

THIRD PILLAR



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The Third Pillar: Repairing the Damage; by La Ruta del Clima Association with technical and financial support from the Heinrich-Böll Foundation.



ISBN: 978-9930-646-02-1



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Publisher: La Ruta del Clima

Graphic design, layout, and cover: Jennifer Rojas, María José Roldán.

Published in San José, Costa Rica, 1st edition, October 2025.

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Abbreviations

CBA: Community-based adaptation

AOSIS: Alliance of Small Island States

PA: Paris Agreement

AWG-LCA: Ad Hoc Working Group on Long-term Cooperative Action

BIM: Barbados Modalities of Implementation

ICJ: International Court of Justice

UNFCCC: United Nations Framework Convention on Climate Change

COP: Conference of the Parties

IACHR: Inter-American Court of Human Rights

DALA: Loss and Damage Assessment

LDRF: Loss and Damage Response Fund

GHG: Greenhouse gases

GGA: Global Adaptation Goal

IPCC: Intergovernmental Panel on Climate Change

INC: Intergovernmental Negotiating Committee for a Framework Convention on Climate Change

NCQG: New Collective Quantified Goal

NDC: Nationally Determined Contributions

PDNA: Post-Disaster Needs Assessment

UNEP: United Nations Environment Programme

WIM: Warsaw International Mechanism

Introduction

The United Nations Framework Convention on Climate Change (UNFCCC) protects against dangerous human interference with the climate system¹. However, it is no secret that greenhouse gas emissions generated by direct or indirect emissions from human activities continue to increase². These emissions have unequal historical sources and are related to unsustainable energy use, land use changes, lifestyles, consumption and production patterns, which vary between regions, countries, and individuals. The release of greenhouse gas emissions has increased the planet's temperature and led to climate change.

There is no doubt that human activity has warmed the atmosphere, oceans, and land, becoming the main influence on warming since at least 1971³. Science has documented a change in the climate, apart from the planet's natural variability, observed over long periods. This change in the climate is causing rapid and extensive changes in the atmosphere, oceans, cryosphere, and biosphere.

When talking about climate change, it is necessary to define three relevant concepts:

Adverse effects of climate change: The UNFCCC defines these as "changes in the physical environment or biota resulting from climate change that have significant

detrimental effects on the composition, resilience, or productivity of natural or managed ecosystems, or on the functioning of socioeconomic systems, or on human health and well-being."⁴ This subtle difference allows us to talk more accurately about what is happening in a given territory.

Climate risk: closely linked to impacts. It is understood as the possibility that climate threats will have negative consequences on natural and/or human systems.⁵ Climate risk is the result of the dynamic interaction between climate threats, exposure, and the vulnerability of human and/or natural systems.⁶ However, the concept of risk can also be used to refer to the risk generated by responses to climate change, for example, when an adaptation measure generates new unforeseen impacts or vulnerabilities.⁷

Based on this, an adaptation measure is considered effective when it reduces climate risk in the face of current or future adverse effects caused by climate change. Residual risk is the result of the limits of adaptation to adverse effects in a territory. The consequences of these adverse effects on human or natural systems are analyzed contextually as damage and loss, and it is this material reality that leads to the obligation to repair.

¹ UNFCCC, 1992 "United Nations Framework Convention on Climate Change" Art. 1 Retrieved from convsp.pdf

² IPCC, 2023 "Climate Change 2023 Synthesis Report Summary for Policymakers" for A.1 Retrieved from IPCC_AR6_SYR_SPM.pdf

³ IPCC, 2023 "Climate Change 2023 Synthesis Report Summary for Policymakers" for A.2.1 Retrieved from IPCC_AR6_SYR_SPM.pdf

⁴ UNFCCC, 1992, "United Nations Framework Convention on Climate Change" Art. 1.1 Retrieved from convsp.pdf

⁵ Retrieved from Annex VII: Glossary

⁶ IPCC, (2022) "AR6 WGII Technical Summary" Pg. 43 Retrieved from IPCC_AR6_WGII_TechnicalSummary.pdf

⁷ IPCC, (2020) "The concept of risk in the IPCC Sixth Assessment Report: a summary of cross Working Group discussions Guidance for IPCC authors" pg 6 Retrieved from Risk-guidance-FINAL_15Feb2021.pdf

Climate impacts: changes in climate have effects on socio-natural systems in all regions of the planet. The Intergovernmental Panel on Climate Change (IPCC) refers to these effects as impacts.⁸

They are defined as the “consequences of risks materializing in natural and human systems, where risks result from the interaction between climate hazards (including extreme weather/climate events), exposure, and vulnerability.”⁹

Perhaps it is important to emphasize that climate impacts can be identified as adverse or beneficial with respect to life itself, its means, health and well-being, ecosystems and species, economic, social, and cultural assets, services (including ecosystem services), and infrastructure.¹⁰ This characterization will depend on a contextual analysis.

Climate impacts on human and natural systems can be seen in these tables created by the IPCC:¹¹

⁸ Retrieved from Annex VII: Glossary

⁹ IPCC, n.d. Glossary Retrieved from IPCC Glossary Search

¹⁰ UNFCCC, 1992, “United Nations Framework Convention on Climate Change” Art. 1.1 Retrieved from convsp.pdf

¹¹ pg 46 Retrieved from IPCC_AR6_WGII_TechnicalSummary.pdf

Impacts of climate change are observed in many ecosystems and human systems worldwide

(a) Observed impacts of climate change on ecosystems

Ecosystems	Changes in ecosystem structure			Species range shifts			Changes in timing (phenology)		
	Terrestrial	Freshwater	Ocean	Terrestrial	Freshwater	Ocean	Terrestrial	Freshwater	Ocean
Global	●	●	●	●	●	●	●	●	●
Africa	●	●	●	●	○	●	○	●	●
Asia	●	●	●	●	●	○	●	●	●
Australasia	●	○	●	●	○	●	●	○	●
Central and South America	●	●	●	●	●	●	○	○	●
Europe	●	●	●	●	●	●	●	●	●
North America	●	●	●	●	●	●	●	●	●
Small Islands	●	●	●	●	●	●	●	○	●
Arctic	●	●	●	●	●	●	●	●	●
Antarctic	●	○	●	●	○	●	●	○	○
Mediterranean region	●	○	●	●	●	●	●	○	●
Tropical forests	●	○	na	●	○	na	○	○	na
Mountain regions	●	●	na	●	●	na	●	●	na
Deserts	●	na	na	●	na	na	○	na	na
Biodiversity hotspots	●	○	●	●	○	●	●	○	not assessed

Confidence in attribution to climate change

- High or very high
- Medium
- Low
- Evidence limited, insufficient
- na Not applicable

Impacts to human systems in panel (b)

- Increasing adverse impacts
- ± Increasing adverse and positive impacts

(b) Observed impacts of climate change on human systems

Human systems	Impacts on water scarcity and food production				Impacts on health and wellbeing				Impacts on cities, settlements and infrastructure			
	Water scarcity	Agriculture/crop production	Animal and livestock health and productivity	Fisheries yields and aquaculture production	Infectious diseases	Heat, malnutrition and other	Mental health	Displacement	Inland flooding and associated damages	Flood/storm induced damages in coastal areas	Damages to infrastructure	Damages to key economic sectors
Global	±	—	○	—	—	—	—	—	—	—	—	—
Africa	—	—	—	—	—	—	—	—	—	—	—	—
Asia	±	±	—	—	—	—	—	—	—	—	—	—
Australasia	±	—	±	—	—	—	—	not assessed	—	—	—	—
Central and South America	±	—	±	—	—	—	not assessed	—	—	—	—	—
Europe	±	±	—	±	—	—	—	—	—	—	—	—
North America	±	±	—	±	—	—	—	—	—	—	—	—
Small Islands	—	—	—	—	—	—	—	—	—	—	—	—
Arctic	±	±	—	—	—	—	—	—	—	—	—	±
Cities by the sea	○	○	○	—	○	—	not assessed	—	○	—	—	—
Mediterranean region	—	—	—	—	—	—	not assessed	—	±	—	○	—
Mountain regions	±	±	—	○	—	—	—	—	—	na	—	—

Based on the above, and taking into account the relationship between impacts, risk, adaptation, and damage and loss repair, La Ruta del Clima has developed this document. Its purpose is to analyze how adaptation and repair of damage and losses constitute climate actions that respond differently, in terms of concepts and practices, to climate impacts, from a common origin: climate regulations with their respective State obligations and responsibilities.

While adaptation seeks to generate adjustments in socio-natural systems to resist the impacts of climate change, redress for damage and loss addresses the consequences of adverse effects, either from a cooperative approach or from international responsibility for illegal acts linked to inaction or omission in the face of climate change.

The consequences of climate impacts are part of the daily lives of millions of people and a source of structural violence that violates their human rights. Historically, the UNFCCC has referred to two pillars of climate action, focusing on mitigation and adaptation as priority areas for negotiation. However, when it comes to damage and loss, the issue has been relegated for years, with various excuses being used to avoid recognizing its importance and urgency. For this reason, it is necessary to establish a third pillar of climate action, which emerges as the obligation to repair the damage and loss caused by the adverse effects of climate change resulting from anthropogenic activities.

This document is divided into three sections that seek to weave together and generate a contribution to the visibility and constitution of this third pillar. To this end, the first section refers to Adaptation, from its definition and emergence to the different concepts and categories associated with it, such as adaptation limits and indicators that evaluate adaptation initiatives.

The second section focuses on Repairing Damage and Losses, addressing the definition of Damage and Losses from its initial mentions to the development of various current mechanisms such as the Warsaw International Mechanism, the Santiago Network, the Glasgow Dialogues, and the Damage and Losses Fund. In addition, reference is made to the importance of reparations for Damage and Losses.

Finally, the third section emphasizes the Third Pillar by highlighting the importance of addressing damage and loss from a climate reparations perspective, demanding that developed countries fulfill their obligations to repair the damage suffered.

I. Adaptation

I.1. What is adaptation?

In biology, "adaptation" is referred to as an evolutionary process in which populations of organisms change over time in response to other organisms and the physical environment in order to survive. In the UNFCCC, this adaptation is understood as natural adaptation.

It should be noted that when talking about climate change, the term adaptation is also used, but it refers mainly to human activities carried out to minimize the adverse effects of climate change.¹²

However, changes in climate have become a driver of evolutionary adaptation processes in plant and animal species. With these types of climate changes, some species are expected to adapt and others are not, which may lead to their extinction.

This context creates a situation in which some species are disappearing due to climate impacts, and human actions focused on adaptation seek to reduce the consequences on ecosystems.¹³

Adaptation can reduce climate risks that are projected onto natural and human systems.

The risk that remains after adaptation efforts is called residual risk, which materializes in the form of climate impacts on a territory.¹⁴

In simple terms, we understand adaptation as those actions that help socio-natural systems adjust and prepare for current or future changes in climate due to anthropogenic climate change and global warming.

Although we can take adaptation actions as individuals and in our homes, it is true that adaptation actions have greater potential when they are undertaken collectively by different sectors of society.

For this reason, international organizations have developed a series of instruments that establish international and national commitments that prioritize adaptation as a way to ensure that diverse populations, especially those that have been historically and structurally vulnerable, can live in dignity and security and exercise their right to a clean, healthy, and sustainable environment.

¹² Mawdsley, O'Malley & Ojima, (2009) "A Review of Climate-Change Adaptation Strategies for Wildlife Management and Biodiversity Conservation." Retrieved from: A review of climate-change adaptation strategies for wildlife management and biodiversity conservation - PubMed

¹³ Mawdsley, O'malley & Ojima, (2009) "A Review of ClimateChange Adaptation Strategies for Wildlife Management and Biodiversity Conservation". Recuperado de: A review of climate-change adaptation strategies for wildlife management and biodiversity conservation - PubMed

¹⁴ IPCC, (2020) "The concept of risk in the IPCC Sixth Assessment Report: a summary of cross Working Group discussions Guidance for IPCC authors" pg 15 Recuperado de Risk-guidance-FINAL_15Feb2021.pdf

I.2. Adaptation: one of the pillars for addressing climate change.

To better understand adaptation, it is necessary to situate its origin and development as one of the commitments of the States Parties to the UNFCCC.

The Convention determines in its Article 2 that the ultimate objective of this Convention and any related legal instruments adopted by the Conference of the Parties is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.¹⁵

To achieve this goal, States committed to formulating, implementing, publishing, and updating measures to facilitate adequate adaptation to climate change; cooperating in preparations for adaptation to the impacts of climate change; and including climate change in their public policies, as well as minimizing the negative effects that adaptation measures may cause.¹⁶

As part of these efforts, the Paris Agreement (PA) was adopted in 2015, an instrument designed to improve the implementation of the UNFCCC. The Paris Agreement establishes adaptation as a global challenge that requires multilevel governance and must be part of long-term strategies to address climate change.¹⁷

At the same time, it proposes adaptation as a measure for the protection of people, livelihoods, and ecosystems.¹⁸ Based on this agreement, States recognize the considerable importance of adaptation and the existence of an interdependent dynamic between the increase or reduction of mitigation levels with respect to adaptation needs.¹⁹

Furthermore, Article 7 of the PA calls for an adaptation response that:

- Is consistent with the outcome of meeting the global temperature goal of 1.5°C.
- Increases the capacity to adapt to the adverse effects of climate change.
- Directs financial flows towards a pathway leading to climate-resilient development.
- Responds to equity and the principle of common but differentiated responsibilities and respective capabilities, in light of different national circumstances.²⁰

¹⁵ Art. 2 Retrieved from convsp.pdf

¹⁶ Art. 4 Retrieved from convsp.pdf

¹⁷ Art. 7.2 Retrieved from Paris Agreement Spanish

¹⁸ Art. 7.2 Retrieved from Paris Agreement Spanish

¹⁹ Art. 7.4 Retrieved from Paris Agreement Spanish

²⁰ Art. 2 Retrieved from Paris Agreement Spanish

The IPCC has also contributed to the definition of adaptation, proposing a distinction between adaptation in human systems and adaptation in natural systems.

With regard to human systems, adaptation is a process in which societies, cultural frameworks, productive and economic structures, populations, territories, among others, adjust to current or projected climate and its impacts, with the aim of moderating damage or enjoying possible benefits.²¹

With regard to natural systems, adaptation is a process in which ecosystems and species adjust on their own to changes in climate; human intervention can facilitate this adjustment.²²

Following Article 2 of the UNFCCC, a distinction can be made between the natural adaptation of ecosystems (adjustment without direct human intervention) and adaptation, understood as measures facilitated by human action that use biodiversity and ecosystem services to help people and ecosystems adapt.

Thus, the success of the UNFCCC's objective is contingent on stabilizing greenhouse gases early enough for ecosystems to adapt naturally, and not solely through human intervention.

1.3. Limits and the possibility of adaptation

Another important element in understanding adaptation is the limits of adaptation: points beyond which, even with measures in place, climate risk can no longer be kept at tolerable levels.²³ Or situations in which the measures taken are no longer sufficient to respond to the possible impacts and consequences are generated in the territory.

Therefore, adaptation has limits which, if exceeded, would prevent human and/or natural systems from being maintained at tolerable risk levels, regardless of the efforts made, leading to negative and harmful consequences.

Adaptation limits are classified as hard or soft. The IPCC defines a hard limit as one where there are no adaptation actions capable of avoiding an intolerable risk. Meanwhile, a soft limit occurs when there are adaptation options available to avoid intolerable risks, but they are not available at the moment.²⁴

In human systems, this classification will depend on the perspective and decisions of different social actors and the dynamics of biophysical and socioeconomic processes. In natural systems, it would be determined by the capacity and rate of response of a species and ecosystem to change.²⁵

21 IPCC, (2021) "Annex VII: Glossary" pg, 2216 Recuperado de Annex VII: Glossary

22 IPCC, (2021) "Annex VII: Glossary" pg, 2216 Recuperado de Annex VII: Glossary

23 pg 919 Recuperado de 16 — Adaptation Opportunities, Constraints, and Limits

24 Recuperado de IPCC Glossary Search

25 pg 919 Recuperado de 16 — Adaptation Opportunities, Constraints, and Limits

One of the factors limiting the capacity to adapt to potential damage, take advantage of opportunities, or respond to consequences is the increase in global temperature, driven by unstabilized emissions and the lack of real and transformative action by some states.

Article 2 of the PA sets the 1.5°C target as the central reference for limiting global temperature rise.²⁶ The International Court of Justice has stated that “the 1.5°C threshold is the main temperature target agreed by the parties to limit the global average temperature increase under the Paris Agreement.”²⁷

For its part, the IPCC warns that as temperatures rise, the effectiveness of adaptation will decrease.²⁸

If global warming exceeds 1.5 °C, many ecosystems will have reached or exceeded their hard adaptation limits²⁹, meaning that some adaptation measures will not be sufficient to prevent risks materializing in damage and losses.

Table 1 shows which human and natural systems will have reached their soft or hard limits when 1.5 °C is exceeded.³⁰

²⁶ Recuperado de Paris Agreement Spanish

²⁷ ICJ, (2025) “OBLIGATIONS OF STATES IN RESPECT OF CLIMATE CHANGE” para 224 Recuperado de Advisory Opinion of 23 July 2025

²⁸ IPCC, 2023 “Climate Change 2023 Synthesis Report Summary for Policymakers” para B.4.1 Recuperado de IPCC_AR6_SYR_SPM.pdf

²⁹ IPCC, 2023 “Climate Change 2023 Synthesis Report Summary for Policymakers” para B.4.2 Recuperado de IPCC_AR6_SYR_SPM.pdf

³⁰ SR15_Full_Report_LR.pdf pg 455

Table 1. Adaptation limits in the context of global temperature rise.

System/Region	Example	Soft	Hard
Coral reefs	Loss of 70–90% of tropical coral reefs by mid-century in a 1.5°C scenario (total loss under a 2°C scenario) (see Chapter 3, Sections 3.4.4 and 3.5.2.1, Box 3.4).		x
Biodiversity	6% of insects, 8% of plants, and 4% of vertebrates lose more than 50% of their climate-determined geographic range at 1.5 °C (18% of insects, 16% of plants, and 8% of vertebrates at 2 °C) (see Chapter 3, Section 3.4.3.3).	x	x
Poverty	24–357 million people exposed to multisectoral climate risks and vulnerable to poverty at 1.5 °C (86–1,220 million at 2 °C) (see Section 5.2.2).	x	
Human health	Twice as many megacities exposed to heat stress at 1.5 °C compared to today, potentially exposing an additional 350 million people to deadly heat by 2050 (see Chapter 3, Section 3.4.8).	x	x
Coastal livelihoods	Large-scale changes in ocean systems (temperature and acidification) affect damage and losses to livelihoods, income, cultural identity, and health of sea-dependent communities at 1.5 °C (potentially greater losses at 2 °C) (see Chapter 3, Sections 3.4.4, 3.4.5, 3.4.6.3; Boxes 3.4 and 3.5; Cross-cutting Box 6; Chapter 4, Section 4.3.5; Section 5.2.3).	x	
Small Island Developing States (SIDS)	Sea level rise and increased wave height, together with increased aridity and reduced freshwater availability at 1.5°C, could render several atoll islands uninhabitable (see Chapter 3, Sections 3.4.3, 3.4.5, Box 3.5; Chapter 4, Cross-cutting Box 9).		x

Source: IPCC, (2023) “AR6.” Retrieved from: ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FullReport.pdf

The above does not paint an encouraging picture, especially when considering the statement by the World Meteorological Organization, which indicates that for the period between 2024 and 2028, the global temperature increase is forecast to range between 1.1°C and 1.9°C. There is an 80% probability that the 1.5°C limit will be exceeded between those dates.³¹

This would have implications for the effectiveness of the adaptation of human or natural systems. This casts doubt on the possibility of achieving the objective set out in Article 2 of the UNFCCC.

Adaptation planning and implementation has progressed in all sectors and regions, and its effectiveness has been documented.³²

However, in the face of rising temperatures, IPCC AR6 notes that there is little literature analyzing the risk and implications of exceeding the 1.5°C threshold and the real potential for adaptation in that context. This latter aspect has been little studied, making it difficult to understand the possible residual risk. Likewise, research on the limits of adaptation at the local level is still limited.³³

³¹ WMO, (2024) “Global temperature is likely to exceed 1.5°C above pre-industrial level temporarily in next 5 years” Recuperado de Global temperature is likely to exceed 1.5°C above pre-industrial level temporarily in next 5 years

³² para A3.2 & A.3.1 IPCC_AR6_SYR_SPM.pdf

³³ para-A.3 IPCC_AR6_SYR_SPM.pdf

Along with this, the IPCC notes that, despite progress in adaptation, adaptation gaps exist and are growing.³⁴

This echoes the findings of Moser et al., who question the assumption of effectiveness in the IPCC's definition of adaptation, given that damage reduction or benefit enjoyment is dependent on many factors external to the adaptation measure.³⁵

It should be noted that most of the responses observed by the IPCC are fragmented, specific to certain sectors, and uneven across regions. In addition, the adaptation gap and the incidence of maladaptation have a greater impact on lower-income, marginalized, and vulnerable groups.³⁶ This presents a scenario where the existence of residual risk and its consequences is highly probable.

I.4. How can we adapt? Between the Global Goal and adaptation indicators

In addition to positioning adaptation as a global challenge and providing guidelines for its implementation, the PA sets out in Article 7.1 the Global Goal on Adaptation (GGA).

Por el presente, las Partes establecen el objetivo mundial relativo a la adaptación, que consiste en aumentar la capacidad de

The Parties hereby establish the Global Goal

on Adaptation, which is to increase adaptive capacity, strengthen resilience, and reduce vulnerability to climate change with a view to contributing to sustainable development and achieving an adequate adaptation response in the context of the temperature goal referred to in Article 2.³⁷

To achieve the GGA, during the 28th Conference of the Parties (COP), Decision 2/CMA.5 was adopted, which creates the United Arab Emirates Global Climate Resilience Framework, with the aim of guiding global adaptation efforts (long-term transformational and incremental), achieving the GGA and its review..³⁸

This Framework defined highly ambitious goals to be met by all States Parties by 2030. To this end, each country must carry out actions such as:³⁹

- Conducting an updated analysis of climate threats, climate impacts, risk exposure, and vulnerabilities in order to integrate them into the development of their national adaptation plan and other tools.

2027: Establish a multi-hazard early warning system, climate information systems to reduce risks, and systemic observation to improve climate data, information, and services.

34 Moser, S et al, (2010) "A framework to diagnose barriers to climate change adaptation" Recuperado de A framework to diagnose barriers to climate change adaptation | PNAS

35 para A.3.3 & A.3.4 Recuperado de IPCC_AR6_SYR_SPM.pdf

36

37 Art. 7.1 Recuperado de Paris Agreement Spanish

38 CMNUCC, (2023) "Decision 2/CMA.5" Recuperado de Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fifth session, held in the United Arab Emirates from 30 November to 13 December 2023. Addendum. Part two: Action taken by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its fifth session | UNFCCC

39 UNFCCC, (2023) "Decision 2/CMA.5" para 10 Recuperado de Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fifth session, held in the United Arab Emirates from 30 November to 13 December 2023. Addendum. Part two: Action taken by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its fifth session | UNFCCC

- Design and promote an adaptation plan with a gender-responsive, participatory, and transparent approach.
- Implement their national adaptation plan and other policies, and as a result have reduced the socioeconomic impacts of key climate threats.
- Design, establish, and implement a monitoring, evaluation, and learning system for national adaptation efforts and develop the institutional capacity necessary to fully implement the system.

I.4.1. Adaptation indicators

Decision 2/CMA.5 also launched the United Arab Emirates–Belém Work Program, with the aim of identifying and developing indicators, as well as proposing potential quantifiable elements to achieve the goals of the United Arab Emirates Global Climate Resilience Framework. In this regard, the Program sets out the following objectives:

- a) Significantly reduce climate-induced water scarcity and increase climate resilience to water-related hazards to achieve climate-resilient water supply, climate-resilient sanitation, and access to safe and affordable drinking water for all;
- b) Achieve climate-resilient food and agricultural production and food supply and distribution, as well as increase sustainable and regenerative production and equitable access to adequate food and nutrition for all;

c) Achieve resilience to the health impacts of climate change by promoting climate-resilient health services and significantly reducing climate-related morbidity and mortality, particularly in the most vulnerable communities;

d) Reduce climate impacts on ecosystems and biodiversity, and accelerate the use of ecosystem-based adaptation and nature-based solutions, including through the management, enhancement, restoration, and conservation and protection of terrestrial, inland water, mountain, marine, and coastal ecosystems;

e) Increase the resilience of infrastructure and human settlements to the impacts of climate change to ensure basic and continuous essential services for all, and minimize climate-related impacts on infrastructure and human settlements;

f) Substantially reduce the adverse effects of climate change on poverty eradication and livelihoods, in particular by promoting the use of adaptive social protection measures for all;

g) Protect cultural heritage from the effects of climate-related risks by developing adaptive strategies to preserve cultural practices and heritage sites and designing climate-resilient infrastructure, guided by traditional knowledge, indigenous peoples' knowledge, and local knowledge systems.⁴⁰

⁴⁰ UNFCCC. (2023) "Decision 2/CMA.5" para 39 Retrieved from Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its fifth session, held in the United Arab Emirates from November 30 to December 13, 2023. Addendum. Part two: Action taken by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its fifth session | UNFCCC

With regard to the development of adaptation indicators, a process was carried out to compile 9,000 existing indicators from different countries and initiatives.⁴¹ In addition, and in response to Decision -/CMA.6, a list of criteria was drawn up to select 100 indicators during SB60.⁴²

By 2025, a list of indicators was consolidated, reducing the 9,000 to 490.⁴³ This process highlighted the challenge of measuring adaptation at the global level, while recognizing that the measurement of adaptation is dependent on the specific context.⁴⁴

Based on a review of the process of creating and selecting indicators within the GGA framework, we observed that both in the first list of compiled indicators (9,000) and in the subsequent list of consolidated indicators (490), the data sought to measure progress in adaptation actions are measured through indicators that measure negative consequences or damage and loss.

This reveals a dynamic and dialectical relationship between projected risk, adaptation effectiveness, and the negative consequences of climate impacts materializing in a territory.

Continuing on this theme, two examples (taken from the list of indicators consolidated by the United Arab Emirates–Belém Work Program) are presented to illustrate the dialectical relationship between adaptation effectiveness and the measurement of damage and loss.

⁴¹ Retrieved from Compilation of existing indicators, UAE–Belém work program on indicators | UNFCCC

⁴² or 17 & 20 Retrieved from Global goal on adaptation. Draft decision -/CMA.6. Proposal by the President | UNFCCC ; FCCC/SBSTA/2024/7, para. 41 retrieved from sbsta2024_07E.pdf: FCCC/SBI/2024/13, para. 79.

⁴³ Retrieved from Consolidated list of indicators for assessing overall progress towards achievement of the targets referred to in paragraphs 9–10 of decision 2/CMA.5, and progress of the work on the indicators. Report by the technical experts | UNFCCC

⁴⁴ para 66. Retrieved from Technical report by Secretariat .pdf

Example 1. Health and infectious diseases table

2 Table. Health and infectious disease indicators

New indicator ID	Is it a sub-indicator?	Parent indicator ID (if sub-indicator)	Final name of indicator	Sub-goal/ component	Expert group that selected the indicator
gc01	no		Incidence and suitability (climate) of infectious diseases	Health / Infectious diseases	gc
gc01a	Yes	gc11	Incidence of dengue	Health / Infectious diseases	gc
gc01b	Yes	gc10	Climate suitability for dengue transmission	Health / Infectious diseases	gc
gc01c	Yes	gc09	Incidence of malaria	Health / Infectious diseases	gc
gc01d	Yes	gc08	Climate suitability for malaria transmission	Health / Infectious diseases	gc
gc01e	Yes	gc07	Incidence of WNV (West Nile virus)	Health / Infectious diseases	gc
gc01f	Yes	gc06	Climate suitability for WNV (West Nile virus) transmission	Health / Infectious diseases	gc
gc01g	Yes	gc05	Incidence of chikungunya	Health / Infectious diseases	gc
gc01h	Yes	gc04	Climate suitability for chikungunya transmission	Health / Infectious diseases	gc
gc01i	Yes	gc03	Incidence of Zika	Health / Infectious diseases	gc
gc01j	Yes	gc02	Climate suitability for Zika transmission	Health / Infectious diseases	gc
gc01k	Yes	gc01	Incidence of Lyme disease	Health / Infectious diseases	gc
gc01l	Yes	gc00	Climate suitability for the transmission of tick-borne diseases	Health / Infectious diseases	gc
gc01m	Yes	gc01	Incidence of tick-borne encephalitis	Health / Infectious diseases	gc

Source: UNFCCC. "Consolidated List. 22.05." Own translation. Retrieved from Consolidated List 22.05.xlsx

This first set of indicators is complemented in pairs where:

General indicator: Incidence and suitability (climatic) of infectious diseases

The first indicator measures the incidence of infection of the disease

Indicator: Incidence of dengue

Unit of measurement: cases per 100,000 inhabitants

The second indicator measures the climatic suitability for disease transmission.

Indicator: Climate suitability for dengue transmission

Annual average

Example 2. Mental health table

3 Table. Mental Health Indicators

New indicator ID	Is it a sub-indicator?	Parent indicator ID (if it is a sub-indicator)	Final name of indicator	Sub-objective/ component	Expert group that selected the indicator
gc04	no		Impacts on mental health of climate-sensitive extreme events	Impacts on mental health	gc
gc04a	Yes	gc04	Suicides attributable to extreme weather events	Health / Mental health impacts	gc
gc04b	Yes	gc04	Emergency admissions to mental health services attributable to climate-sensitive extreme events	Health / Mental health impacts	gc

Source: UNFCCC, "Consolidated List. 22.05." Own translation. Retrieved from Consolidated List 22.05.xlsx

In the second set, the indicators document:

General indicator: Mental health impacts of climate-sensitive extreme events.

The first indicator measures suicides attributable to climate-sensitive extreme events.

Unit of measurement: deaths per 100,000 inhabitants.

The second indicator measures Emergency

admissions to mental health services attributable to climate-sensitive extreme events.

Unit of measurement: admissions per 100,000 inhabitants.

In this regard, some of the adaptation indicators must first identify the consequences of the impact on the exposure unit (territory, system, or population) before the effectiveness of the

adaptation measure can be determined. This implies that there must be certainty about the existence of damage or losses, their attribution to climate change, and their identification with an indicator.

This is in order to then analyze the difference between the climate risk that was attempted to be reduced with an adaptation measure and the damage and losses manifested in an exposure unit (defined space and time).

The result of this analysis would provide us with a metric for the effectiveness of adaptation.

This leads us to distinguish a possible correlation between the definition of adaptation effectiveness through indicators and the determination of damage and loss in a unit of exposure.

This would allow us to promote the repair of damage and loss that are the basis of GGA indicators, as they are already verified facts.

The damage and loss data identified by the IPCC indicators need to be assessed in greater depth to determine the multidimensionality of the impact and guide repair actions.

The indicators proposed for the GGA, such as those that measure the incidence of a negative consequence (infections, suicides, or admissions to health centers), are based on the fact that there was an impact attributable to climate change.

There, a posteriori assessment of the climate impact is carried out with respect to its damage and loss.

This factual basis allows for monitoring the effectiveness of adaptation, while also serving as a starting point for analyzing the multidimensional nature of the damage and loss that has occurred.

We therefore maintain that, in many cases, determining damage and loss is a necessary condition for verifying the progress and scope of the global adaptation goal.

In addition, specific indicators of loss and damage, differentiated from adaptation indicators, are required for a holistic understanding of the negative consequences.

I.4.2. Adaptation approaches

Adaptation puts people at the center, and its implementation has been guided by a national approach that must respond to issues of gender, participation, transparency, and traditional, scientific, local, and indigenous knowledge, taking into account vulnerable groups, communities, and ecosystems.⁴⁵

Reducing potential climate risk through adaptation can take several approaches to guide the actions implemented.

Some of these approaches are:

⁴⁵ Art. 7.5 Retrieved from Paris Agreement Spanish

Table 4 . Adaptation approaches

Approach	Description
Planned adaptation	Refers to large-scale socioeconomic or public policy interventions carried out by governments.. ⁴⁶
Autonomous adaptation	Responses carried out by communities with the resources available ⁴⁷ . Autonomous adaptation is not a conscious response to a climate stimulus, but rather a response to a change in the natural or human system. ⁴⁸
Community-based adaptation (CBA)	Is a theoretical and practical approach to implementing adaptation measures. ⁴⁹ In these adaptation processes, the community takes the lead and its needs, priorities, capacity, and knowledge are an integral part of the process. ⁵⁰ CBA is an approach that takes into account the context, culture ⁵¹ knowledge, agency, and preferences of communities as a strength. CBA processes are not simply those that integrate the community into activities, consultations, or meetings, but rather a process of community empowerment and comprehensive, planned action.. ⁵²
Transformative Adaptation	Adaptation that modifies the fundamental attributes of a system in anticipation of climate change and its impacts. Such adaptation measures may: • Generate significant changes in the structure or function of the system that go beyond adjusting existing practices; • Be adopted on a large scale, generate new strategies in a region or resource system, transform places, and potentially displace locations; • Generate profound and long-term social changes that influence sustainable development (including values and worldviews).⁵³
Incremental Adaptation	Adaptation actions that maintain the essence and integrity of a system or process at a given scale: • In some cases, incremental adaptation can increase and lead to transformational adaptation; • Incremental adaptation to climate change is understood as an extension of action and behavior that already reduces loss or improves the benefits of natural variations in extreme weather and climate events.⁵⁴

Source: own elaboration.

46 IPCC (2023), Annex II: Glossary. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Retrieved from https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullReport_es.pdf

47 IPCC (2023), Annex II: Glossary. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Retrieved from https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullReport_es.pdf

48 H.M. Tuihedur Rahman et al, (2021) "A framework for using autonomous adaptation as a leverage point in sustainable climate adaptation" Recuperado de <https://www.sciencedire.com/science/article/pii/S2212096321001054>

49 Paniagua et al, (2024) "Community-based adaptation: A conceptual analysis and its implementation in Costa Rica" Retrieved from Community-based adaptation: A conceptual analysis and its implementation in Costa Rica

50 Reid, H., Alam, M., Berger, R., Cannon, T., Huq, S., & Milligan, A. 2009. Community-based adaptation to climate change: an overview. In: Participatory learning and action, 60(1), 11-33.

51 IPCC. "Glossary." Retrieved from IPCC Glossary Search.

52 Paniagua et al, (2024) "Community-based adaptation: A conceptual analysis and its implementation in Costa Rica" Retrieved from Community-based adaptation: A conceptual analysis and its implementation in Costa Rica

53 UNFCCC, (2024) "Defining and understanding transformational adaptation at different spatial scales and sectors, and assessing progress in planning and implementing transformational adaptation approaches at the global level" Recuperado de tp2024_08.pdf

54 UNFCCC, (2024) "Defining and understanding transformational adaptation at different spatial scales and sectors, and assessing progress in planning and implementing transformational adaptation approaches at the global level" Recuperado de tp2024_08.pdf

ADAPTATION



Limits

+1.5 °C closer to exceeding adaptation limits

Soft
Hard



Human
Systems

Planned

Autonomous

Ecosystem-based

Community-based

Transformative

Incremental



Natural
Systems

- Article 2. UNFCCC
- Paris Agreement
- UAE Framework for Global Climate Resilience

GGA 2030

Adaptation
indicators

National
Adaptation
Plans

II. Repairing Damage and Losses

II.1. What is damage and loss?

Damage and loss has faced a lack of clarity within the UNFCCC, with arguments that the conceptual framework and its definition have not reached consensus.⁵⁵ This lack of clarity is said to be motivated by the unwillingness of developed countries to put a monetary value on damage and loss, and to politically define who should bear the financial cost.⁵⁶ The lack of a definition for the third pillar of climate action leads to underfunding, evasion of responsibility, and inaction.

However, in 2013, through Decision 2/CP.19, it was recognized that "loss and damage related to the adverse effects of climate change includes what can be mitigated by adaptation measures and, in some cases, goes beyond that."⁵⁷

This comes from a decision on the UNFCCC, which is interpretative in nature and could give rise to legal obligations. Therefore, this recognition of what constitutes damage and loss can be taken as the basis for a formally recognized definition. If we start from what is mentioned in Decision 2/CP.19, we could move forward in addressing damage and loss, eliminating the taboo of a lack of definition.

If we start from this definition, it allows us to link the term damage and loss to the adverse dimension of climate impacts.⁵⁸ This makes the discussion about what we need to repair and who is responsible more precise.

Furthermore, in the literature review carried out by the secretariat at COP18 as part of the work program on damage and loss, the definition used is "The actual and/or potential manifestation of the impacts associated with climate change in developing countries that adversely affect human and natural systems."

This review also mentions the difference between losses, which are "negative impacts for which repair or restoration is impossible, such as the loss of freshwater resources," and damage, which are "negative impacts that can be repaired or restored, such as damage caused by a windstorm to the roof of a building, or damage to a coastal mangrove forest as a result of coastal storm surges."⁵⁹

When discussing the causes of damage and loss, not only are climate impacts in general mentioned, but these are also recognized as extreme weather events and slow-onset events.

This appears in the 2015 Paris Agreement, in Article 8, which also recognizes the "importance of preventing, minimizing, and

55 Vanhala, L. (2023) "Putting the constructive ambiguity of climate change loss and damage into practice: The early work of the UNFCCC WIM ExCom" Recuperado de Putting the constructive ambiguity of climate change loss and damage into practice: The early work of the UNFCCC WIM ExCom - Vanhala - 2023 - Review of European, Comparative & International Environmental Law - Wiley Online Library

56 APPADOO, K. (2021) "A short history of the loss and damage principle" Pg 321 Retrieved from A short history of the loss and damage principle

57 UNFCCC, 2019 "Decision 2/CP.19 Warsaw International Mechanism for Loss and Damage associated with the impacts of climate change" UN Doc FCCC/CP/2013/10/Add.1

58 UNFCCC, 1992, "United Nations Framework Convention on Climate Change" Art. 1.1 Retrieved from convsp.pdf

59 UNFCCC. (2012) "A literature review on the topics in the context of thematic area 2 of the work program on loss and damage: a range of approaches to address loss and damage associated with the adverse effects of climate change." Retrieved from: <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/inf14.pdf>

addressing loss and damage related to the adverse effects of climate change, including extreme weather events and slow-onset events..."⁶⁰.

The United Nations Environment Programme (UNEP) refers to damage and loss as the negative effects of climate change that occur despite mitigation and adaptation efforts, i.e., the inevitable and irreversible impacts of the climate crisis. It also compares mitigation, which is addressing the causes of climate change, for example, reducing greenhouse gases, with adaptation, which is addressing the impacts of climate change, for example, preventing flooding by means of retaining walls⁶¹.

In 2018, the European Capacity Building Initiative defined Loss and Damage as "the negative effects of climate variability and change that people have been unable to cope with or adapt to." They also distinguish between two types of Loss and Damage⁶²:

Economic: Goods and services that are commonly traded in markets.

Non-economic: Items that are not normally traded on markets.

In addition, the Executive Committee of the Warsaw International Mechanism (WIM) has designed an online guide on Loss and Damage where these categories are developed in more detail⁶³:

Economic:

Income: Including commercial operations, agricultural production, and tourism, among others.

Physical assets: Infrastructure, property, among others.

Non-economic:

Individual: Life, health, and human mobility.

Society: Territory, cultural heritage, indigenous knowledge, social or cultural identity, among others.

Environmental: Including biodiversity and ecosystem services, among others.

However, there has recently been criticism about whether or not this separation should be made, since in reality both dimensions tend to overlap, and even an economic impact can be directly linked to various non-economic impacts, so this division is not always so clear⁶⁴.

II.2. How to repair the damage?

One characteristic of damage is that it can be repaired, i.e., fully restored. When restoration is not possible, other measures can be taken to provide justice.

Reparations for damage and loss can be addressed at two levels. One is cross-border environmental damage caused by one State to another through its activities or through its failure to supervise the

60 UNFCCC. (2015). "Paris Agreement." Retrieved from: https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_spanish_.pdf

61 UNEP. (2023). "What is Loss and Damage?." Retrieved from: <https://www.unep.org/topics/climate-action/loss-and-damage/about-loss-and-damage>

62 ECBI. (2018). "Pocket guide to Loss and Damage." Retrieved from: https://ecbi.org/sites/default/files/FinalVersionLoss%26Damage_1.pdf

63 UNFCCC. (2021) "Online guide to Loss and Damage." Retrieved from: <https://unfccc.int/documents/302000>

64 Van Schie, Jackson, Serdeczny & Geest. (2024). "Economic and non-economic loss and damage: a harmful dichotomy?." Retrieved from: https://collections.unu.edu/eserv/UNU:g870/van_schie_2024.pdf

activities of companies under its jurisdiction or control. The other is at the national level, where the State has an obligation to protect collective and individual rights to a healthy climate.

In both cases, the starting point is the assumption that there is an unlawful act that causes damage that we are not obliged to tolerate: direct or indirect human actions that cause climate change and violate the right to a healthy climate, entailing responsibilities for States. This unlawful act causes damage and loss that must be repaired.

In order to carry out a process of redressing the damage, two elements must converge:

II.2.1. Attribution

A claim for reparations under international law must show that the State has caused the damage legally and materially.⁶⁵

In matters of State responsibility, when we speak of attribution, we refer to linking an action or omission to a State.⁶⁶ Attribution is necessary to determine an internationally wrongful act.

The ICJ established that:

(...) from the outset that attribution must be based on criteria determined by international law. (...). A State's failure to take adequate measures to protect the climate system from GHG emissions—including those resulting from the production and consumption of fossil fuels, the granting of licenses for fossil fuel

exploration, or the granting of subsidies for such fuels—may constitute an internationally wrongful act attributable to that State.

The Court also emphasizes that the internationally wrongful act in question is not the emission of GHGs per se, but rather the failure to comply with the treaty and customary obligations identified in question (a) relating to the protection of the climate system from significant damage resulting from anthropogenic emissions of such gases.⁶⁷

With regard to emissions from the private sector, States may be held responsible for an internationally wrongful act for failing to exercise due diligence in regulating private activities. A State's omission or actions in the area of regulatory oversight also give rise to responsibility.⁶⁸

II.2.2. Causality

Reparation presupposes the existence of harm, and to determine this, it is necessary to address causation. A causal link must be established between the wrongful act of a State or group of States and specific harm suffered by another State. This also applies in human rights matters with respect to individuals.⁶⁹

The ICJ indicates that in order to determine causality, it is necessary to establish: "First, whether a particular climatic phenomenon or trend can be attributed to anthropogenic climate change; and second, to what extent the damage caused by climate change can be attributed to a particular State or group of

65 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 422 Retrieved from Advisory Opinion of July 23, 2025

66 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 425 Retrieved from Advisory Opinion of July 23, 2025

67 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 425 Retrieved from Advisory Opinion of July 23, 2025

68 International Court of Justice, (2025) "Obligations of States with respect to Climate Change" for 428 Retrieved from Advisory Opinion of July 23, 2025

69 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 433 Retrieved from Advisory Opinion of July 23, 2025

States."⁷⁰ The second point must specifically show the damage suffered by the claimant State. The consequences of non-compliance with State obligations include full reparation, restitution, compensation, satisfaction, cessation, and non-repetition. If liability is determined, cessation and non-repetition are enforceable for the unlawful act, regardless of whether there was damage.⁷¹

A State's failure to comply with its international obligations does not extinguish its responsibility to comply.⁷² In order to cease an unlawful act, a State may have to revoke any administrative, legislative, or other measures that give rise to that act.⁷³ Reparation implies that the existence of damage suffered by a State has been proven and that it has a causal link to the unlawful act of another State.⁷⁴ With regard to the two levels of approach, the following is indicated:

II.2.3. State Responsibility

With regard to reparations, in 2025 the International Court of Justice (ICJ) set an important precedent by stating in its advisory opinion that "The consequences of climate change are serious and far-reaching; they affect both natural ecosystems and human populations."⁷⁵

Climate change and its consequences are a common concern, as noted in the preamble to the United Nations Framework Convention on Climate Change (UNFCCC), which recognizes that "changes in the Earth's climate and their adverse effects are a common concern of humankind."⁷⁶

The obligations between States within the climate regime differ depending on whether they are developing or developed countries.⁷⁷

The ICJ identified a series of State obligations that are legally binding, regardless of whether they are obligations of conduct or result. This differentiation of obligations is not strict.⁷⁸

The duty to prevent significant harm is intertwined with the duty to cooperate, given that uncoordinated actions by a State may not have a relevant outcome.⁷⁹ The duty to cooperate validates the importance of multilateral governance spaces to repair damage and losses from climate change.

Every State is obliged to prevent significant environmental damage in accordance with due diligence, which is an obligation of conduct. This implies that States must use all reasonable means to prevent damage to the greatest extent possible.⁸⁰

⁷⁰ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 437 Retrieved from Advisory Opinion of July 23, 2025

⁷¹ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 445 Retrieved from Advisory Opinion of July 23, 2025

⁷² International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 446 Retrieved from Advisory Opinion of July 23, 2025

⁷³ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 447 Retrieved from Advisory Opinion of July 23, 2025

⁷⁴ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 449 Retrieved from Advisory Opinion of July 23, 2025

⁷⁵ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 73 Retrieved from Advisory Opinion of July 23, 2025

⁷⁶ UNFCCC, 1992 "United Nations Framework Convention on Climate Change" Retrieved from convsp.pdf

⁷⁷ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 199 Retrieved from Advisory Opinion of July 23, 2025

⁷⁸ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 206 Retrieved from Advisory Opinion of July 23, 2025

⁷⁹ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 141 Retrieved from Advisory Opinion of July 23, 2025

⁸⁰ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 135 Retrieved from Advisory Opinion of July 23, 2025

When a State fails to take all measures to prevent climate damage, it commits an internationally wrongful act that entails responsibilities.⁸¹ It is scientifically possible to determine each country's contribution to greenhouse gases based on historical and current emissions. However, the ICJ mentions that carbon emissions themselves are not the wrongful act committed by the State, but rather the actions or omissions that caused significant damage to the climate by failing to comply with international obligations.⁸²

And even though multiple States have contributed to climate change and caused damage, being responsible for different unlawful acts. In this scenario, the rules of State responsibility do allow for attributing responsibility for the significant damage caused to different States.⁸³ In fact, the responsibility of one State can be claimed without necessarily claiming that of all the others. Also, each injured state can claim responsibility for the unlawful act that has caused damage to the climate or environment.⁸⁴ In fact, any state can claim responsibility from another state if the obligation harms the entire international community.⁸⁵ However, an uninjured state cannot claim reparations for itself, but it can claim them for an injured state, and it can

claim cessation of the unlawful damage and a guarantee of non-repetition.⁸⁶

In its analysis of the legal responsibilities of States in failing to comply with the obligation to protect the climate and its legal consequences, the ICJ points out that the law does not distinguish between countries that are especially affected or particularly affected with regard to the right to obtain reparations. This is a relevant fact given that the characterization of vulnerability has been used in the UNFCCC to compete for funds available to address damage and loss.⁸⁷

The use of the concept of impact or vulnerability is not conducive to responding adequately to the suffering of communities and lacks sufficient precision.⁸⁸

The Court raises an interesting legal reality, in which all affected persons or communities have an equal right to claim. This does not imply that all are affected equally or on the same scale, which will determine the reparations they deserve. However, it does imply the need for available resources to be expanded and not focused on a single type of country.

The polluter pays principle has been introduced into the UNFCCC as a means of guiding the conversation on past

81 International Court of Justice, (2025) "Obligations of States with respect to Climate Change" for 409 Retrieved from Advisory Opinion of July 23, 2025

82 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 429 Retrieved from Advisory Opinion of July 23, 2025

83 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 430 Retrieved from Advisory Opinion of July 23, 2025

84 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 431 Retrieved from Advisory Opinion of July 23, 2025

85 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 442 Retrieved from Advisory Opinion of July 23, 2025

86 International Court of Justice, (2025) "State Obligations with Respect to Climate Change" for 443 Retrieved from Advisory Opinion of July 23, 2025

87 Robinson, Sa., Roberts, J.T., Weikmans, R. et al. "Vulnerability-based allocations in loss and damage finance." *Nat. Clim. Chang.* 13, 1055–1062 (2023). Retrieved from <https://doi.org/10.1038/s41558-023-01809-y>

88 Jackson, G., & Sakshi. (2024). "Political and legal implications of defining 'particularly vulnerable' for the loss and damage fund." *Climate and Development*, 1–10. Retrieved from <https://doi.org/10.1080/17565529.2024.2361121>

damage and loss.⁸⁹ This has represented a parallel narrative with the claim for climate reparations. The ICJ makes it clear that the polluter pays principle is not reflected in the climate regime nor does it apply in relations between States if there is no treaty specifying it.⁹⁰ This reaffirms the need to focus political advocacy on the obligation to repair climate damage and loss.

On the other hand, Article 8 of the Paris Agreement encourages States Parties to adopt an approach to damage and loss based on the duty of cooperation through the Warsaw International Mechanism.⁹¹ Paragraph 51 of Decision 1/COP21 reinforces this interpretation by stating that "Agrees that Article 8 of the Agreement does not imply or give rise to any form of legal liability or compensation;"⁹²

However, this does not mean that the rules of state responsibility have been excluded.⁹³ Thus, Article 8 creates an additional obligation to cooperate without excluding liability or the possibility of seeking redress. Failure to comply with the obligation to cooperate may lead to state liability and cause damage. In short, there is no way to evade state liability for damage and loss, nor to disassociate oneself from redressing the damage.

The ICJ also mentions that Articles 15, 14, and 24 of the Paris Agreement do not create special rules for addressing state responsibilities and that the general rules on state responsibility under international law will apply.⁹⁴ Furthermore, Articles 8 and 15 do not derogate from the rules of customary international law on state responsibility for breach of treaty obligations.⁹⁵

II.2.4. Human Rights

The International Court of Justice has stated that fundamental human rights treaties and human rights recognized by customary international law form part of the most directly relevant applicable law with respect to the legal responsibilities and consequences for States regarding climate protection.⁹⁶ It is important to note that the ICJ reiterated its position that "the environment is not an abstraction, but represents the living space, quality of life, and very health of human beings, including future generations."⁹⁷

In this regard, Advisory Opinion OC-32/25 on Climate Emergency and Human Rights of the Inter-American Court of Human Rights (IACHR) clarifies the obligations of States with regard to the right to a healthy climate. In its opinion, the IACHR mentions

89 CAN Intl. (2016) "Financial instruments to address loss and damage associated with the adverse effects of climate change." Retrieved from [can_submission_to_the_excom_of_the_wim_on_loss_and_damage_finance.pdf](#); CAN Europe. (2023) "New resources for public climate finance and for the Loss and Damage Fund" Retrieved from [Public-sources-climate-finance-loss-and-damage.pdf](#)

90 International Court of Justice, (2025) "Obligations of States with respect to Climate Change" for 160 Retrieved from Advisory Opinion of July 23, 2025

91 UNFCCC, (2015) "Paris Agreement" Art. 8.3 Retrieved from Paris Agreement Spanish; International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 414 Retrieved from Advisory Opinion of 23 July 2025

92 UNFCCC, (2015) "Decision 1/COP21" for 51 Retrieved from Spanish Text Processing Unit

93 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 415 Retrieved from Advisory Opinion of 23 July 2025

94 International Court of Justice, (2025) "Obligations of States with respect to Climate Change" for 417 & 416 Retrieved from Advisory Opinion of July 23, 2025

95 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 418 Retrieved from Advisory Opinion of July 23, 2025

96 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 145 Retrieved from Advisory Opinion of July 23, 2025

97 International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 155 Retrieved from Advisory Opinion of July 23, 2025

that the third pillar of climate action is “reparation, aimed at addressing the losses generated as a result of these effects.”⁹⁸ Reparation, together with mitigation and adaptation, revolves around an obligation of cooperation on the part of all States.

The three pillars are not sufficient for the Inter-American Court of Human Rights. Rather, an adequate response to the climate emergency requires measures to change the structural circumstances that caused climate change and strengthen resilience to the adverse effects we face.⁹⁹

The Inter-American Court of Human Rights noted that even if the temperature limits of the Paris Agreement were met, it would not be enough to prevent climate change from impacting human rights. Given this situation, the Inter-American Court considers that “effective response mechanisms are necessary to provide redress for the damage caused as a result of climate impacts.”¹⁰⁰ States have a duty to refrain from behavior that “undermines, slows down, or thwarts the outcome of measures necessary to protect human rights from the impacts of climate change”.¹⁰¹ This also includes the obligation not to adopt regressive measures with respect to climate or environmental policies, and that if there is a setback, it must be justified by objective criteria and standards of necessity and proportionality.¹⁰²

States have an obligation to guarantee our rights, which means that all branches of government, both domestically and internationally, must work together to protect human rights threatened and affected by climate change.¹⁰³

At the international level, this means that negotiators and politicians involved in climate governance processes, in their actions to agree or reject initiatives, vote on decisions at climate summits, and create funds or mechanisms, must do so in a way that guarantees human rights. This calls into question the historical actions of States with regard to financial instruments such as the Fund for Response to Loss and Damage (FRLD) and the need for reform. The Report of the Secretary-General on damage and loss has mentioned, in reference to the LDCF and others under the United Nations Framework Convention on Climate Change for loss and damage, that “they are not currently designed or intended in themselves to assist States in fulfilling their human rights obligations to provide effective remedies for climate harm.”¹⁰⁴

The environment has different elements that can be damaged, and damage to the climate is one of them. The right to a healthy environment protects, in its collective or individual dimension, the different systems that comprise it, such as the climate.¹⁰⁵

⁹⁸ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 125 Retrieved from Advisory Opinion of July 23, 2025

⁹⁹ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 205 Retrieved from Advisory Opinion of July 23, 2025

¹⁰⁰ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 198 Retrieved from Advisory Opinion of July 23, 2025

¹⁰¹ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 221 Retrieved from Advisory Opinion of July 23, 2025

¹⁰² International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 222 Retrieved from Advisory Opinion of July 23, 2025

¹⁰³ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 225 Retrieved from Advisory Opinion of July 23, 2025

¹⁰⁴ Human Rights Council, (2024) “Analytical study on the impact of loss and damage from the adverse effects of climate change on the full enjoyment of human rights, exploring equity-based approaches and solutions to address such impacts” Retrieved from Document Viewer

¹⁰⁵ International Court of Justice, (2025) “Obligations of States with respect to Climate Change” for 290 Retrieved from Advisory Opinion of July 23, 2025

The impact on the climate system is a specific form of damage that must take into account the urgency, specificity, and complexity of the actions required for its protection.

The Court considered that the human right to a healthy climate is an independent right derived from the right to an environment.¹⁰⁶

In the collective sphere, the right to a healthy climate protects “the collective interest of present and future generations of human beings and other species in maintaining a climate system capable of ensuring their well-being and balance among them, in the face of serious existential threats arising from the effects of the climate emergency.”¹⁰⁷

When international obligations regarding a healthy climate are not fulfilled, collective rights are violated and the State becomes liable. Actions to cease the violation of international obligations, ensure non-repetition, and provide redress must benefit both people and nature.¹⁰⁸

At the individual level, the right to a healthy climate is protected by “the possibility for each person to develop in a climate system free from dangerous anthropogenic interference.”¹⁰⁹

This sphere is violated when a State fails to comply with its obligations regarding a healthy environment, when the impact affects not only the global climate system

but also the individual rights of one or more persons. International responsibility generates the duty to fully repair individual and/or collective damage.¹¹⁰

States must guarantee effective access to information as an essential condition for the protection of the right to life, health, integrity, environment, and a healthy climate. This right must be guaranteed when implementing plans, goals, or remediation strategies.¹¹¹

here is a chronic lack of data and information to repair damage and losses. The climate regime has not developed clear indicators or guidelines to facilitate reparation. This is a problem that puts human rights at risk and may give rise to State responsibility.

People have the right to participate effectively in State decision-making processes or public policies that affect the climate system.¹¹²

The Inter-American Court of Human Rights mentions that this right to direct participation in decision-making processes includes processes for redressing damages.¹¹³ In the event that the adverse effects of climate change, or the measures taken by a State or individuals, affect the rights of a group of people, they must be given the opportunity to be heard and to participate in decisions. The mechanisms for effective participation that are created must respond

¹⁰⁶ International Court of Justice, (2025) “State Obligations Regarding Climate Change” for 300 Retrieved from Advisory Opinion of July 23, 2025

¹⁰⁷ International Court of Justice, (2025) “Obligations of States with respect to Climate Change” for 302 Retrieved from Advisory Opinion of July 23, 2025

¹⁰⁸ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 302 Retrieved from Advisory Opinion of July 23, 2025

¹⁰⁹ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 303 Retrieved from Advisory Opinion of July 23, 2025

¹¹⁰ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 303 Retrieved from Advisory Opinion of July 23, 2025

¹¹¹ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 500 Retrieved from Advisory Opinion of July 23, 2025

¹¹² International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 535 Retrieved from Advisory Opinion of July 23, 2025

¹¹³ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 535 Retrieved from Advisory Opinion of July 23, 2025

to the characteristics and needs of the groups of people, especially if they are in a vulnerable situation, in order to guarantee equal conditions.¹¹⁴

Climate damage is transboundary in nature, and every State has an obligation to provide prompt, adequate, and effective redress to the persons or States that are victims.¹¹⁵ This obligation to redress transboundary damage results from activities that have been carried out in its territory or under its jurisdictional control. The causality between the damage suffered and the action or omission of the State of origin must be demonstrated. A person or entity does not have to reside in the territory of the responsible country to be entitled to claim liability and reparations.¹¹⁶

The difficulty of proving a case in climate damage litigation can be an unjustified obstacle to accessing justice. The Inter-American Court of Human Rights calls on judicial authorities to take into account the particularities of this type of litigation, especially with regard to proving the causal link between the damage and the unlawful act.¹¹⁷

There is an asymmetry between the control and access to evidence between the affected persons or entities and those responsible, whether companies or States.

The Inter-American Court mentions that alternative evidentiary standards are required that do not necessarily require proof of a direct link. In addition, it draws attention to the possibility of presuming a causal link between GHG emissions and the degradation of the climate system, as well as the risks to people and nature.¹¹⁸

With regard to procedural barriers, the Inter-American Court indicates that “a particularized assessment of the possible asymmetries between the parties and the adoption of appropriate measures—such as the reversal of the burden of proof—are required to ensure effective access to justice.”¹¹⁹

The State must ensure that there are domestic remedies that guarantee access to justice in order to obtain effective reparation for damages. Reparation must seek “full restitution (*restitutio in integrum*), which consists of restoring the previous situation.”¹²⁰

The Inter-American Court has established in its jurisprudence different measures of reparation, apart from compensation, measures of restitution, rehabilitation, satisfaction, and guarantees of non-repetition.¹²¹ This implies that in complex situations such as climate damage, courts have the possibility of adopting reparation measures that are tailored to the specific context of the claim.

¹¹⁴ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 538 Retrieved from Advisory Opinion of July 23, 2025

¹¹⁵ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 551 Retrieved from Advisory Opinion of July 23, 2025

¹¹⁶ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 551 Retrieved from Advisory Opinion of July 23, 2025

¹¹⁷ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 552 Retrieved from Advisory Opinion of July 23, 2025

¹¹⁸ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 553 Retrieved from Advisory Opinion of July 23, 2025

¹¹⁹ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 554 Retrieved from Advisory Opinion of July 23, 2025

¹²⁰ International Court of Justice, (2025) “Obligations of States with respect to Climate Change” for 556 Retrieved from Advisory Opinion of July 23, 2025

¹²¹ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 556 Retrieved from Advisory Opinion of July 23, 2025

The Inter-American Court of Human Rights states that States must provide effective administrative and judicial mechanisms that allow victims to access comprehensive reparations for climate damage. These mechanisms and measures must be tailored to the nature of the damage and the circumstances of the affected persons or nature.¹²²

Among the measures that States must provide for reparation are:

- (i) restitution measures aimed at restoring the climate system and ecosystems by increasing mitigation commitments, as well as financing and implementing conservation or restoration actions and plans;
- (ii) rehabilitation measures that include timely, accessible, acceptable, quality, culturally appropriate, and respectful of people's autonomy medical care for diseases linked to or exacerbated by climate change;
- (iii) compensation measures based on appropriate methodologies for assessing losses suffered in this context; and
- (iv) guarantees of non-repetition aimed at reducing circumstances of vulnerability, monitoring compliance with existing obligations, and strengthening the resilience of natural and human systems within the framework of sustainable development.¹²³

These measures or mechanisms of reparation must be based on the best

available science and knowledge, guaranteeing the rights of affected individuals and communities. According to the Inter-American Court of Human Rights, States and other international authorities determine that reparation measures should not be limited to compensation. Mechanisms for monitoring the implementation of reparation measures must also be provided for.¹²⁴

Reparation for damage and losses caused by climate impacts is a State obligation that must be guaranteed at the national and international levels. Comprehensive reparation is a right of those who are victims of climate impacts, and the State is responsible for guaranteeing this right.

II.3. How should the damage be repaired?

All reparation must be comprehensive. Reparation involves eliminating all the consequences of the unlawful act and restoring the situation to its previous state as if the unlawful act had not occurred. Comprehensive reparation can be obtained through restitution, compensation, satisfaction, or a combination of these.¹²⁵

Restitution: "restoration of the situation that existed before the unlawful act was committed; this may be difficult or unfeasible in the case of environmental damage, as such damage is often not easily reversible."¹²⁶ This may involve restoring an ecosystem, rebuilding infrastructure, or other measures as determined.

¹²² International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 557 Retrieved from Advisory Opinion of July 23, 2025

¹²³ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 558 Retrieved from Advisory Opinion of July 23, 2025

¹²⁴ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 559 Retrieved from HYPERLINK "<https://www.icj-cij.org/sites/default/files/case-related/187/187-20250723-adv-01-00-en.pdf>" Advisory Opinion of July 23, 2025

¹²⁵ International Court of Justice, (2025) "Obligations of States with respect to Climate Change" for 450 Retrieved from Advisory Opinion of July 23, 2025

¹²⁶ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 451 Retrieved from Advisory Opinion of July 23, 2025

Compensation: Compensation is appropriate when restitution is materially impossible. Compensation corresponds to damages that can be economically assessed.¹²⁷ Compensation is appropriate for damage caused to the environment and for expenses incurred by the State as a result of the damage.¹²⁸

It is necessary to prove that there is a direct and certain causal link between the damage suffered and the unlawful act. However, the absence of adequate evidence regarding the extent of the damage does not preclude the possibility of compensation being awarded.¹²⁹

Satisfaction: This is a measure that may take the form of a formal apology, public acknowledgment, statements, educational measures, or others. These measures that are granted will depend on the circumstances and nature of the breach.¹³⁰

II.4. The path to building the third pillar: History and conceptualization

The proposal that climate action extends beyond adaptation is not new and has been present since the discussions to create the UNFCCC.¹³¹ During the 4th session of the Intergovernmental Negotiating Committee for the UNFCCC (INC 4), the Alliance of Small Island States (AOSIS) introduced

the concept of compensating for climate-related damage and proposed the creation of two supplementary financial mechanisms to help affected countries.¹³²

A fund to compensate developing countries (i) in situations where choosing the least climate-sensitive development option involves incurring additional costs, and (ii) when insurance is not available for damage caused by climate change.¹³³

This proposal involved introducing an International Climate Fund and an International Insurance Fund into the UNFCCC structure.¹³⁴ It was proposed to emulate the Paris Convention of July 29, 1960, on civil liability in the field of nuclear energy and the Brussels Supplementary Convention of January 31, 1963, to provide financing for this fund, where the Gross Domestic Product and the percentage of emissions of the industrialized country would be considered to calculate its mandatory contribution. This proposal was rejected within the structure of the UNFCCC, but the concern and need for financing with respect to damages was included.

To understand how damage and loss have been addressed, it is necessary to review how they have been dealt with within the UNFCCC.

¹²⁷ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 452 Retrieved from Advisory Opinion of July 23, 2025

¹²⁸ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 453 Retrieved from Advisory Opinion of July 23, 2025

¹²⁹ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 453 Retrieved from Advisory Opinion of July 23, 2025

¹³⁰ International Court of Justice, (2025) "Obligations of States with regard to Climate Change" for 455 Retrieved from Advisory Opinion of July 23, 2025

¹³¹ ICCCAD, Recuperado de Loss and Damage | International Centre for Climate Change and Development (ICCCAD)

¹³² Intergovernmental Negotiating Committee (INC), 1991. "Report of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change on the Work of its Fourth Session, held at Geneva from December 9 to 20, 1991" (UN Doc. A/ AC.237/15, January 29, 1992) Retrieved from <https://undocs.org/en/a/ac.237/misc.1/add.3>

¹³³ Intergovernmental Negotiating Committee (INC), 1991. "Report of the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change on the Work of its Fourth Session, held at Geneva from December 9 to 20, 1991" (UN Doc. A/ AC.237/15, January 29, 1992) Retrieved from <https://undocs.org/en/a/ac.237/misc.1/add.3>

¹³⁴ MMartinez, A (2021) "Damages and Losses: An introduction to Paragraph 51 and compensation" pg11 Retrieved from Danos_y_Perdidas_Lrc.pdf

II.4.1. Starting point: Article 4.8 UNFCCC

Article 4.8 includes as a commitment by States, “In implementing the commitments referred to in this article, the Parties shall thoroughly consider the measures that need to be taken under the Convention, including measures related to financing, insurance, and technology transfer, to address the specific needs and concerns of developing country Parties arising from the adverse effects of climate change or the impact of the implementation of response measures (...) In addition, the Conference of the Parties may take appropriate action in relation to this paragraph. 9.”¹³⁵

Article 4.8 addresses two different issues, one related to “response measures” which are “the effects arising from the implementation of mitigation policies, programs, and actions, “within jurisdiction” and “outside jurisdiction” or transboundary impacts, adopted by the Parties under the Convention, the Kyoto Protocol, and the Paris Agreement to combat climate change.”¹³⁶ The other relates to the needs and concerns arising from the adverse effects of climate change on developing countries.

Article 4.8 explicitly refers to types of countries that are exposed to climate impacts and have characteristics such as small islands, low-lying coastal areas, arid and semi-arid areas, areas with forest cover and areas exposed to forest degradation, areas prone to natural disasters, areas exposed to drought and desertification, and others. These are clearly linked to being

subject to adverse effects. It is important to emphasize that the UNFCCC authorizes the parties to take appropriate measures, so there is no limitation on the governance mechanisms that can be adopted to address these needs and concerns about the adverse effects of climate change. This allows for climate action to address the consequences of adverse effects that is broader than that established in Article 8 of the Paris Agreement.

The International Court of Justice mentions that Article 4.8 of the UNFCCC contains legally binding obligations.¹³⁷

The ICJ relates Article 4.8 to the obligations to adapt. However, this does not imply that damage and loss that cannot be avoided through adaptation are excluded from these obligations with respect to needs or concerns about adverse effects. It is also important to note that Article 4.8 mentions addressing concerns and needs arising from adverse effects.

This is very different from the provisions of the Kyoto Protocol, Article 3.14, where the approach with respect to Article 4.8 of the UNFCCC is to “minimize adverse social, environmental, and economic impacts” or “minimize the adverse effects of climate change.”¹³⁸

In the Paris Agreement, the language used to collaboratively address damage and loss in Article 7 emphasizes “protecting people, livelihoods, and ecosystems,” taking into account “the urgent and immediate needs

¹³⁵ UNFCCC, (1992) “United Nations Framework Convention on Climate Change” Art. 4.8 Retrieved from convsp.pdf

¹³⁶ Retrieved from Impact of implementation of response measures | UNFCCC

¹³⁷ International Court of Justice, (2025) “Obligations of States with regard to Climate Change” for 213 Retrieved from Advisory Opinion of July 23, 2025

¹³⁸ UNFCCC, (1997), “Kyoto Protocol” Art. 3.14 Retrieved from kpspan.pdf

of developing country Parties that are particularly vulnerable to the adverse effects of climate change."¹³⁹

Article 8 of the PA mentions different actions related to the adverse effects of climate change, implying that the concept of adverse effects is not related solely to adaptation.

Addressing the needs or concerns arising from the adverse effects of climate change evolves to have different implications. It is in this differentiation that we find the multifaceted nature of Article 4.8 of the UNFCCC, which is applicable to both adaptation and damage and loss governance. This dynamism of the original obligation under Article 4.8 of the UNFCCC is evident in the development of governance of damage and loss in the climate regime.

II.4.2. Governance of damage and loss under th

Article 4.8 of the UNFCCC owes its implementation to Decision 3/CP.3, which called for the examination of measures "related to financing, insurance, and technology transfer."¹⁴⁰

In connection with this, Decision 5/CP.7 of 2001 provides guidance on how to implement Article 4.8, by requesting information on modeling activities carried

out by States to assess the adverse effects of change and conduct workshops on insurance.¹⁴¹ However, at that time, the issue of needs due to adverse effects began to be unified with "response measures."¹⁴²

The Buenos Aires Program of Work on Adaptation and Response Measures in 2004 deepens the link between the needs arising from the adverse effects of climate change and the adaptation response, specifically with the governance of response measures. It is important to mention that the exclusion of the concept of damage from the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC) meant that all actions related to adverse climate effects were linked to adaptation. The term damage and loss first appeared in an UNFCCC document in the Bali Action Plan during COP13 in 2007.¹⁴³

This plan refers to "means to address damage and loss associated with climate impacts in developing countries that are particularly vulnerable to the adverse effects of climate change."¹⁴⁴

Since 2010, the Cancun Agreements have recognized the need to strengthen international cooperation and expertise on damage and loss associated with the adverse effects of climate change. A work program to address damage and loss was also created.¹⁴⁵

¹³⁹ UNFCCC, (2015) "Paris Agreement" Art. 7.2 Retrieved from Paris Agreement Spanish

¹⁴⁰ UNFCCC, (1997) Decision 3/CP.3 Implementation of Article 4, paragraphs 8 and 9, of the Convention Retrieved from Decisions | UNFCCC

¹⁴¹ UNFCCC, 2001 "Decision 5/CP.7" Retrieved from Decision 5/CP.7 Implementation of Article 4, paragraphs 8 and 9, of the Convention (decision 3/CP.3

¹⁴² Gabbatiss, J. (2022) "Timeline: The struggle over 'loss and damage' in UN climate talks" Carbon Brief Retrieved from "Timeline: The struggle over 'loss and damage' in UN climate talks; Barnett, J et al, (2002) "Articles 4.8 and 4.9 of the UNFCCC: adverse effects and the impacts of response measures" Retrieved from Articles 4.8 and 4.9 of the UNFCCC: adverse effects and the impacts of response measures - ScienceDirect

¹⁴³ ICCCAD, Retrieved from Loss and Damage | International Centre for Climate Change and Development (ICCCAD)

¹⁴⁴ UNFCCC, (2007) "Decision 1/CP.13" FCCC/CP/2007/6/Add.1 para 1(c)(iii) Retrieved from Microsoft Word - cp6a1 reissued.doc

¹⁴⁵ UNFCCC, (2010) "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" Retrieved from <https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=2>

The Bali Action Plan provides a concept for interpreting Article 4.8 of the UNFCCC on needs and concerns regarding adverse effects, which are damage and loss. This implies that the mandate to explore measures “related to financing, insurance, and technology transfer” in 4.8 UNFCCC may be applicable to damage and loss.

The Bali Action Plan established the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), which would aim to propose a global agreement at COP15 in Copenhagen.¹⁴⁶

The AWG-LCA organized a workshop on “Risk management and reduction strategies, including risk transfer and distribution mechanisms, such as insurance” prior to COP14.¹⁴⁷

This initiative once again proposed an “International Insurance Mechanism” for damage and loss. It also proposed a mechanism for assessing damage and loss and a financial mechanism to address what is due to climate victims.¹⁴⁸

This proposal was detailed by AOSIS at COP14, suggesting the creation of a “Multi-window mechanism to address loss and damage caused by the impacts of climate change”.¹⁴⁹

This mechanism also contemplated mandatory contributions based on historical responsibilities, emission levels, and degree of development. In addition, the mechanism contemplated a Rehabilitation/ Compensation component, considering that “certain damage and losses due to the impacts of climate change will be inevitable and must be addressed.”¹⁵⁰

At COP15, the proposal for the Copenhagen Accord submitted by AOSIS and the African Group included mechanisms to address damage and loss from the adverse effects of climate change, which considered compensation/rehabilitation, technology transfer, and an international mechanism to address risk.¹⁵¹ The agreement did not mention damage and loss.

During the COP16 discussions, several recommendations were made on damage and loss, including Norway's statement that “The risk of loss and damage is the fundamental reason why we mitigate greenhouse gases and adapt to climate change. Mitigation, adaptation, and adaptive capacity will determine the magnitude of loss and damage.

Norway understands that loss and damage associated with the impacts of climate change constitute the residual risk

¹⁴⁶ UNFCCC, 2007, “Decision 1/CP.13 Bali Action Plan” (UN Doc. FCCC/CP/2007/6/Add.1) Retrieved from: <https://unfccc.int/sites/default/files/resource/docs/2007/cop13/spa/06a01s.pdf>

¹⁴⁷ UNFCCC, (2010) “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” Retrieved from untitled

¹⁴⁸ UNFCCC, 2008. “Report of the AWG-LCA on its first session” (UN Doc. FCCC/AWGLCA/2008/3, May 16, 2008) Retrieved Report of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention on its first session, held in Bangkok from March 31 to April 4, 2008. | UNFCCC

¹⁴⁹ UNFCCC, 2008. “Report of the AWG-LCA on its first session” (UN Doc. FCCC/AWGLCA/2008/3, May 16, 2008) Retrieved Report of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention on its first session, held in Bangkok from March 31 to April 4, 2008. | UNFCCC

¹⁵⁰ UNFCCC, (2008) “Ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan” Pg 24 Retrieved from Bangladesh, nd. “Advancing Adaptation through Finance Advancing Adaptation through Finance and Technology, including National Adaptation Programmes of Action (NAPAs)” Retrieved from https://unfccc.int/files/adaptation/application/pdf/bangladesh_awgla2_adaptation_workshop.pdf

¹⁵¹ UNFCCC, 2009. “Copenhagen Protocol to Enhance Implementation of the United Nations Framework Convention on Climate Change” (UN Doc.) Retrieved from <https://unfccc.int/resource/docs/2009/awgla8/eng/misc08.pdf>

when mitigation is insufficient to prevent dangerous anthropogenic interference with the climate system and when the potential for adaptation to reduce the risks associated with the effects of climate change is fully exploited."¹⁵²

The discussion on economic and non-economic damage and loss began to be echoed in the technical contributions to this discussion.¹⁵³ Proposals made by Latin American and Asian countries included the creation of a Solidarity Fund for compensation for damage and loss and consideration of issues such as migration, slow-onset events, and the need for "economic and non-economic losses to be addressed through mechanisms for losses and damages resulting from the adverse effects of climate change."¹⁵⁴ These States raised the need for a mechanism to address damage and loss, focused on:

"Assessing losses and damages resulting from the adverse effects of climate change: technical capacity and capacity building, financing.

Addressing loss and damage resulting from the adverse effects of climate change through risk reduction and transfer: financing and technical capacity.

Addressing residual loss and damage resulting from the adverse effects of climate change, including specific tools, capacity, and financing to assess and address the risks and impacts of sudden and slow-onset changes."¹⁵⁵

These proposals were opposed by the United States, which ironically stated that it believed "firmly that adaptation opportunities are far from exhausted. There is still significant scope to increase adaptive capacity and, as a result, there is considerable opportunity to reduce the risk of damage and loss."¹⁵⁶

At COP16 - Decision 1/CP.16, the need was recognized "to strengthen international cooperation and technical expertise in order to understand and reduce losses and damages associated with the adverse effects of climate change, including effects

¹⁵² UNFCCC, 2012. "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 Part 1" (UN Doc. FCCC/SBI/2012/MISC.14) Retrieved from <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/misc14.pdf>

¹⁵³ UNFCCC, 2012. "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 Part 1" (Doc. UN FCCC/SBI/2012/MISC.14) Retrieved from <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/misc14.pdf>; o UNFCCC, 2012 "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 Part 2" (Doc. UN FCCC/SBI/2012/MISC.14/Add.1) Retrieved from <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/misc14a01.pdf>

¹⁵⁴ UNFCCC, 2012. "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 Part 1" (Doc. UN FCCC/SBI/2012/MISC.14) Retrieved from <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/misc14.pdf>; o UNFCCC, 2012 "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 Part 2" (Doc. UN FCCC/SBI/2012/MISC.14/Add.1) Retrieved from <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/misc14a01.pdf>

¹⁵⁵ UNFCCC, 2012. "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 Part 1" (Doc. UN FCCC/SBI/2012/MISC.14) Retrieved from <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/misc14.pdf>; o UNFCCC, 2012 "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 Part 2" (Doc. UN FCCC/SBI/2012/MISC.14/Add.1) Retrieved from

¹⁵⁶ UNFCCC, 2012 "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 Part 2" (Doc. UN FCCC/SBI/2012/MISC.14/Add.1) Retrieved from <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/misc14a01.pdf>

related to both extreme weather events and gradual phenomena."¹⁵⁷

In addition, it initiated a work program to examine approaches to addressing loss and damage associated with the impacts of climate change in developing countries particularly vulnerable to its adverse effects. At this point, the concept of loss and damage is beginning to generate governance with greater autonomy from adaptation or response measures.

Decision 3/CP.18 is very important with regard to the governance of damage and loss because it defines approaches to addressing damage and loss.¹⁵⁸

Furthermore, because it has its legal basis in the UNFCCC, as it predates the Paris Agreement, it could be linked to Article 4.8 of the UNFCCC, which refers to "understanding and reducing the losses and damages associated with the adverse effects of climate change."¹⁵⁹

Decision 3/CP.18 established the approaches that the UNFCCC should take with regard to loss and damage:

a) Improve knowledge and understanding of comprehensive risk management approaches to address loss and damage associated with the adverse effects of climate change, including the effects of gradual phenomena;

b) Strengthen dialogue, coordination, coherence, and synergies among relevant stakeholders;

c) Intensify action and support, in particular with regard to finance, technology, and capacity-building, to address loss and damage associated with the adverse effects of climate change.¹⁶⁰

In addition, States are invited to "involve vulnerable populations and communities, civil society, the private sector, and other relevant stakeholders in the assessment of loss and damage and in the measures taken to address them."¹⁶¹

¹⁵⁷ UNFCCC, 2010. "Decision 1/CP.16 Cancun Agreements: outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention" (Doc. UN FCCC/CP/2010/7/Add.1) Retrieved from <https://undocs.org/es/FCCC/CP/2010/7/Add.1>

¹⁵⁸ UNFCCC, 2012. "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" UN Doc FCCC/CP/2012/8/Add.1

¹⁵⁹ UNFCCC, 2012. "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" UN Doc FCCC/CP/2012/8/Add.1 Retrieved from COP 18 - Decisions | UNFCCC

¹⁶⁰ UNFCCC, 2012. "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" UN Doc FCCC/CP/2012/8/Add.1 Retrieved from COP 18 - Decisions | UNFCCC

¹⁶¹ UNFCCC, 2012. "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" UN Doc FCCC/CP/2012/8/Add.1 Retrieved from COP 18 - Decisions | UNFCCC

II.4.2.1. Warsaw International Mechanism

In 2013, through Decision 2/CP.19, the Warsaw International Mechanism for Loss and Damage was established, which "shall fulfill the role of the Convention to promote the implementation of approaches to address loss and damage related to the adverse effects of climate change, in accordance with Decision 3/CP.18, in a comprehensive, integrated, and coherent manner (...)"¹⁶² It also has the following functions:

Improving knowledge and understanding of comprehensive risk management approaches to address loss and damage associated with the adverse effects of climate change, including gradual impacts, through facilitation and promotion (...)

Strengthening dialogue, coordination, coherence, and synergies among relevant stakeholders by: (...)

Intensifying measures and support, including in relation to finance, technology, and capacity building, to address loss and damage associated with the adverse effects of climate change, so that countries can undertake activities in implementation of decision 3/CP.18, paragraph 6 (...)¹⁶³

Over the years, the WIM has undergone reviews of its implementation and functioning. In 2016, its first review was conducted during COP22 in Morocco, where it was decided that the WIM would continue its functions and develop a five-year work plan to strengthen the mechanism's areas of action and its long-term scope.¹⁶⁴

Its second review was planned for 2019 during COP25. However, in decision 2/CP.25, this review was postponed to COP26, which was planned for the end of 2020 but could not be held due to the Covid-19 pandemic.¹⁶⁵

In 2021, COP26 will resume and the review of the mechanism will continue, "recognizing the urgent need to scale up action and support, as appropriate, including in the areas of finance, technology, and capacity-building, to implement relevant approaches to prevent, minimize, and address loss and damage in particularly vulnerable developing countries."¹⁶⁶

At COP27, the review of WIM governance was resumed, and the presidency adopted decision 12/CP.27 on the report of the WIM executive committee, which approved the second five-year plan and established that the review would continue during COP28¹⁶⁷

¹⁶² UNFCCC, 2019 "Decision 2/CP.19 Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts" UN Doc FCCC/CP/2013/10/Add.1

¹⁶³ UNFCCC, 2019 "Decision 2/CP.19 Warsaw International Mechanism for Loss and Damage associated with the impacts of climate change" UN Doc FCCC/CP/2013/10/Add.1

¹⁶⁴ UNFCCC. (2017). "Report of the Conference of the Parties on its twenty-second session, held in Marrakech from November 7 to 18, 2016." Retrieved from: <https://unfccc.int/documents/9672>

¹⁶⁵ UNFCCC. (2019). "Report of the Conference of the Parties on its twenty-fifth session, held in Madrid from December 2 to 15, 2019." Retrieved from: <https://unfccc.int/documents/210472>

¹⁶⁶ UNFCCC. (2021). "Report of the Conference of the Parties on its twenty-sixth session, held in Glasgow from October 31 to November 13, 2021. Part one: Proceedings." Retrieved from: <https://unfccc.int/documents/460953>

¹⁶⁷ UNFCCC. (2022). "Report of the Conference of the Parties on its twenty-seventh session, held in Sharm el-Sheikh from November 6 to 20, 2022. Part one: Proceedings." Retrieved from: <https://unfccc.int/documents/626560>

During COP28, the review of the WIM mentioned the importance of its involvement in the development of actions by the Santiago Network and also emphasized the importance of developing guidelines and technical contributions from the various working groups, which are to be translated into the official languages and disseminated for use.¹⁶⁸

At COP29, progress was made on the WIM review, but most of the discussions were left pending for COP30¹⁶⁹.

During SB62 in June 2025, the WIM annual report was discussed and a decision was reached to recognize the mandates of the WIM executive committee and the Santiago Network separately, approving the progress of both processes but highlighting their uniqueness.

Furthermore, with regard to the review of the WIM, it was decided that COP30 would discuss the need for an institutional agreement that includes the WIM executive committee, the Santiago Network, and the Loss and Damage Response Fund in order to address loss and damage in all these different dimensions in an appropriate and integrated manner.

II.4.2.2. Article 8 - Paris Agreement

During the negotiations that led to the Paris Agreement, political demands regarding damage and loss that had existed since the creation of the UNFCCC came to the fore.¹⁷⁰

Some countries, such as the United States, worked hard to ensure that the agreement on damage and loss sought to avoid legal obligations and take measures such as the inclusion of paragraph 51 in Decision 1/CP.21, which adopted the Paris Agreement.¹⁷¹

Paragraph 51 states: "51. Agrees that Article 8 of the Agreement does not imply or give rise to any form of legal liability or compensation;"¹⁷²

The purpose of this paragraph is to guide the interpretation of Article 8 of the Paris Agreement, which refers to damage and loss, in order to exclude in some way the claims for compensation and the obligation to provide financing that had been under discussion for decades. The legal value of this paragraph has long been questioned by civil society and academia.¹⁷³

However, the use of this tool for political pressure is present in the implementation of the UNFCCC and has been attempted to be included in other governance mechanisms such as the WIM at COP25.¹⁷⁴

168 UNFCCC, (2023). "Report of the Conference of the Parties on its twenty-eighth session, held in the United Arab Emirates from November 30 to December 13, 2023. Part one: Proceedings." Retrieved from: <https://unfccc.int/documents/637066>

169 UNFCCC, (2024). "Report of the Conference of the Parties on its twenty-ninth session, held in Baku from November 11 to 22, 2024. Part one: Proceedings." Retrieved from: <https://unfccc.int/documents/644915>

170 MMartinez, A (2021) "Damages and Losses: An introduction to Paragraph 51 and compensation" pg 21 Retrieved from Danos_y_Perdidas_Lrc.pdf

171 UNFCCC, 2015. "Decision 1/CP.21" UN Doc FCCC/CP/2015/10/Add.1 Retrieved from <https://unfccc.int/resource/docs/2015/cop21/spa/10a01s.pdf>;

172 UNFCCC, 2015. "Decision 1/CP.21" UN Doc FCCC/CP/2015/10/Add.1 Retrieved from <https://unfccc.int/resource/docs/2015/cop21/spa/10a01s.pdf>;

173 MJ Mace and R Verheyen, 2016 'Loss, Damage and Responsibility after COP21: All Options Open for the Paris Agreement' 25 Review of European, Comparative and International Environmental Law 197 (2016) 205; "LRI, (2016) Loss and Damage in Paris and State Responsibility" Retrieved from Loss and Damage in Paris and State Responsibility

174 Actalliance, (2019) "[COP25 Press Release] Don't invoke Paragraph 51" Retrieved from [COP25 Press Release] Don't invoke Paragraph 51 - ACT Alliance

The understanding in the negotiating spaces on this paragraph is that it “essentially guarantees that developed countries cannot be held responsible for the losses and damages that developing countries have experienced, are experiencing, and will experience, either through compensation or legal means.”¹⁷⁵

Furthermore, it is considered to be the result of a political agreement to include Article 8 in the Paris Agreement and to interpret that the WIM is under the authority of the CMA solely on the basis of Article 8.2 of the Paris Agreement.¹⁷⁶ These interpretations and “gentlemen’s agreements” during the COP negotiations are not in line with the International Court of Justice’s Advisory Opinion.¹⁷⁷

The Court points out that the provisions of Article 8 do not exclude the application of the general rules of State responsibility.¹⁷⁸

Article 8.1 of the Paris Agreement recognizes that it is important to “avoid, minimize, and address loss and damage related to the adverse effects of climate change,” which was an important step forward for climate governance after decades of opposition to taking action.¹⁷⁹

This paragraph uses three key words that have been controversial because of their unclear meaning and which, despite their repeated use in UNFCCC decisions, have not been defined. One clear detail is that prior to the creation of the WIM and the Paris Agreement, the term used was “address” current damage and loss from the adverse effects of change.¹⁸⁰

In the international community, it has been understood that the word “avoid” is connected to mitigation, while “reduce” is connected to adaptation.¹⁸¹

However, it could also be accepted that these two terms are not separate from damage and loss, but rather refer to when mitigation or adaptation have failed and damage and loss have occurred.¹⁸²

Article 8.2 of the Paris Agreement subjects the WIM to the authority of the Conference of the Parties to the Agreement for guidance, improvement, and strengthening.¹⁸³

Article 8.3 establishes the obligation of the Parties to “enhance understanding, action, and support, in a cooperative and facilitative manner (...)” through the WIM on loss and damage.¹⁸⁴

¹⁷⁵ AAActalliance, (2019) “[COP25 Press Release] Don’t invoke Paragraph 51” Retrieved from [COP25 Press Release] Don’t invoke Paragraph 51 - ACT Alliance

¹⁷⁶ Siegele, Linda (2023) “Financing for loss and damage under the UNFCCC: Have we come full circle?” Retrieved from Financing for loss and damage under the UNFCCC: Have we come full circle? - Siegele - 2023 - Review of European, Comparative & International Environmental Law - Wiley Online Library

¹⁷⁷ ICJ, (2025) “Obligations of States in Respect of Climate Change” Pg 119 Retrieved from Advisory Opinion of July 23, 2025

¹⁷⁸ ICJ, (2025) “Obligations of States in Respect of Climate Change” para 415 Retrieved from Advisory Opinion of 23 July 2025

¹⁷⁹ UNFCCC, (2015) “Paris Agreement” Art. 8.1 Retrieved from Paris Agreement Spanish

¹⁸⁰ Retrieved from Meaning of ‘averting, minimizing and addressing’ loss and damage

¹⁸¹ Retrieved from What to Know About “Loss and Damage” from Climate Change | World Resources Institute

¹⁸² Meaning of ‘averting, minimizing and addressing’ loss and damage

¹⁸³ Retrieved from Paris Agreement Spanish

¹⁸⁴ Paris Agreement Spanish

The International Court of Justice has clarified that Article 8.4 of the PA establishes obligations of cooperation.¹⁸⁵

Article 8 promotes addressing loss and damage, but does not address the issue of liability or compensation.¹⁸⁶

The duty to cooperate is intertwined with the duty to prevent damage to the environment, so failure to comply has legal consequences.¹⁸⁷ These consequences could eventually lead to an obligation to repair this damage.

On the other hand, the fact that the parties have agreed to cooperate in avoiding, minimizing, and addressing loss and damage does not imply that they do not have preexisting legal obligations with respect to damage and loss caused by the adverse effects of their activities or those carried out by entities under their authority.¹⁸⁸

This means that responsibility for the consequences of climate change that generate adverse effects in territories and lead to damage and loss is always subject to the obligation to repair the damage under public international law and human rights law. The fact is that there is no legal means of evading the obligation to repair the damage or loss caused by climate change.

II.4.2.3. Santiago Network

The Santiago Network was established in 2015 when the WIM work plan was under review and there was a call to create a "facility" for damage and loss because there was no mechanism with financial resources to address damage and loss.¹⁸⁹ However, countries such as Australia and the United States opposed the creation of a mechanism to provide financing for damage and loss and instead "focused on creating a working group or expert group for knowledge sharing and dialogue on loss, damage, and risk assessment, rather than providing much-needed financing and compensation."¹⁹⁰

And indeed, Decision 2/CMA.2 created the Santiago Network to prevent, minimize, and address loss and damage in order to "catalyze technical assistance from relevant organizations, bodies, networks, and experts with a view to implementing relevant approaches at the local, national, and regional levels in developing countries that are particularly vulnerable to the adverse effects of climate change."¹⁹¹

The functions of the Santiago Network were defined by Decision 19/CMA.3.¹⁹² Among them, the following stand out:

185 ICJ, (2025) "Obligations of States in Respect of Climate Change" para 260 Retrieved from Advisory Opinion of 23 July 2025

186 ICJ, (2025) "Obligations of States in Respect of Climate Change" para 414 Retrieved from Advisory Opinion of 23 July 2025

187 ICJ, (2025) "Obligations of States in Respect of Climate Change" para 141 Retrieved from Advisory Opinion of 23 July 2025

188 ICJ, (2025) "Obligations of States in Respect of Climate Change" para 415 Retrieved from Advisory Opinion of July 23, 2025

189 Retrieved from The-Loss-and-Damage-Finance-Facility-web-compressed-1.pdf; UNFCCC, (2019) "Decision 2/CMA.2 Warsaw International Mechanism for Loss and Damage associated with the Impacts of Climate Change and 2019 review of the Mechanism" Retrieved from FCCC/PA/CMA/2019/6/Add.1

190 SEI, (2019) "Loss and damage at COP25: a look outside the negotiating rooms" Retrieved from Loss and damage at COP25: a look outside the negotiating rooms | SEI

191 UNFCCC, (2019) "Decision 2/CMA.2 Warsaw International Mechanism for Loss and Damage associated with the Impacts of Climate Change and 2019 review of the Mechanism 2 to 43 Retrieved from FCCC/PA/CMA/2019/6/Add.1

192 UNFCCC, (2021) "Decision 19/CMA.3 Warsaw International Mechanism for Loss and Damage associated with the Impacts of Climate Change" Retrieved from FCCC/PA/CMA/2021/10/Add.3

- Contributing to the effective performance of the functions of the Warsaw International Mechanism.
- Catalyze demand-driven technical assistance, including assistance provided by relevant organizations, bodies, networks, and experts, with a view to implementing appropriate approaches to prevent, minimize, and address loss and damage in developing countries particularly vulnerable to the adverse effects of climate change.
- Facilitate the consideration of a wide range of issues related to approaches to prevent, minimize, and address loss and damage.
- Facilitate, by catalyzing technical assistance from organizations, bodies, networks, and experts, access to measures and support (in the form of finance, technology, and capacity-building), within and outside the framework of the Convention and the Paris Agreement, that are relevant to the objective of preventing, minimizing, and addressing loss and damage.

At 1/CMA.3 COP26, it was agreed that the Santiago Network would receive funding, but for the "provision of technical assistance for the implementation of relevant approaches to prevent, minimize, and address loss and damage"¹⁹³

Subsequently, the terms of reference for the operation of the Santiago Network were determined by Decision 12/CMA.4 – COP27.¹⁹⁴

Decision 11/CP.27 established that the Santiago Network would have a secretariat structure, an advisory board, and a network of organizations, bodies, networks, and experts covering a wide range of topics related to approaches to prevent, minimize, and address loss and damage. In addition, the members of the advisory board would be selected during the next COP.

At COP28, Decision 2/CP.28 selected the United Nations Office for Disaster Risk Reduction and the United Nations Office for Project Services to host the Santiago Network secretariat for an initial period of five years. In addition, the secretariat was asked to work with the advisory board to launch the Santiago Network structure as soon as possible¹⁹⁵.

Subsequently, for COP29, progress was made in approving the rules of procedure for the network's advisory board, and a request was made to continue negotiations on the revision of the WIM and Santiago Network instruments during SB62¹⁹⁶.

During SB62, it was determined that there was an urgent need for developing countries to have technical guidelines on economic and non-economic damage and loss to help them more clearly request technical

¹⁹³ UNFCCC, (2021) "Decision 1/CMA.3 Glasgow Climate Pact" for 67 Retrieved from Decisions | UNFCCC

¹⁹⁴ UNFCCC, (2022) "Decision 12/CMA.4 Santiago Network to prevent, minimize, and address loss and damage related to the adverse effects of climate change under the Warsaw International Mechanism for Loss and Damage associated with the Adverse Effects of Climate Change" Retrieved from FCCC/PA/CMA/2022/10/Add.3

¹⁹⁵ EFEVerde, (2022). "COP27 agrees to launch the Santiago Network for Loss and Damage." Retrieved from: <https://efeverde.com/cop27-red-santiago-para-perdidas-danos/>

¹⁹⁶ UNFCCC, (2024). "Report of the Conference of the Parties on its twenty-ninth session, held in Baku from November 11 to 22, 2024. Part one: Proceedings." Retrieved from: <https://unfccc.int/documents/644915>

assistance through the Santiago Network. This will be an issue that will be followed up during COP30.

In 2025, the Santiago Network issued its first call for technical assistance.¹⁹⁷ It is important to emphasize that this mechanism does not provide financial tools to repair damage and losses, but rather aims to catalyze technical assistance for the implementation of approaches to prevent, minimize, and address losses and damage.¹⁹⁸

II.4.2.4. Glasgow Dialogues

Decision 1/CMA.3 Glasgow Climate Pact of COP26 again avoided discussion of a mechanism to address damage and loss. This decision also created the Glasgow Dialogues to continue discussions on “provisions relating to the financing of activities aimed at preventing, minimizing, and addressing loss and damage”.¹⁹⁹

These three dialogues were implemented from 2022 to 2024, which is relevant given that they coincide with the period when the Fund to Address Loss and Damage is being created.

The latest report from the Glasgow dialogues mentions the need for technical support regarding slow-onset events, measuring damage and loss, data and information, community participation in governance, and other issues. It also emphasized the need for the fund to have reliable, predictable financing and regular cash transfers, including financial contributions

based on the historical responsibilities of emitting countries (). The need for the fund to respond to human rights and not generate debt, among other points, was also mentioned.²⁰⁰

II.4.2.5. Damage and Loss Fund

During COP27, decision 2/CP.27 established that financing arrangements would be made to respond to losses and damages related to the adverse effects of climate change, with an emphasis on addressing them. In addition, it appointed a transition committee to implement the new financing arrangements to respond to losses and damages within the framework of the established fund.

At COP28, there were high expectations regarding the modalities for implementing the fund and the financing arrangements. However, on the first day of negotiations, the decisions had already been made, and finally, in decision 1/CP.28, it was determined that the World Bank would serve as the host entity for the fund for a provisional period of four years.

For COP29, the discussion focused more on access to financing through the New Collective Quantified Goal (NCQG), which did not include strong or direct references to financing for loss and damage, nor to the fund itself. This situation is disadvantageous as it does not prioritize the mandates of the WIM, the Santiago Network, or the FRLD.

¹⁹⁷ UNFCCC, (2025) “[EXTENSION OF DEADLINE] Development of a long-term nationally determined program to address loss and damage in the Republic of Vanuatu.” Retrieved from Santiago Network

¹⁹⁸ UNFCCC, n.d. “Mandate.” Retrieved from Santiago Network

¹⁹⁹ UNFCCC, (2021) “Decision 1/CMA.3 Glasgow Climate Pact” for 73 Retrieved from Decisions | UNFCCC

²⁰⁰ UNFCCC, (2024) “Summary report on the third Glasgow Dialogue” Retrieved from Summary - Third Glasgow Dialogue

The FRLD has held a series of board meetings with the aim of speeding up the fund's implementation process. At these meetings, the discussion focuses not only on disbursing the money, but also on methodologies to ensure direct access by communities. In addition, what is known as the "Barbados Implementation Modalities – BIM," which plans to have an initial phase for the implementation of the FRLD, providing \$250 million between 2025 and 2026 to countries through grants of between \$5 million and \$10 million through national budgets, completely eliminating the possibility of direct access by communities.

SB62 discussed the current lack of funding in the fund's structure and also mentioned the need for guidelines for calculating the costs of Loss and Damage so that countries can apply for and access the Loss and Damage Response Fund with more technical resources and clarity. These issues will continue to be discussed during the upcoming meetings of the FRLD board of directors and during COP30.

Since its creation in 2022, the Fund for Response to Loss and Damage has been promised only about \$768 million by 28 countries.²⁰¹ These commitments are not annual or mandatory and have not been delivered in full. As of July 2024, the FRLD has only \$319 million in its accounts.²⁰²

It is important to note that estimated global damage and losses between 2000 and 2019 amounted to a global cost of \$2.8 trillion, or about \$16 million per hour.²⁰³ The disparity between the estimated cost and the negligible funding provided or pledged calls into question the functionality of this fund and the relevance it is given in climate policy.

This fund does not appear to be a mechanism structured to comply in good faith with the obligations of cooperation on damage and loss under Article 8 of the PA.

Furthermore, this fund definitely does not meet the obligation to repair the damage, as pointed out by the Inter-American Court of Human Rights: "the Court notes that the configuration and operation of this mechanism do not seek to ensure full reparation for the damage that could be attributed to the States Parties as a result of the violation of the obligations established in the Paris Agreement and the commitments made thereunder" and that this mechanism "is also not intended to achieve a fair distribution of the climate debt in accordance with the principle of common but differentiated responsibilities. Climate debt is understood as the sum of the damage caused by the cumulative negative effects of GHG emissions, the costs of which are imposed on the planet without compensation".²⁰⁴

201 FRLD, nd "Funding" Retrieved from Funding | The Fund for responding to Loss and Damage (FRLD)

202 UNFCCC, (2025) "Report of the fifth meeting of the Board of the Fund for responding to Loss and Damage" Retrieved from FRLD/B.5/14 Report of the fifth meeting of the Board

203 Newman, R et al (2023) "The global costs of extreme weather that are attributable to climate change" Retrieved from The global costs of extreme weather that are attributable to climate change | Nature Communications; UNEP, nd "About Loss and Damage" Retrieved from About Loss and damage | UNEP - UN Environment Programme

204 Inter-American Court of Human Rights, (2025) "Advisory Opinion OC-32" for 202 & 203 Retrieved from Inter-American Court of Human Rights - Advisory Opinion OC-32-2025

While there is a great effort by civil society to shape this fund so that it generates benefits, this cannot overshadow the disparity between the scale of finance due and promised, and the fact that the fund does not respond to climate debt obligations or the duty of reparation. These conditions make the FRLD appear to be a pipe dream, lacking the conditions to meet the rights and needs of populations impacted by climate change.

Damage and Loss Indicators

Unlike adaptation indicators, damage and loss does not have internationally established indicators or a framework for guidance. Despite this, countries are making efforts to consolidate a method for measuring and evaluating the effects of climate impacts on socio-natural systems.

Panama is an example of this. The country consolidated a Loss and Damage Monitoring and Evaluation Module within its Climate Change Adaptation Monitoring and Evaluation System (M&E of Panama), which has 16 indicators and a methodology for assessing economic and non-economic damage and losses in the face of extreme events and the slow progress of climate change²⁰⁵.

²⁰⁵ Ministry of Environment of Panama. (2023). "System for Monitoring and Evaluating Adaptation to Climate Change in Panama." Retrieved from: https://naturapanama.org/wp-content/uploads/2025/06/Anexo-A-Sistema-ME-Panama_FN.pdf

Loss and damage indicators from the Climate Change Adaptation Monitoring and Evaluation System. Panama.

1	Number of municipalities affected by extreme weather events.
2	Budget allocated for responding to extreme weather events.
3	Economic losses due to pests and diseases attributable to climate change.
4	Damage to vital infrastructure due to extreme weather events.
5	Number of homes affected by extreme weather events.
6	Mangrove forest coverage on the coasts of Panama.
7	Losses and damage to annual and permanent crop production.
8	Cattle killed by drought.
9	Number of water treatment plants affected by extreme hydrometeorological phenomena such as heavy rains and droughts, by province/region.
10	Number of families receiving humanitarian aid after an extreme hydrometeorological event.
11	Extreme or slow-onset hydrometeorological events that have caused losses and damage to the tourism sector in coastal areas.
12	Area affected by vegetation fires due to drought events.
13	Number of locations with evidence of coastal loss in Panama.
14	Number of municipalities implementing strategies for climate risk reduction
15	Number of locations with evidence of coral bleaching.
16	National and international financial resources allocated to climate risk management.

Source: Prepared by the authors based on the document: Monitoring and Evaluation System for the Registration of Losses and Damages Related to Climate Change in Panama

The case of Panama is innovative in that it proposes a specific methodology and set of criteria for climate-related damage and loss. Other countries that have joined the effort to develop assessments often use methodologies related to disaster monitoring and assessment as reference frameworks, such as , Disaster Assessment and Loss Assessment (DALA), Post-Disaster Needs Assessment (PDNA), among others.

This highlights the need to develop a standardized framework and methodology for measuring and assessing damage and losses caused by the adverse effects of climate change.

III. The Third Pillar

Currently, existing mechanisms—such as the Warsaw International Mechanism, the Santiago Network, and the Fund for Loss and Damage Response—are insufficient, lack adequate funding, and do not guarantee comprehensive reparations.

Adaptation indicators make it possible to measure the effectiveness of adaptation measures and, in turn, serve to identify where damage and loss from adverse effects begin, based on events and data attributable to climate change.

Unlike adaptation, there are no standardized global indicators for measuring damage and loss. However, countries such as Panama have made progress in creating national indicators, yet a robust international framework is needed to guide comprehensive and effective redress.

Article 8 of the Paris Agreement has created an additional obligation to cooperate on damage and loss through certain mechanisms or instruments. Failure to comply with this obligation to cooperate generates state responsibility and can cause harm.

This does not exclude or supplant state responsibility for illegal acts that damage the climate system and violate the right to a healthy climate, which must be repaired. State liability for damage and loss takes precedence, and the duty to repair must be implemented as the third pillar of climate action. Existing mechanisms must be reformed, and those developed must comply with the legal obligations that have existed since the very conception of the UNFCCC.

The International Court of Justice and the Inter-American Court of Human Rights have established that states must ensure restitution, compensation, rehabilitation, and guarantees of non-repetition, prioritizing the effective participation of affected communities.

The duty of the parties to study and take all appropriate measures with respect to the needs and concerns arising from the adverse effects of climate change is enshrined in Article 4.8 of the UNFCCC.

It is on the basis of this commitment that the governance of damage and loss was developed, enabling any measure that is currently necessary to comply with the State obligations that have been clarified by the advisory opinions of the ICJ or the Inter-American Court of Human Rights.

This is why reparation is the third pillar of climate action. Reparation is a legal obligation derived from international law, human rights, and state responsibility for unlawful acts that have caused significant damage to the climate system.

Taking this legal obligation into account, we close this publication with a series of demands to be implemented to ensure that reparations become a true third pillar of climate action:

Recommendations for Decision Makers on Reparations for Damage and Loss

1. Reform Climate Governance

- Reform international governance mechanisms regarding damage and loss so that they respond to international obligations and human rights
- Include reparations as a mandatory pillar in Nationally Determined Contributions (NDCs) and adaptation plans.
- Create international mechanisms that comprehensively repair damage, aligned with State responsibility and climate debt.

2. Development of Legal Frameworks and Public Policies

- Design effective administrative and judicial mechanisms at the national level that guarantee comprehensive redress.
- Introduce compensation for damages and losses as the third pillar of climate action in national regulations and public policy.
- Develop and reform regulations and public policies based on international obligations derived from international law and human rights with respect to the right to a healthy climate, ensuring that reparation is recognized as a right.
- Incorporate criteria of climate justice, participation, and human rights into the structure of reparation funds and programs.
- Coordinate actions between ministries of environment, finance, justice, and human rights for a comprehensive response.

3. Strengthen Accountability and Transparency

- Develop standardized methodologies to determine the causality of damage and loss due to non-compliance with international and human rights obligations.
- Establish methodologies for estimating economic and non-economic damages and losses.
- Design and implement national and global indicators to monitor damage and loss in order to strengthen access to information and public participation, using experiences such as the Panama system as a reference.

4. Ensure Participation and a Human Rights Approach

- Ensure the effective participation of affected communities in the design and implementation of reparation measures at all levels.
- Incorporate gender, intercultural, and human rights approaches into comprehensive reparation mechanisms and measures.

5. Create Comprehensive Reparation Mechanisms

- Design effective administrative and judicial mechanisms that guarantee restitution, compensation, rehabilitation, and guarantees of non-repetition.
- Ensure that these mechanisms incorporate criteria of climate justice and human rights in their actions.

6. Ensure Predictable and Sufficient Financing

- Establish mandatory and proportional contributions to climate debt for countries with the highest historical emissions.
- Ensure that climate funds (such as the Fund for Responding to Damage and Loss) have sustainable, accessible resources that do not generate debt for recipient countries

