of climate change mitigation. Even if compensation is only partial, an integral *recognition* of loss and damage would constitute an essential incentive for significant mitigation policies.

4.4 *Social Efficiency*

Last but not least, it is also desirable that approaches to address loss and damage be accessible to those who most need them and that they support broader objectives of social justice. Here again, vertical approaches raise concerns because they are likely not to address the needs of the most vulnerable, whom international institutions or foreign actors cannot easily access without a strong domestic presence. Access to vulnerable populations is an issue especially in the case of insurance mechanisms because poorer populations tend to be less well insured.¹¹⁴ Although insurance could be marginally extended, it appears unlikely that the poorest fringes of the world's population would systematically benefit from insurance against climate risks.¹¹⁵

By contrast, horizontal approaches to address loss and damage recognize the role of the governments of developing states in defining and implementing national development strategies. After the monetarist perspective of the 1980s and 1990s came under attack,¹¹⁶ international institutions have increasingly

113 Landes and Posner, *supra* note 87, at 434, noting that 'The problem of causal uncertainty and long delay between accident and full-blown injury could ... be solved by moving toward a system where the accident victim sues and obtains a judgment before his injury is full blown.'

114 See above notes 96 to 98 and accompanying text.

115 See e.g. *ibid.*, para. 19, noting that 'The demand for micro-insurance is not currently being met because the poor are unable to pay the premiums.'

116 See in particular J. E. Stiglitz, *Globalization and its Discontents* (New York: Norton, 2002).

recognized the role of developing states in fostering growth, development and poverty reduction.¹¹⁷ For developing states with little financial capacity and little ability to levy taxes (all the more as they commit to remove customs duties), bundle payments could be an important tool for capacity-building and development. How these funds are used should arguably be decided by a political process within the beneficiary states, which could benefit from the expertise provided by international institutions but should not be bound by such expertise. More than any international institution, a state generally has the capacity to decide on and implement efficient policies for the benefit of its most vulnerable population – and when a state lacks such capacity, capacity-building should be an urgent priority for international and foreign development partners.

At this point, an objection might be raised. It proceeds from a mistrust toward the governments of certain developing states, often perceived as generally inefficient or corrupt – a representation that might justify the intrusion of developed states in their administration. This reasoning is disturbingly reminiscent of colonialism, which once patronized ‘peoples not yet able to stand by themselves under the strenuous conditions of the modern world’,¹¹⁸ and which allowed European powers to advance their own economic interests in the name of development. The history of colonialism reflects the risks involved when a state attempts to rule over another. Thus vertical approaches raise issues of efficiency (foreign administration is costly) and pose risks of abuses (for instance, through conditionalities). On the other hand, although horizontal approaches raise non-negligible risks of financial embezzlement, they may usefully contribute to a capacity-building process.

5 Loss and Damage and the Principle of State Sovereignty

The two previous sections have argued that horizontal approaches to address loss and damage have practical advantages when dealing with the issue of attribution and that they are more efficient in serving some of the main purposes of addressing loss and damage. This last section shows that general principles of international law – in particular the principle of state sovereignty and the law on state responsibility – imply support for horizontal rather than

117 See e.g. Fan Shenggen (ed.), *Public Expenditures, Growth, and Poverty: Lessons from Developing Countries* (Baltimore: Johns Hopkins University Press, 2008). This renewed confidence in the role of the state is epitomized by the recovery packages adopted by some states in response to the 2009 financial crisis.

118 Covenant of the League of Nations, art. 22(1).

vertical approaches to address loss and damage. In isolation from other arguments, consistency with existing legal principles does not constitute a conclusive argument about what the law should be (*lex ferenda*) – after all, one may argue that the principles need to be reformed or that an exception to them should be recognized – but such an argument should at least question the prevalence of vertical approaches to address loss and damage in current academic and political discussions. To make the point, this section starts by recalling the principle of state sovereignty and its application as prohibiting interference in the domestic affairs of states, before analysing the more specific significance of the law of state responsibility to loss and damage.

5.1 *The Prohibition of Interference*

As James Crawford has noted, ‘Strictly, the term “sovereign State” is a pleonasm – the adjective is redundant.’¹¹⁹ The notion of sovereignty is classically defined as ‘the totality of international rights and duties recognized by international law.’¹²⁰ Of particular importance for the present discussion is the ‘exclusive competence [of states] in their internal affairs.’¹²¹ While this principle has not been *amended*, it has been *curtailed* by progressive legal developments ranging from human rights obligations to the obligation of states not to allow the use of their territory to result in transboundary environmental harm (no-harm principle). According to the famous statement of principle of the Permanent Court of International Justice in the *Lotus* case, ‘Restrictions upon the independence of States cannot ... be presumed.’¹²² As a corollary, until that right has been restricted, each state has a ‘sovereign and inalienable right ... freely to determine its own political, economic, cultural and social system.’¹²³ As noted, the

119 James Crawford, ‘Chance, Order, Change: General Course on Public International Law’, 365 *Recueil des Cours, Collected Courses of the Hague Academy of International Law* 9 (2013), at 70.

120 *Reparation for Injuries Suffered in the Service of the United Nations*, Advisory Opinion, ICJ Reports 1949, at 180.

121 Crawford, *supra* note 120, at 72. Thus, Article 2(7) of the UN Charter prohibits any intervention ‘in matters which are essentially within the domestic jurisdiction of any state.’

122 *The ss ‘Lotus’*, (1927) PCIJ, Ser. A, No. 10, at 18.

123 UN General Assembly Resolution 36/103, ‘Declaration on the Inadmissibility of Intervention and Interference in the Internal Affairs of States’, A/RES/36/103 (9 December 1981), para. 2(I)(b). See also UN General Assembly Resolutions 60/1, ‘2005 World Summit Outcome’, A/RES/60/1 (24 October 2005), para. 5; 3281 (XXIX), ‘Charter of Economic Rights and Duties of States’, A/RES/29/3281 (12 December 1974), art. 1; 2131 (XX), ‘Declaration on the Inadmissibility of Intervention in the Domestic Affairs of States and the Protection of Their Independence and Sovereignty’, A/RES/20/2131 (21 December 1965), para.1.

experience of colonialism must alert us to the dangers of denying such a right to developing states on the basis of deeming them unfit for self-governance.

Substantially addressing loss and damage requires national authorities to engage, for instance, in adaptation policies that aim to reduce the risk of loss and damage or facilitate recovery. Decisions as to whether, when, and how to adjust to changing climate risks suppose a vision of what a society should be. As such, these decisions are inherently political.¹²⁴ Therefore, these decisions should in principle be made by each sovereign state, being constrained only by general restrictions (in particular human-rights protection and democratic accountability). The expertise of international organizations and other development partners may be helpful, in particular to developing states that have lesser capacity, but such expertise must not be *imposed* on developing states. It follows that a domestic insurance mechanism imposed by international institutions would, as a submission by the United States noted, ‘undermine ... the ability of individual countries to develop their own priorities based upon their specific circumstances and needs.’¹²⁵ Vertical approaches to loss and damage would interfere with domestic political processes relating to the determination, among other things, of a state’s development strategy.

These considerations suggest a broader critique of international action on adaptation, where an explicit emphasis on a ‘country-driven approach’¹²⁶ to adaptation does little to mask a tendency toward the imposition of international priorities – if only through pushing developing states to clearly distinguish and prioritize climate change adaptation within their broader development agenda.¹²⁷ Adaptation finance, being primarily channelled by bilateral institutions and only exceptionally through purpose-specific multilateral funds such as the Adaptation Fund, often comes with political conditions to the advantage of developed states.¹²⁸ Thus, through a tight control of financial means, developed states keep (at least potentially) a certain control

124 Hulme, O’Neill and Dessai, *supra* note 51, at 765.

125 Submission by the United States (2012), *supra* note 81, at 2.

126 See in particular UNFCCC, Decision 1/CP.16, ‘Cancun Agreements’, *supra* note 12, para. 12.

127 See for instance Kyoto Protocol, Decision 1/CMP.4, ‘Adaptation Fund’, FCCC/KP/CMP/2007/9/Add.1 (2008), annex IV: Strategic Priorities, Policies and Guidelines of the Adaptation Fund. This critique of adaptation is developed in Benoît Mayer, ‘State Responsibility and Climate Change Governance: A Light through the Storm’, 13(3) *Chinese Journal of International Law* 539 (2014).

128 Buchner et al., *supra* note 5, iv, showing that, out of US\$4.4 billion per year, only about US\$65 million are distributed through specific multilateral funds, whereas US\$3.6 billion are channelled by bilateral institutions.

over adaptation policies in developing states.¹²⁹ Top-down considerations for issues such as climate change migration tend to push for the resettlement of 'sinking islands' nations¹³⁰ but against international migration toward Western countries,¹³¹ with little consideration for the particular development strategies of the states most directly affected by climate change. Even when such top-down discourses are denounced, 'community-based adaptation' is often presented as the alternative,¹³² while the agency of developing states and the need for capacity building tend to be ignored.

5.2 *Law of State Responsibility as Guide*

The Articles on the Responsibility of States for Internationally Wrongful Acts adopted by the International Law Commission in 2001 affirm that 'Every internationally wrongful act of a State entails the international responsibility of that State.'¹³³ Scientific evidence duly recognized by states indicates that excessive greenhouse gas emissions could result in 'dangerous anthropogenic interference with the climate system,'¹³⁴ and that such interference should be prevented. An interference with the climate system, resulting in serious impacts within states, is arguably also an interference in the rights of sovereign states, and a breach of international law. I argued elsewhere that the problem of excessive greenhouse gas emissions could be seen through the lens of the law of state responsibility. Accordingly, excessive greenhouse gas emissions appear to reflect a breach by states – in particular industrial ones – of their

129 Geoff Cockfield, 'Governing Adaptation Policies and Programmes,' in Timothy Cadman (ed.), *Climate Change and Global Policy Regimes: Towards Institutional Legitimacy* (New York: McMillan, 2013), 70.

130 See Karen McNamara and Chris Gibson, "We Do Not Want to Leave Our Land": Pacific Ambassadors at the United Nations Resist the Category of "Climate Refugees", 40 *Geoforum* 475 (2009).

131 See Gregory White, *Climate Change and Migration: Security and Borders in a Warming World* (New York: Oxford University Press, 2011). See generally Mike Hulme, 'Commentary and Response: Climate Refugees: Cause for a New Agreement?', 50(6) *Environment* 50 (2008).

132 See for instance Lisa Schipper et al. (ed.), *Community-Based Adaptation to Climate Change: Scaling it up* (London: Routledge, 2014).

133 International Law Commission, 'Draft Articles on Responsibility of States for Internationally Wrongful Acts,' in Report of the International Law Commission on the work of its Fifty-third session, Official Records of the General Assembly, Fifty-sixth session, Supplement No. 10, A/56/10 (November 2001) (hereinafter 'Draft Articles on State Responsibility'), art. 1

134 UNFCCC, *supra* note 3, art. 2.

obligation, owed to the international community as a whole, to prevent activities under their jurisdiction that result in harm to the global atmospheric commons. In this perspective, loss and damage could be approached as a form of reparation for the injury caused to the global atmospheric commons. As restitution is materially impossible, reparation should be made through compensation.¹³⁵

The law of state responsibility conceives compensation as an unconditional payment to a state – that is to say, in a horizontal approach between states. This applies not only when a harm is actually incurred by an injured state (such as an affront to the state¹³⁶), but also when harm is incurred by a person. According to the *Mavrommatis* principle, a state claiming reparation on the ground of an injury suffered by a subject of the state is deemed to be ‘asserting its own rights.’¹³⁷ The ILC’s Draft Articles on Diplomatic Protection *recommend* a practice of transferring such compensation to the injured individual, but they do not recognize any such *obligation* in international law.¹³⁸ This reflects an assumption that political decisions on the best use of compensation should be made by the sovereign states concerned, consistently with the right of a state to freely determine its own political, economic, cultural, and social system.

There appears to be no reason why the sort of compensation channelled by a mechanism on loss and damage should differ from existing international legal principles on state responsibility and compensation. International institutions have considered individual compensation only in limited circumstances, such as investment-dispute resolutions, certain arrangements on war reparations, and human rights violations. These examples, which involve a direct impact on particular persons, are significantly different from the diffuse and indirect social impacts of climate change. The discussion of the issue of causal attribution above has shown that the social impacts of climate change are mediated by social factors such as vulnerability and exposure.

135 Mayer, *supra* note 128.

136 See in particular *Rainbow Warrior (New Zealand/France)*, UNRIIAA, vol. XX, p. 217 (1990), at pp. 272–273, para. 122.

137 *Mavrommatis Palestine Concessions* (Greece v. United Kingdom), Objection to the Jurisdiction of the Court, PCIJ, Series A, No. 2, at 12.

138 ILC, Draft Articles on Diplomatic Protection, in *Yearbook of the International Law Commission*, 2006, vol. II, Part Two, art. 19(c), and Commentary under art. 19, para. 5. See also Alain Pellet, ‘The ILC’s Articles on State Responsibility for Internationally Wrongful Acts and Related Texts,’ in James Crawford et al. (eds.), *Law of International Responsibility* (Oxford: Oxford University Press, 2010) 75, at 89.

5.3 *Beyond Sovereignty?*

More generally, one may raise an argument against vertical approaches to loss and damage on the ground that they support a broader trend toward the curtailment of state sovereignty.¹³⁹ There may be a decent critique of the principle of state sovereignty, based for instance on the idea that sovereignty serves the interests of governments rather than the interests of peoples,¹⁴⁰ or that it ‘evokes the anachronistic idea of the total independence and autonomy of the state.’¹⁴¹ Some of the arguments developed in the two earlier sections, relating to the ability and efficiency of a state in using compensation for the benefit of its population, hint at some possible grounds to defend the maintained relevance of sovereignty. In the absence of any alternative to the state as a tool for global governance, as James Crawford pointed out, ‘we are probably stuck with it.’¹⁴²

But even if one believes that sovereignty is somewhat passé or ought to be curtailed or otherwise reformed or amended to accommodate present realities, such arguments do not support *vertical* approaches to address loss and damage. Arguments questioning the relevance of sovereignty would rather suggest other forms of *horizontal* approaches to address loss and damage, not between states but between individuals. For instance, one may argue that, in an ideal world, a global tax should be levied on greenhouse gas production or consumption, and the proceeds distributed to individuals affected by climate change (despite all the difficulties detailed above). The main issue with vertical approaches to loss and damage is that they are vertical: they deal with developed and developing countries in different ways. On the one hand, it is generally accepted that a loss-and-damage mechanism should be funded by developed states, not by individuals within those states. The agency of developed states is thus respected, in accordance with the dominant paradigm of international law. On the other hand, vertical approaches deny the role of developing states, as sovereign states, in representing and protecting their population. As a consequence, vertical approaches to address loss and damage

139 This trend is not new, but has always been present in international law. See for instance Albert de la Pradelle, ‘La Place de L’homme dans la Construction du Droit International’, 1(1) *Current Legal Problems* 140 (1948), at 147, noting ‘tout un mouvement ... dans le sens de la reconnaissance du droit, non plus à l’Etat, mais à l’individu’ (an emerging trend toward a recognition of rights, no longer of the State, but of the individual).

140 See in particular Philip Allott, ‘State Responsibility and the Unmaking of International Law’, 29 *Harvard Journal of International Law* 1 (1988).

141 J. I. Charney, ‘*International Law Decisions in National Courts*’, edited by Thomas M. Franck and Gregory M. Fox’ (book review), 91 *American Journal of International Law* 395 (1997).

142 For a defence of sovereignty, see: Crawford, *supra* note 120, at 85.

reproduce, once again, a pattern of domination and subordination evocative of our colonial history.¹⁴³

6 Conclusion

Recent political and academic debates have generally taken for granted that international governance should address loss and damage at the level of individuals, corporations, and governments. This article has argued for loss and damage to be analysed instead at the level of states. Three sets of arguments were developed. First, the adverse impacts of climate change are more convincingly analysed in a probabilistic analysis at the scale of states. Second, horizontal approaches are more likely to be economically efficient, to incentivize risk-reduction strategies and climate change mitigation, and to achieve social benefits. Third, the principle of state sovereignty and the law of state responsibility suggest that compensation should be settled among sovereign states.

Why, then, have vertical approaches to address loss and damage remained unquestioned? As mentioned, developed states may perceive an interest in vertical approaches to loss and damage that allow them to exercise some degree of control on the policies pursued by developing states, for instance with regard to migration. Some other stakeholders, including international organizations and non-governmental organizations or corporations that wield weight in the UNFCCC negotiations, are also interested in an extended international regime whereby they could have a greater role to play in caring for 'climate change victims' or 'climate migrants'.¹⁴⁴ However, the lack of protest from developing states to possible interference with their internal affairs is more surprising, and, in fact, difficult to understand.¹⁴⁵ There seems to be a share of

143 A. Anghie, *Imperialism, Sovereignty and the Making of International Law* (Cambridge: Cambridge University Press, 2005).

144 Thus, several international organizations and NGOs interested in conducting research or implementing policies on migration have largely contributed to pushing the concept of 'climate migration' in international negotiations. Re-insurance companies have also participated to the debate on loss and damage, most visibly through repeated submissions to the UNFCCC.

145 See, for instance, the submission of Nepal on behalf of the LDC Group concerning the Executive Committee's Draft Initial Two-Year Workplan for the Implementation of the Functions of Warsaw International Mechanism for Loss and Damage (6 July 2014), calling for the 'institutional structures and linkages needed by the Warsaw International Mechanism to acquire the financial and technical means for its work in supporting the LDCs and other developing countries'.

silent resignation on the part of developing states, which have little hope that *any* substantial funding could be provided to address loss and damage, and perhaps an understanding that claims for horizontal approaches might be politically counter-productive. There is a great risk, however, in disregarding the relevance of developing states as actors rather than passive fund-recipients on the ground of the urgency of defining consensual responses.