ADVISORY PROCEEDINGS | INTERNATIONAL COURT OF JUSTICE

WHAT ARE STATES' OBLIGATIONS UNDER INTERNATIONAL LAW TO PROTECT FORESTS UNDER THEIR NATIONAL JURISDICTION, AS A RESPONSE TO CLIMATE CHANGE AND FOR THE BENEFIT OF PRESENT AND FUTURE GENERATION?

WRITTEN STATEMENT ON BEHALF OF NGO ECO FORESTANIA

IUCN World Commission on Environmental Law

2nd World Environmental Law Congress, Rio de Janeiro, 2020

Team Brazil, Federal University of Santa Catarina (UFSC)

This document is prepared for the sole purpose of the IUCN 2020 Moot Court exercise and may not be disclosed without the authors' prior consent.

TEAM BRAZIL	
AUTHORS	Fernanda Salles Cavedon-Capdeville (leading author) Larissa Verri Boratti (leading author) Elisa Fiorini Beckhauser Gabrielle Fagundez Heidi Michalski Ribeiro Humberto Francisco Filpi Marcelo Pretto Mosmann Marina Demaria Venâncio Rafael Speck de Souza Roger Fabre Valeriana Broetto
ORALISTS	Heidi Michalski Ribeirto Marina Demaria Venâncio Valeriana Broetto
COACH	Professor José Rubens Morato Leite Federal University of Santa Catarina (UFSC), Brazil
ADVISORS	Adriana Biller Aparicio State University of Maringá (UEM), Brazil Letícia Albuquerque Federal University of Santa Catarina (UFSC), Brazil Maria Leonor Cavalcanti Codonho Federal University of Santa Catarina (UFSC), Brazil Melissa Ely Melo (UFSC) Federal University of Santa Catarina (UFSC), Brazil Rafael Prado Universitat Politècnica de Catalunya, Spain

1 STATEMENT OF JURISDICTION

The United Nations General Assembly was demanded by France, Norway, and New Zealand to request an advisory opinion from the International Court of Justice ("the Court") pursuant to Article 96 of Charter of the United Nations and Article 65 of the Statute of the Court.[1] The matter subjected to the advisory opinion is the UN Member States' legal obligations to protect their forests, in light of the climate change regime and rights of the future generations. In accordance with Article 66 of the Statute of the Court, States entitled to appear before the Courtand international organizations considered by the Court able to furnish information on the question were invited to appear before the Court.

Accordingly, this written statement is submitted by the League of the Defenders of Ecological Justice - ECO FORESTANIA, which is a non-governmental organization based in Brazil, acting as *amicus curiae*. We acknowledge that the NGO ECO FORESTANIA does not enjoy international legal capacity to request the Court for advisory opinions, as it is not a subject of international law.[2] Nevertheless, when advisory proceedings take place once implemented under the authorized means, NGOs can participate at their own initiative to suggest a rationale consistent with their own views as *amicus curiae*. In this case, acting as "friends of the Court", the NGOs may play a role as non-party intervention, which allows them to offer the ICJ a certain point of view on legal issues or on facts based on their expertise, by providing available information in the spirit of independence and objectivity.[3]

ECO FORESTANIA is a Brazilian national civil society entity dedicated to protecting the country's forests, the environment and the ecosystems from an ecological and climate justice perspective. It gathers representatives of indigenous peoples, traditional

[1] The legal basis for requesting ICJ advisory opinions is found in Article 96 of the Charter of the United Nations and in Articles 65 to 68 of the Statute of the ICJ. See, in particular, Article 96 of the Charter of the United Nations: 'Article 96. 1. The General Assembly or the Security Council may request the International Court of Justice to give an advisory opinion on any legal question. 2. Other organs of the United Nations and specialized agencies, which may at any time be so authorized by the General Assembly, may also request advisory opinions of the Court on legal questions arising within the scope of their activities'. See also Article 65 of the Statute of the ICJ: 'Art 65. 1. The Court may give an advisory opinion on any legal question at the request of whatever body may be authorized by or in accordance with the Charter of the United Nations to make such a request. […]'.

[2] Which includes only States and international organizations composed by sovereign States.

[3] It is worth highlighting that there are no specific provisions in the Statute of the Court establishing that NGOs may take part in advisory proceedings as *amicus curiae*. Nevertheless, the practice of the Court seems to admit this. See: Collection of Advisory Opinions, available at <https://www.icj-cij.org/en/pcij-series-b>, accessed 18 February 2020), for instance, the 1996 advisory opinion on the Legality of the Threat of Use of Nuclear Weapons. See also: Rafael Prado, *El Arreglo Pacífico de Controversias Internacionales Ambientales ante la Corte Internacional de Justiça: Qual su Contribución para el Desarrollo del Derecho Internacional del Medio Ambiente?* (Dphil Thesis, Universitat de Barcelona, 2019).

communities and other forest dwellers groups, as well as leading experts from different areas of knowledge, in particular social sciences and biology. In developing its work, ECO FORESTANIA emphasizes the notion of *forestzenship (florestania* in portuguese*)*. This reflects a transcendental and radical perspective from the peoples of the forest which broadens the notion of democracy and citizenship to encompass human and non-human beings, present and future generations, and relations not restricted to considering nature as a resource.[4]

Finally, it is invoked, on the basis of jurisdiction, Article 36 of the Statute of the Court, which establishes that all questions submitted by the Parties, as well as matters provided for in the Charter of the United Nations or in treaties and conventions in force, will be analysed. In this context, the environment is the subject of many binding documents under international law, such as the United Nations Convention on Biological Diversity, the United Nations Framework Convention on Climate Change and the Paris Agreement. In addition, environmental law, human rights, and human health are topics identified as some of the most recurring in the Court's jurisprudence.[5]

2 PROBLEM PRESENTED

2.1 THE PROBLEM

This written statement presents expert legal opinion on **"what are states' obligations under international law to protect forests under their national jurisdictions, as a response to climate change and for the benefit of present and future generations"**. The purpose is to provide the Court with qualified opinion on the subject matter in the context of advisory proceedings taking place. The key problem is addressed with a focus, particularly, on a two-fold analysis: (A) Forests and Climate Change and (B) Forests and Transboundary Environmental Harm. The aim is to examine each of these two linkages in terms of (i) the existing international legal regime applicable, and (ii) the contributions of an ecological approach to international law. The statement concludes by suggesting specific questions that should be addressed by the Court while formulating the advisory opinion. For the purpose of this document, the authors have considered sources of international law in accordance with Article 38 of the Statute of the Court, including treaty law and customary law, as well as case law and specialized literature, as developed by various nations.

[4] The notion of *florestania* originated in the State of Acre, in the Brazilian Amazon, as a locally contextualized term (formulated by Antônio Alves). See: Manuela Carneiro da Cunha and Mauro Barbosa de Almeida (eds), *Encyclopedia of the Forest* (Practices and Knowledge of the Populations, Cia. Das Letras 2002).

[5] See: Letter dated 24 July 2014 from the Permanent Representative of Switzerland to the United Nations addressed to the UN Secretary-General. Available at <https://www.un.org/en/ga/search/view_doc.asp?symbol=A/68/963> accessed 14 February 2020.

2.2 LEGAL SCHOLARSHIP ADOPTED: ECOLOGICAL LAW

The arguments advanced in this statement engage mainly with one particular legal scholarship: ecological law. The aim is to examine how this scholarship can contribute to the development of an international legal framework for forests, filling existing gaps and promoting a more progressive approach. This section briefly explains the meaning of a notion of ecological law as it is explored in the specialized literature. Next, sections (A)3 and (B)3 below address in detail the impacts of this on informing and reshaping international environmental law under thematic-specific issues.

The 2019 UN Environment Programme report on the state of the Environmental Rule of Law[6] depicts that, despite the increase in the number of international documents, as well as of domestic constitutional and regulatory provisions worldwide, these have not necessarily resulted in a more effective environmental law in practice. One can conclude that besides legal, regulatory and institutional challenges, which are highlighted in the UNEP report, the implementation gap also raises other complex questions related to the environmental law rationale itself. Actually, environmental law remains compartmentalized, fragmented, economic-oriented and anthropocentric, thus not being able to provide satisfactory responses to the current ecological crisis.[7] More specifically, international environmental law[8] has not achieved its main goal of socio-ecological integrity and respect for planetary boundaries.[9] In such a context, a trend is in progress aiming to promote a shift towards an ecological approach to environmental law: the ecological law.

Due to time and space constraints (as well as for the limited purposes of the advisory proceedings), a thorough exam of theoretical and conceptual aspects of the ecological law scholarship is out the scope of this written statement. It suffices to indicate that the analysis of certain international environmental law frameworks and the arguments put forward here are based on the following elements of a notion of ecological law:[10] (i) an

---

[6] United Nations (UN). Environmental Rule of Law (First Global Report. UNEP, 2019) <https://wedocs.unep.org/bitstream/handle/20.500.11822/27279/Environmental_ru-le_of_law.pdf-?sequence=1&isAllowed=y> accessed 15 March 2020.

[7] The ecological crises, especially at the international level, is stressed by the risks of massive extinctions of species, ecological dysfunctions and also climate change. Eduardo Gudynas, Derechos de la Naturaleza: Ética Biocéntrica y Políticas Ambientales (Lima, 2014) 23.

[8] For an analysis of the limits of international environmental law in the Anthropocene, see: Louis J. Kotzé, "A Global Environmental Constitution for the Anthropocene? Transnational Environmental Law*"* (2019) 8(1) Journal of Environmental Law <https://doi.org/10.1017/S2047102518000274>. Accessed 15 February 2020.

[9] Rakhyun E. Kim and Klaus Bosselmann, 'International Environmental Law in the Anthropocene: Towards a Purposive System of Multilateral Environmental Agreements' (2013) 2(2) Transnational Environmental Law <https://doi.org/10.1017/S2047102513000149>. Accessed 16 February 2020.

[10] These selected elements of the ecological law scholarship are based on the following references: Klaus Bosselmann, 'Losing the forest for the trees: environmental reduction in the law' (2010) 2(8) Sustainability <https://doi.org/10.3390/su2082424>. Accessed 16 February 2020; Klaus Bosselmann, 'Grounding the rule of law' in Christina Voigt (ed), *Rule of Law for nature: new dimensions and ideas in Environmental Law* (Cambridge University Press, 2013); Klaus Bosselmann, 'The rule of law in the

ecocentric approach; (ii) ecological justice[11]; (iii) intergenerational and interspecies solidarity; (iv) ecosystems as the key regulatory object of law; (v) nature-centred environmental protection; (vi) sustainability as a fundamental principle, resulting in the duty to protect and restore the Earth's ecological systems; (vii) intrinsic value of non-human beings, expanding the circle of the rights holders to nature; (viii) States' ecologically-oriented responsibility as trustees of the Earth; (ix) recognition of non-traditional state-based sources of law, specially knowledge from indigenous and other traditional peoples; (x) increased protagonism of non-state actors; (xi) recognition and protection of the immaterial and non economic values of nature; (xii) 'ecologization' of human rights and recognition of expanded environmental rights to humans and non human beings. Such an understanding then allows for new perspectives on rights and responsibilities, with a broader understanding of rights holders (every being), a broader object (the common), a broader space (global) and a broader timescale (intergenerational).

Anthropocene' in Paul Martin et al. (eds), *The search for environmental justice* (Edward Elgar, 2017) 44-61; Klaus Bosselmann, *The principle of sustainability: transforming law and governance* (Ashgate, 2008); Klaus Bosselmann and Prue Taylor (eds.), *Ecological Approaches to Environmental Law (*Edward Elgar, 2017); Louis J. Kotzé and Rakhyun E. Kim , 'Earth system law: The juridical dimensions of earth system governance' (2019) 1(1) ESG Journal <https://doi.org/10.1016/j.esg.2019.100003> accessed 17 February 2020; Louis J. Kotzé, 'Reflections on the future of environmental scholarship and methodology in the Anthropocene' in Ole W. Pedersen (ed), *Perspectives on Environmental Law Scholarship* (Cambridge University Press, 2018) 140-161; Fernanda Cavedon Capdeville et al. *A Ecologização do Direito Ambiental vigente: rupturas necessárias* (José Rubens Morato Leite ed, Lumen Juris, 2018); Fritjof Capra and Ugo Mattei, *Revolução Ecojurídica: o direito sistêmico em harmonia com a natureza e a comunidade* (Cultrix, 2018); . See also: IUCN, *IUCN World Declaration on the Environmental Rule of Law* (Cm, 2016, 1st World Congress on Environmental Law of the International Union for the Conservation of Nature).

[11] The notion of ecological justice reflects the emerging of new subjects of the community of justice. This shall permeate law and policy-making and institutional reform towards taking into consideration the wide spectrum of existences affected by human actions, and recognizing the intrinsic value of nature. The integrity of ecological systems becomes the parameter to define limits to human needs and actions. To achieve ecological justice also demands an ecological public sphere based on other well explored concepts of political philosophy, including equity, recognition, representation, participation, and capabilities, in order to create dignified living conditions for human and non-human beings. Particularly, to do justice to nature means to allow nature to develop itself keeping its own functions, by respecting the integrity of ecosystem processes. Climate justice is also considered as a dimension of ecological justice. These considerations are based mainly on the following: David Schlosberg, 'Ecological Justice for the Anthropocene' in M.L.J. Wissenburg and David Schlosberg (eds), *Political Animals and Animal Politics*. Basingstoke (Palgrave Macmillan, 2014) 75-89; David Schlosberg, *Defining Environmental Justice: Theories, Movements, and Nature* (Oxford University Press, 2007); David Schlosberg, 'Climate Justice and Capabilities: A Framework for Adaptation Policy' (2012) 26(4) Ethics and International Affairs <https://doi.org/10.1017/S0892679412000615> accessed 18 February 2020. See also: Iris Marion Young, *Justice and the Politics of Difference*, (Princeton University Press, 2011); Nancy Fraser, *Fortunas do feminismo: del capitalismo gestionado por el Estado a la crisis neoliberal*, (Cristina Piña Aldao tr, Traficantes de Sueños, 2015); Amartya Sen, 'O desenvolvimento como expansão das capacidades' (1993) Lua Nova Revista de Cultura e Política <https://doi.org/10.1590/S0102-64451993000100016> accessed 15 February 2020; Martha Nussbaum. *Crear Capacidades: propuesta para El desarrollo humano* (Paidós, 2012).

3 QUESTION: WHAT ARE STATES' OBLIGATIONS UNDER INTERNATIONAL LAW TO PROTECT FORESTS UNDER THEIR NATIONAL JURISDICTION, AS A RESPONSE TO CLIMATE CHANGE AND FOR THE BENEFIT OF PRESENT AND FUTURE GENERATIONS?

3.1 FORESTS AND CLIMATE CHANGE

3.1.1 Introductory Remarks

The linkages between forests, biodiversity and climate change can be considered within three main dimensions: (i) the protection of forests is central to respond to and address climate change, as forests and biodiversity are essential to ensure resilience to the negative impacts of climate change and are important carbon sinks and reservoirs; (ii) changes in forest cover and loss of forests related to deforestation and wildfires increase CO2 emissions and are key climate change inducers, affecting the safety and sustainability of the climate system; and (iii) climate change impacts negatively on forests and biodiversity, as for example for contributing to the intensification of wildfires, loss of biodiversity and other impacts on human and ecosystem health.

As the Intergovernmental Panel on Climate Change (IPCC) recognizes, forests play a substantial role in the global carbon cycle and contribute to mitigation, especially by the reduction of emissions from deforestation and forest degradation.[12] The IPCC's special report on climate change, desertification, land degradation, sustainable management, food security and greenhouse gas fluxes in terrestrial ecosystems[13] finds that land ecosystems and biodiversity are vulnerable to ongoing climate change, and weather and climate extremes. Climate change creates additional stresses on land, exacerbating existing risks to livelihoods, biodiversity, human and ecosystem health, infrastructure, and food systems. Thus, the report highlights the indispensability of the world's forests for averting the impacts of climate change.

However, if, on the one hand, land can act as a powerful carbon sink to help mitigate climate change, the scale of land degradation is unprecedented in human history. In this regard, 23% of human greenhouse gas emissions steam from deforestation, fires

[12] Nabuurs, G.J., O. Masera, K. Andrasko, P. Benitez-Ponce, R. Boer, M. Dutschke, E. Elsiddig, J. Ford-Robertson, P. Frumhoff, T. Karjalainen, O. Krankina, W.A. Kurz, M. Matsumoto, W. Oyhantcabal, N.H. Ravindranath, M.J. Sanz Sanchez, X. Zhang, 2007: Forestry. In Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

[13] IPCC, 2019: Summary for Policymakers. In: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press.

and agriculture. Changes in forest cover, as deforestation, directly affect surface temperature. In the last 200 years, a third of the planet's forest cover was destroyed, and over two-thirds of the world's forests are under human use. The loss of forests is releasing locked-up carbon into the atmosphere and removing sinks for carbon. Therefore, governments must ensure that intact forests are protected. Also, sustainable forest management can prevent and reduce land degradation, maintain land productivity, and sometimes reverse the adverse impacts of climate change. In addition, protecting forests is important to recognize the leadership of indigenous peoples.

According to the global assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services,[14] nature is declining globally at rates unprecedented in human history – and the rate of species extinctions is accelerating, with serious impacts on people. Climate change is the third most important risk factor contributing to the loss of biodiversity. Around one million animal and plant species are threatened with extinction, more than ever before in human history, as 75% of terrestrial environment have been severely altered by human action, with a reduction of 30% in global terrestrial habitat integrity caused by habitat loss and deterioration. In relation to forests, only 68% of global forest area remain, compared with the estimated pre-industrial level, with a reduction of 7% of intact forests from 2000-2013. 50% of agricultural expansion occurred at the expense of forests.

The report analysed the impact of climate change on nature and biodiversity, finding that climate change is a direct driver that is also increasingly exacerbating the impact of other drivers on nature and human well-being. Even for global warming within 1.5 and 2 degrees, the majority of terrestrial species ranges are projected to shrink profoundly. The report warns that areas projected to experience significant negative effects from global changes in climate, biodiversity and ecosystem functions are also home to large concentrations of indigenous peoples and many of the world's poorest communities. It thus highlights the need for recognising nature's non-material contributions to people.[15] Five main interventions ("levers") are proposed to generate transformative change by tackling the underlying indirect drivers of the deterioration of nature, including strengthening environmental laws and policies and their implementation, and the rule of law more generally.

[14]INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES. *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. May 2019. (IPBES/7/10/Add.1)

[15] "*Nature's non-material contributions* to people refers to nature's contribution to people's subjective or psychological quality of life, individually and collectively. The entities that provide these intangible contributions can be physically consumed in the process (e.g., animals in recreational or ritual fishing or hunting) or not (e.g., individual trees or ecosystems as sources of inspiration)."

Forests, considered as an entire and indivisible complex ecosystem, are key elements for the balance of the planet and for a safe climate system. In consequence, they should be subject to specific protection under international environmental law, through their own legal framework that recognizes and protects the material and immaterial values and services they provide for human and non-human beings. A legal framework that establishes clear rules and specific obligations to States to protect, conserve and restore forests, with the means to guarantee effectiveness and coordination with other related international legal frameworks (biodiversity, climate, human rights, etc.) is a central piece in the architecture of international environmental law and governance.

To advance these arguments, this section is structured as follows. First, it examines the actual state of the art of the international legal regime for forests, addressing (i) provisions mentioning forests within treaty law, which may result in obligations to States; (ii) the mosaic of soft law provisions on forests, focusing on those that address the links between forests and climate change; (iii) climate litigation cases related to forests. Next, it discusses whether gaps exist within international environmental law in relation to States' obligations related to forest protection, with the purpose to suggest general guidelines for an ecological international legal framework.

3.1.2 International Legal Framework

The forests' legal regime within international law is fragmented. One can find references to the subject in a number of thematic-specific legal frameworks, such as the ones on climate and biological diversity, as well as in a wide range of soft law documents with low effectiveness. This undermines the chances of ensuring the integrity of the ecological, social, cultural, spiritual and economic functions of forests worldwide.

3.1.2.1 States´s Obligations in Relation to Forests under Treaty Law

International environmental law does not offer a forest-specific legally binding framework considering forests in their entirety, this is to say, as a unique and complex ecosystem, composed by a socio-biodiversity community of human and non-human living beings and multiple interconnected environmental elements (soil, water resources, climate, etc.). In fact, the protection of forests takes place indirectly, through specific legal frameworks that protect some of these individual elements. Thus, forests appear as a cross-cutting theme that establishes connections mainly between the climate, biodiversity and soil agendas. In particular, in the context of land-use, land-use change and forestry (LULUCF), provisions about forests are based on the understanding of their utility as carbon sinks and reservoirs. The ecological dimension of forests, their immaterial values and ecological services have not been integrated into international treaty law.

(i) United Nations Convention on Biological Diversity

The United Nations Convention on Biological Diversity (CBD) was opened for signature on 5 June 1992 at the United Nations Conference on Environment and Development (the Rio "Earth Summit") and entered into force on 29 December 1993. The State Parties to the Convention adopted, in 2002, a programme of work on forest biodiversity, aiming at the conservation and sustainable use of forest biodiversity. The Biological Diversity international framework also worked on an integrated approach of biodiversity and climate change since the Fifth Conference of the Parties (COP) to the CBD. This COP highlighted the risks of climate change to forest ecosystems (decision V/4), and drew attention to the serious impacts of biodiversity loss on these systems and associated livelihoods. The issue was recurrent in different decisions and documents from following COPs, up to the 14th COP (2018), which in its decision 14/5 "Biodiversity and Climate Change" adopted the Voluntary Guidelines for the Design and Effective Implementation of Ecosystem-Based Approaches to Climate Change Adaptation and Disaster Risk Reduction. At its tenth meeting, the COP, through decision X/33, invited Parties to, *inter alia*, enhance the benefits for, and avoid negative impacts on biodiversity from reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

Article 3 of CDB refers to the responsibility of States to ensure that activities within their jurisdiction or control do not cause harm to the environment of other States or of areas beyond the limits of national jurisdiction. Interpreting this in the context of the protection of the biodiversity on forests, the following obligation can be extracted from Article 3:

- States must ensure that activities do not cause damage to biodiversity in general and to forests as ecosystems that guarantee the in-situ conservation of biodiversity within their jurisdiction or control, in order to avoid cause damage or affect the interests of other States.

Other State Parties' obligations that may be related to forests can be also found in Article 8 (In-situ Conservation), such as the obligation to promote the protection of ecosystems and natural habitats. No explicit reference or use of the term "forest" is identified though. Nevertheless, based on Article 8, the following States' obligations related to forests as natural habitat to biodiversity can be suggested:

- establish a system of forest protected areas necessary to protect and conserve biological diversity;
- promote the protection of forest ecosystems as natural habitats of biological diversity;
- rehabilitate and restore degraded forest ecosystems;

- endeavour to provide the conditions needed for compatibility between present uses of forests goods and services and the conservation of biological diversity and its sustainable use;
- respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities related to the use, conservation and preservation of forests and their resources, and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices;
- develop or maintain legislation and other regulatory provisions for the protection of forests that are the habitat of threatened species and populations.

In the context of the CBD, it is also worth mentioning the Strategic Plan for Biodiversity. In decision X/2,[16] the 10th COP adopted a revised and updated Strategic Plan for Biodiversity for the 2011-2020 period, including the Aichi Biodiversity Targets. Among the five strategic goals of the Aichi Biodiversity Targets, two are of interest here. One of them is Strategic Goal B, that aims to reduce the direct pressures on biodiversity and promote its sustainable use, and adopts as a target to halve, and where feasible bring close to zero, the rate of loss of forests, as well as significantly reduce forest degradation and fragmentation by 2020. The other is Strategic Goal D, that refers to "Enhance the benefits to all from biodiversity and ecosystem services", which includes to take into consideration the needs of indigenous and local communities (target 14); and the linkages between biodiversity and climate change (target 15), aiming that by 2020 ecosystem resilience and the contribution of biodiversity to carbon stocks will have been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, thereby contributing to climate change mitigation and adaptation.

In conclusion, even if the CBD can be seen as contributing to the protection of forests, it is not satisfactory as it protects only one of the dimensions or aspects of forests. This is for forests are not considered in their entirety, as complex ecosystems of interrelationships between distinct socio-environmental elements. Nonetheless, based on the States' obligations provided by the CBD in relation to biological diversity, it would be possible to suggest specific obligations in terms of forests as essential ecosystems for the protection and conservation in situ of biodiversity.

(ii) Climate International Legal Framework

The United Nations Framework Convention on Climate Change (UNFCCC) entered into force on 21 March 1994. Its preambule refers to the role of terrestrial ecosystems as sinks and reservoirs of greenhouse gases, which include forests. Forests can be,

[16] 10° CONFERENTE OF THE PARTIES OF THE UN CONVENTION ON BIOLOGICAL DIVERSITY. Decision X/2 - Strategic Plan for Biodiversity 2011-2020. Japan, 2010.

therefore, at the same time, sinks,[17] reservoirs,[18] and source[19] of greenhouse gases (in the latter, in episodes of deforestation and wildfires).

In its principles (Article 3), the UNFCCC provides for the obligation of States to protect the climate system for the benefit of present and future generations, and to take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects, based on the precautionary principle. The climate system, as indicated in article 1(3), "means the totality of the atmosphere, hydrosphere, biosphere and geosphere and their interactions". In this way, forests, considered in their entirety, as a unique and complex ecosystems, essential to the stability of global climate, are part of the climate system and, in consequence, protected by the international climate legal framework. They are included in the States' obligation to protect the climate system. In addition, Article 4 sets out the States' commitment to promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including forests.

Linking these provisions to forests protection in the context of climate change, the following obligations could be pointed out:

- States have the obligation to protect the climate system for present and future generations and take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects, including deforestation and other forms of forest degradation that could harm the ecological services provided by forests to the sustainability of the climate system.

The Paris Agreement, adopted in the 21st COP in 2015 and entered into force in 2016, is much more specific in recognizing the linkages between forests and climate change, and, in particular, the importance and the ecological services provided by forest as carbon sinks and reservoirs to the integrity of the climate system. In the preambule, the Parties recognize the importance of the conservation and enhancement of sinks and reservoirs of greenhouse gases, and stress the relevance of ensuring the integrity of all ecosystems, and the protection of biodiversity, recognized by some cultures as Mother Earth.

[17] "Reservoir" means a component or components of the climate system where a greenhouse gas or a precursor of a greenhouse gas is stored. (Article 1, UNFCCC).
[18] "Sink" means any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere (Article 1, UNFCCC).
[19] "Source" means any process or activity which releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere (Article 1, UNFCCC).

Article 5 is specific about what State Parties should do to achieve these objectives, as well about the role of forests in the context of the climate agenda.[20] It is to note that the text of the Paris Agreement opted for softer and less engaging expressions as "should" and "encouraged". Nevertheless, we understand that Article 5 engages States to:

- conserve and enhance forests as sinks and reservoirs of greenhouse gases;
- implement and support soft law related to forests and climate change agreed under the Convention aiming to reduce emissions from deforestation and forest degradation, to promote the conservation and sustainable management of forests, to enhance forest carbon stocks, and promote mitigation and adaptation approaches for the integral and sustainable management of forests.

It is also important to highlight that there is a wide range of UNFCCC documents related to reducing emissions from deforestation and forest degradation in developing countries,[21] in the context of land-use, land-use change and forestry (LULUCF).

Another issue that must be taken into consideration is forests in relation to the National Determined Contributions (NDCs), which describe what measures governments will take in order to reduce emissions under the Paris Agreement. Article 3 provides that efforts communicated by Parties must be ambitious and represent a progression over time, and Article 4 (2) engages Parties to pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions. Particularly with regards to the NDCs, the following obligations towards forests protection may be established:

[20] Article 5. 1. Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1 (d), of the Convention, including forests. 2. Parties are encouraged to take action to implement and support, including through results-based payments, the existing framework as set out in related guidance and decisions already agreed under the Convention for: policy approaches and positive incentives for activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries; and alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests, while reaffirming the importance of incentivizing, as appropriate, non-carbon benefits associated with such approaches.

[21] The most relevant decisions on this issue are: (a) Decision 2/CP.13, that acknowledges the contribution of emissions from deforestation and forest degradation to global anthropogenic GHG emissions - it provides a mandate for several actions by Parties relating to reducing emissions from deforestation and forest degradation in developing countries such as capacity building, technology transfer, exploring a range of actions and demonstration activities and mobilization of resources to support these efforts; (b) Decision 1/CP.16, that establishes a framework for Parties undertaking actions relating to reducing emissions from deforestation and forest degradation, conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks (paragraphs 68-79); (c) Decision 15/CP.19, that addresses the drivers of deforestation and forest degradation; (d) Decision 16/CP.21, that offers alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests.

- States must provide in its NDCs ambitious measures to reduce deforestation, protect and restore forests as a nature-based initiative to prevent and reduce greenhouse gases emissions, which must be always progressive. The recognition and application of the principle of non-regression in environmental law[22] could be used as a legal basis to avoid regression in NDCs, as well as in national legal frameworks related to forests and control of deforestation.
- States must adopt domestic concrete mitigation measures aimed to reduce deforestation, restore degraded forests and protect forests as carbon sinks, including specific and effective legal framework, and institutional and financial means to its implementation. States should guarantee that their domestic policy, legal framework and financing are sufficient to and aligned with contributions and ambitions reported in their NDCs.

Nevertheless, the question that remains is to what extent efforts and targets communicated by States under their NDCs engage the States' responsibility when their policies, measures and/or legal frameworks are not compatible with or sufficient to reach the ambitions then communicated. Therefore, for the purpose of this advisory proceedings, it would be important to clarify this controversial aspect of the Paris Agreement regime in terms of understanding the legal nature of obligations steaming from the NDCs (both procedural and substantive ones).

The NDCs are based on the central principle of common but differentiated responsibilities, addressing a bottom-up determination of national most ambitious commitment to reduce GHG emissions towards climate change mitigation. Despite the wide variety of forms of NDCs, from quantified binding targets to qualitative objectives that may even include a healthy and sustainable way of living (such as India's communication), the Paris Agreement is actually largely centered around the implementation of NDCs.[23]

In this sense, Article 4.2 of the Paris Agreement establishes both procedural and substantive obligations. Its first sentence provides for a procedural obligation for each Party to prepare, communicate and maintain successive NDCs that it intends to achieve. Its second sentence anchors de NDCs with a substantive obligation in terms of that "parties shall pursue domestic mitigations measures, with the aim of achieving the objectives of such contributions", which, in the context of a treaty, is to be interpreted

[22] The understanding of the principle of non-regression is based on the studies carried out by Professor Michel Prieur. See: Michel Prieur, 'The Principle of Non-Regression' in Michael Faure (ed), *Elgar Encyclopedia of Environmental Law* (Edward Elgar Publishing, 2018) 251-259; Michel Prieur, 'Non-Regression in Environmental Law' (2012) 5(2) S.A.P.I.EN.S <http://journals.openedition.org/sapiens/1405> accessede 20 February 2020, 56-56.

[23] Benoit Mayer, 'International Law Obligations Arising in relation to Nationally Determined Contributions' (2018) 7(2) Transnational Environmental Law <https://doi.org/10.1017/S2047102518000110> accessed 20 March 2020, 255-256;

as an international law obligation.[24] This conclusion could be supported by the use of the term 'shall', as opposed to 'should'; by the fact that it is applied to each party individually; and also by the fact that other provisions containing the term 'shall' in the Paris Agreement equally establish legal obligations to each Party.

Furthermore, a starting point to understand the legal nature of a substantive obligation contained in the second sentence of Article 4.2 is related to the Roman law dichotomy between obligations of result, as the obligation to realize a specified performance, and obligations of conduct, which require an endeavour towards the promise outcome. In this regard, the obligation of each Party to pursue domestic measures with the aim of achieving the objectives (part of the second sentence of Article 4.2) cannot be characterized as an obligation of result. This would be because the wording used ('pursue', which demands a 'proactive conduct') indicates an obligation of conduct.[25] Nonetheless, an obligation of conduct is still a legal obligation, even if it leaves the State bound by a large margin of contribution.[26] Therefore, the NDCs would be no less legally binding in the sense that each State must adopt 'all means' in its reserve to respect its commitment.[27]

But then how to identify a breach of an obligation of conduct in the context of the NDCs? An obligation of conduct has been interpreted, generally, as requiring a chain of instructions originating from the competent national authorities.[28] Therefore, as this is an obligation of conduct (an obligation to take relevant measures), the responsibility of a Party to the Paris Agreement would not automatically be breached based on the finding that the target was not achieved. However, its responsibility could be considered breached for failure to take adequate steps towards achieving that target, regardless of whether the target was ultimately achieved.[29]

(iii) United Nations Convention to Combat Desertification

The 1994 United Nations Convention to Combat Desertification (UNCCD) also promotes the linkages between forests and land within treaty law. The UNCCD considers land as "the terrestrial bio-productive system that comprises soil, vegetation, other biota, and the ecological and hydrological processes that operate within the

[24] Ibid, 258.

[25] "'Pursue' should be interpreted as requiring proactive conduct, consistently with other official versions of the Paris Agreement – the French version ('prennent des mesures'), for example, implies that the Parties are to 'take' measures, not just to envisage them". Ibid, 259.

[26] J -Maurice Arbour, Hélène Trudeau, Sophie Lavallée and Jochen Sohnle, *Droit international de l'environnement* (3rd edn, Éditions Yvon Blais, 2016), 852.

[27] The French original ('prennent des mesures internes … en vue de réaliser les objectifs') indicates more clearly than the convoluted English version that the measures must reasonably be viewed, at the time when they are taken, as capable of realizing the objective.

[28] MAYER, op. cit., 262

[29] Ibid, 262. Conversely, the breach of an obligation of conduct could be demonstrated well before conclusive evidence regarding the achievement of the mitigation commitment becomes available. ibid p. 261.

system". This applies to forests as an element comprised within the terrestrial bio-productive system. A direct mention to forests is made in the concept of land degradation, which includes the reduction or loss of the biological or economic productivity and complexity of forests resulting from land uses or processes arising from human activities such as long-term loss of natural vegetation (Article 1 (f)). The achievement of the objective of the UNCCD fosters the rehabilitation, conservation and sustainable management of land that includes forests (Article 2 (2)).

Based on the general obligations established by Article 4, especially (a) and (d), and linking these to forests, one can suggest that States shall:

- address deforestation and other forms of forest degradation, based on an integrated approach to other physical, biological and socio-economic aspects, considered as an aspect of the processes of desertification and drought;
- promote and act in cooperation with other affected countries in the protection and conservation of forests as a central element of the concept of land.

Affected countries have specific obligations under Article 5. By linking these obligations to forests issues, one can conclude that States shall:

- address forest degradation and deforestation as an underlying cause of desertification, paying attention to economic factors that could be contributing to these processes;
- strengthen existing legislation and, where they do not exist, enact new laws and establish long-term policies and action programs related to the contribution of forests protection, preservation and conservation to land degradation neutrality.

National Action Programmes (NAPs), as in Article 10, are key instruments to implementing the Convention, supported by action programmes at sub-regional (SRAP) and regional (RAP) levels. They must integrate measures related to forest protection and restoration, giving particular attention to the implementation of preventive measures for lands (comprising forests) that are not yet degraded or which are only slightly degraded (c).

It is worth noting that UNCCD COPs adopted decisions and other non-binding documents, launched initiatives and measures related to forests protection and restoration to achieve land degradation neutrality. As the analysis above demonstrates, forests are part of land and therefore preventing land degradation means to protect, preserve and restore forest ecosystems. Nevertheless, this protection is, once again, an indirect protection, considering forests as a means to achieve goals related to combating desertification and drought, instead of a specific protection for forests themselves.

3.1.2.2 Soft Law on Forests[30]

The first initiative to agree on a legal international regime for forests took place during the 1992 United Nations Conference on Environment and Development (Rio-92 or 1992 Earth Summit). As negotiations failed, the PrepCom added a non-binding declaration on forests to its agenda. This was adopted as the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests, reflecting a first global consensus on forests. The document presents an ecological view of forests, recognizing its immaterial values and importance for all forms of life and future generations, the vital role of forests in maintaining the ecological processes and balance, requiring a holistic consideration of forestry issues. A number of States' obligations can be identified.[31]

Another document derived from the Earth Summit also contributed to designing soft law on forests. The Agenda 21 dedicates its 11th chapter to measures and proposals aiming to combat forest deforestation, to enhance the protection, sustainable management and conservation of all forests, and the greening of degraded areas, through forest rehabilitation, afforestation, reforestation and other rehabilitative means. In addition, a few recommendations to States can be identified.[32]

---

[30] It is out of the scope of this section to refer to the exhaustive list of documents, recommendations, objectives, guidelines and international initiatives related to forests. Actually, it aims to exemplify how the issue is addressed through voluntary and non-binding international documents and initiatives, by highlighting the elements considered most relevant in the context of this advisory proceedings.

[31] (1) Manage forests in a sustainable way and adopt appropriate measures to protect forests against harmful effects of pollution and fires in order to maintain their full multiple value. (2) Promote and provide the participation of local communities and indigenous people in the development, implementation and planning of national forest policies. (3) In the context of national forest policies: increased efforts for the management, conservation and sustainable development of forests, recognize and support the identity, culture and rights of indigenous people and other forest communities, include the protection of ecologically viable representative or unique examples of forests, including primary/old-growth forests, cultural, spiritual, historical, religious and other unique and valued forests, ensure that environmental impact assessments should be carried out where actions are likely to have significant adverse impacts on important forest resources, take account of the pressures and demands imposed on forest ecosystems and resources from influencing factors outside the forest sector, and intersectoral means of dealing with these pressures and demands should be sought. (4) Consideration of the non-economic values of forest goods and services and of the environmental costs and benefits in decisions. (5) Undertake efforts to maintain and increase forest cover in ecologically, economically and socially sound ways. (6) Indigenous capacity and local knowledge regarding the conservation and sustainable development of forests should be recognized, respected, recorded, developed and, as appropriate, introduced in the implementation of programmes.

[32] Ensuring the sustainable management of all forest ecosystems; establishing, expanding and managing, as appropriate to each national context, protected area systems increasing the protection of forests from pollutants, fire, pests and diseases and other human- made interferences, improving opportunities for participation of all people, including indigenous people and local communities in the formulation, development and implementation of forest-related programmes, taking due account of the local needs and cultural values.

Latter, the Rio+20 Conference document (The Future We Want) stressed the importance of improving the livelihoods of people and communities by creating the conditions required to sustainably manage forests. It recognizes the role of the UN Forum on Forests in addressing forest-related issues in a holistic and integrated manner, and in promoting international policy coordination and cooperation. It provides for the mainstreaming of sustainable forest management and practices into economic policy and decision-making.

Moreover, forests appear as a cross-cutting issue in documents and initiatives from international organisations and foruns. The UN Economic and Social Council (ECOSOC), in its Resolution 2000/35 of 18 October 2000, established the International Arrangement on Forests (IAF),[33] which has five main components: the UN Forum on Forests (UNFF) and its Member States, the UNFF Secretariat, the Collaborative Partnership on Forests (CPF), the UNFF Global Forest Financing Facilitation Network (GFFFN), and the UNFF Trust Fund.

The United Nations Forum on Forests (UNFF)[34] is a subsidiary body with the purpose to promote the management, conservation and sustainable development of forests and to strengthen long-term political commitment to this end.The Forum is composed of all UN Member States and specialized agencies. Resolution 2000/35 invited the heads of relevant UN international and regional bodies to form a collaborative partnership on forests, resulting in the Collaborative Partnership on Forests (CPF), established in April 2001. CPF is an informal, voluntary arrangement among 15 international organizations and secretariats with substantial programmes on forests. Its mission is to promote sustainable management of forests and its objectives are to support the work of UNFF and to enhance cooperation and coordination on forest issues.[35]

One of the key objectives of the IAF is the promotion of the implementation of the UN Forest Instrument,[36] providing a framework for promoting sustainable forest management and articulation of policies and measures related to forest governance and policy and legal frameworks. The Instrument recognizes the impact of climate change on forests, as well as the contribution of forests to addressing climate change. It adopts the principle that each State is responsible for the sustainable management of its

[33] Some of the key objectives of the IAF include: promoting implementation of sustainable forest management (SFM), in particular the implementation of the UN Forest Instrument; enhancing the contribution of forests to the post-2015 development agenda; enhancing cooperation, coordination, coherence and synergies on forest-related issues; fostering international cooperation, public-private partnerships and cross-sectoral cooperation; strengthening forest governance frameworks and means of implementation; strengthening long-term political commitment towards the achievement of SFM; enhancing coherence, cooperation and synergies with other forest-related agreements, processes and initiatives.

[34] On the UNFF, see: <https://www.un.org/esa/forests/index.html>.

[35] On the CPF, see: <http://www.cpfweb.org/en/>.

[36] Adopted by the UN General Assembly Resolution 70/199 from 22 December 2015.

forests and for the enforcement of forest-related laws.[37] A wide range of national policies and measures are recommended to States, from which it is relevant to highlight the following here:

- address solutions to threats to forest health and vitality from natural disasters and human activities, including threats from fire and pollution;
- support the protection and use of traditional forest-related knowledge and practices in sustainable forest management;
- encourage recognition of the range of values derived from goods and services provided by all types of forests;
- identify and implement measures to enhance cooperation and cross-sectoral policy and programme coordination among sectors affecting and affected by forest policies and management, with a view to integrating the forest sector into national decision-making processes and promoting sustainable forest management, including by addressing the underlying causes of deforestation and forest degradation, and by promoting forest conservation;
- review and improve forest-related legislation, strengthen forest law enforcement and promote good governance to support sustainable forest management;
- education, access to information, participation in policies and decisions related to forests and access to forest resources to forest-dependent local and indigenous communities.

On 27 April 2017, the UN General Assembly adopted the UN Strategic Plan for Forests 2017-2030,[38] a global framework for actions to sustainably manage forests and halt deforestation and forest degradation. It provides six Global Forest Goals[39] and 26

[37] It establishes four global goals on forests. Global objective 1 - Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation; Global objective 2 - Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people; Global objective 3 - Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests; Global objective 4 - Reverse the decline in official development assistance for sustainable forest management and mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management.

[38] United Nations General Assembly Resolution 71/285, *United Nations Strategic Plan for Forests 2017-2030*, May 1st 2017 (A/RES/71/285).

[39] 1. Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restauration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change. 2. Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people. 3. Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as of the proportion of forest products from sustainably managed forests. 4. Mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management and strength scientific and technical cooperation and partnership. 5. Promote governance frameworks to implement sustainable forest management, including through the

associated targets to be achieved by 2030. They support the objectives of the International arrangement on Forests and contribute to progress on the Sustainable Development Goals, the Aichi Biodiversity Targets, the Paris Agreement and other international forest-related instruments, processes, commitments and goals.

The Bonn Challenge[40] is a global effort to bring 150 million hectares of the world's deforested and degraded land into restoration by 2020, and 350 million hectares by 2030. It was launched in 2011 by the Government of Germany and IUCN, and endorsed and extended by the New York Declaration on Forests at the 2014 UN Climate Summit. It is estimated that this could sequester one gigaton of greenhouse gases every year. The Global Partnership on Forest and Landscape Restoration[41] is supporting governments, the private sector, local communities and others in their efforts to achieve the Bonn Challenge.

Also, forests have been already considered within the context of the Sustainable Development Agenda 2030 and its Sustainable Development Goals (SDGs). This specially in SDG 15 "Life on Land", that aims to "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" and its targets. In 2018, the High-Level Political Forum on Sustainable Development reviewed the implementation of SDG 15, proposing key areas to strengthen implementation mechanisms and partnerships.[42] It is important to note that the UN

United Nations Forest instrument, and enhance the contribution of forests to the 2030 Agenda for Sustainable Development. 6. Enhance cooperation, coordination, coherence and synergies on forest-related issues at all levels, including within the United Nations system and across member organizations of the Collaborative Partnership on Forests, as well as across sectors and relevant stakeholders.

[40] See: <https://www.bonnchallenge.org>.

[41] The Global Partnership on Forest and Landscape Restoration (GPFLR) is a global network of governments, organizations, academic/research institutes, communities and individuals with the goal to restore the world's lost and degraded forests and their surrounding landscapes.It responds directly to the Bonn Challenge and was initiated in 2003 by consortium of organizations and spearheaded by IUCN. See: <http://www.forestlandscaperestoration.org>.

[42] Including: (1) Securing tenure over forests, pastures and farmlands for local communities and Indigenous Peoples. (2) Strengthening producers' organizations and Indigenous Peoples' groups to ensure their access to information, rights, quality input, new technologies and practices, funding and markets. (3) Supporting and scaling up the adoption of sustainable production systems to manage land, trees and forests, crop, livestock and fisheries in a more sustainable and integrated way, taking agro-ecological knowledge into account. (4) Fostering investments in rural areas that involve small-scale producers and supporting their transition to more sustainable practices. (5) Improving collaboration and coordination across governments and with different partners to provide a consistent enabling environment for producers to also act as custodian of the ecosystems they use for production. (6) Engaging local communities, drawing upon traditional knowledge and promoting the inclusion of women and indigenous populations. HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT. *2018 HLPF Review of SDGs implementation:* SDG 15 – Protect, restore and promote us of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Available at: <https://sustainabledevelopment.un.org/content/documents/196552018backgroundnotesSDG15.pdf>.

General Assembly declared 2021–2030 the UN Decade on Ecosystem Restoration, highlighting that restoration could remove up to 26 gigatons of greenhouse gases from the atmosphere.

On top of that, the linkages between forests and climate change have been taken into consideration in the global climate agenda. For example, the New York Declaration on Forests (NYDF), endorsed at the 2014 UN Climate Summit, adopts 10 goals[43] related to eliminate/reduce deforestation, restore forests and end forest loss, contributing to reduce emissions (the aim is to reduce the global emissions of greenhouse gases by 4.5–8.8 billion metric tons every year). More importantly, during the latest Conference of the Parties of the UNFCCC (COP 25, 2019), the Santiago Call for Action on Forests was adopted. The COP 25 Presidency called on countries to:

- reduce emissions from deforestation and forest degradation and enhance carbon sinks in line with article 5 of the Paris Agreement;
- enhance NDCs through nature-based solutions – protection, restoration and sustainable use of forests - to contribute to closing the emissions gap by 2030;
- engage in the implementation of international commitments, including the NDCs and other international voluntary goals such as those associated with the Bonn Challenge and the New York Declaration on Forests;
- when forest activities are included in NDCs, countries should transparently convey how they will ensure the expected impact toward global mitigation efforts;
- actively engage local communities and indigenous peoples in the design and implementation of international commitments and goals, including the process of enhancing NBS in NDCs.

In summary, from the analysis of principles, recommendations, guidelines and goals identified in voluntary and non-binding international forest-related documents and initiatives, it is possible to extract a set of measures that could inform further States' obligations regarding forests, as follows:

- Ensure the sustainable management of forests and reverse the loss of forest cover, including protection, restoration, afforestation and reforestation, eliminating deforestation from agricultural commodities.

[43] 1. End natural forest loss; 2. Eliminate deforestation from agricultural commodities; 3. Reduce deforestation from other economic sectors; 4. Support alternatives for basic needs; 5. Restore forests; 6. Anchor forests in the SDGs; 7. Reduce emissions in accordance with global climate agreement; 8. Provide finance for forest action; 9. Reward results by countries and jurisdictions; 10. Strengthen governance and empower communities.

- Increase efforts to prevent forest degradation and protect forests against harmful effects of fires and economic activities in order to maintain their full multiple value, addressing solutions to the threats of forest health and vitality, including fire and pollution.
- Address the underlying causes of deforestation and forest degradation.
- Provide and extend protected forest areas system, increasing the protection of forests from fire.
- Promote and provide for the participation of local communities and indigenous people in the development, implementation and planning of national forest policies.
- Support the identity, culture and rights of indigenous people and other forest communities, improve the livelihoods of forest-dependent people, guaranteeing their access to forest resources and securing tenure over forests for local communities and indigenous peoples.
- Support the protection and use of traditional forest-related knowledge.
- Recognize and protect cultural, spiritual, historical, religious and other immaterial values of forests, considering the non-economic values of forest goods and services in decisions, policies and laws.
- Improve forest laws and policies, strengthen their enforcement and promote good forest governance frameworks.
- Contribute to the global effort of addressing climate change reducing emissions from deforestation and forest degradation and consider nature-based solutions, as the protection, restoration and sustainable use of forests, in the National Determined Contributions (NDCs) ambitions.

3.1.2.3 Case Law: Forests in Climate Litigation

The International Court of Justice has not decided on cases that specifically address the issue of climate litigation up to the present. However, in the context of domestic courts, some discussions have evolved about the central role of forests in combating climate change, the impacts of forest degradation on the climate system, and the States' obligation to protect forests and reverse deforestation as part of climate responsibilities derived from the Paris Agreement and the UNFCCC. Below, three climate litigation cases at the national level are presented, in which the omission and inefficiency of government actions to deal with the increase in deforestation in the context of climate change are discussed.

(i) Future Generations v. Ministry of the Environment of Colombia and Others (Case Amazônia Colombiana)[44]

[44] SABIN CENTER FOR CLIMATE CHANGE LAW. Future Generations v. Ministry of the Environment of Colombia and Others. See: http://climatecasechart.com/non-us-case/future-generation-v-ministry-environment-others/.

Twenty five youths at the ages from 7 to 26 years, from different parts of the country, claimed against Colombian governments (Republic Presidency, Government, Municipality) to enforce some of their fundamental rights as future generation, linked to the right to a healthy environment. The plaintiffs alleged that government failure in the duty to protect the Colombian Amazon (omission and inact of government), an area threatened by the increase of deforestation, was a key cause of climate change in the country. They also pointed that the consequences of deforestation would affect and threaten other regions and ecosystems, including water cycle. The plaintiffs requested the Court to determine the government to implement action plans to reduce deforestation in the Amazon and the effects and impacts of climate change (adaptation and mitigation strategies) in accordance with the Paris Agreement, ensuring public participation.

A lower court ruled against the plaintiffs. However, the Supreme Court (April 5, 2018) granted the protection requested. Consequently, it was ordered that Colombian governments, in coordination with the agents of the National Environmental System, the affected communities, the plaintiffs and the interested population in general, should formulate an action plan for counteracting the deforestation rate, tackling climate change impacts, and guiding towards climate change adaptation. This also included the elaboration of an "Intergenerational Pact for the Life of the Colombian Amazon - PIVAC" to reduce deforestation and GHG emissions.

In order to protect the forest as an ecosystem vital for future generations, the Supreme Court recognized the Colombian Amazon as a subject of rights, entitled to protection, conservation, maintenance and restoration, which should be led by the State and territorial agencies. This is in line with the famous Rio Atrato decision.[45]

(ii) Sheikh Asim Farooq v. Federation of Pakistan[46]

In this case, members of a civil society (Go Green Lahore) filed a *writ of mandamus* against several departments of the Federation of Pakistan for violations of their constitutional rights (life, liberty, dignity, access to public places of entertainment, and others) in response to the failure to protect, to manage, to preserve and to conserve the trees and the forests in the area of Punjab. To support the case, they referred to the National Climate Change Policy (2012), the National Forest Policy (2015), the Forest Policy Statement (1999), the Forest Act (1927) and the Trees Act (1974). It was argued that forest area in Pakistan was decreasing rapidly - close to extinction -, and that trees in forests and other natural resources are covered under the Doctrine of Public Trust, and therefore the Government ought to protect them for present and future generation instead of permitting their use only by private and individual interests.

[45]CONSTITUTIONAL COURT OF COLOMBIA. T-622/ 2016. Decision from the Constitutional Court of Colombia that recognized the Atrato River as a subject of rights. See: http://cr00.epimg.net/descargables/2017/05/02/14037e7b5712106cd88b687525dfeb4b.pdf

[46]SABIN CENTER FOR CLIMATE CHANGE LAW. Sheikh Asim Farooq v. Federation of Pakistan. See: http://climatecasechart.com/non-us-case/sheikh-asim-farooq-v-federation-of-pakistan-etc/

The Lahore High Court decision pointed worriedly to the current situation of trees and forest in Punjab and Pakistan, where the natural resource is decreasing at such alarming speed that all the forest area would be consumed in the next few years. By contrast, many benefits of the trees and forest were highlighted, like the intangible forestry value, products and services, including the importance to biodiversity conservation, carbon sequestration, water quality, soil quality, and others. The Court thus granted the claim on the grounds of the principles and doctrines of public trust[47] and *in dubio pro natura* (see section (B)3.1), determining the government departments to manage, conserve, sustain, maintain, protect and grow forests and trees.

(iii) Álvarez et al v. Peru[48]

Recently (December 16, 2019), in Peru, seven children filed a claim before the Superior Court of Lima against the insufficient action of the government to address climate change, especially in relation to the protection of the rainforest. The plaintiffs argued that provisions of Peruvian Constitution, national regulations and international agreements (mainly the International Pact of Economic, Social and Cultural Rights, the Additional Protocol of the American Convention on Human Rights, and the Inter-American Democratic Charter, among others) were neglected. Therefore, their fundamental right to enjoy a healthy environment had been violated. The plaintiffs argued that the situation was even worse for younger Peruvians, whose future would be severely compromised due to climate emergency. Thus they called for more efficient measures to protect the rainforest, such as the establishment of goals, objectives, resources and plans to reduce deforestation. Finally, they argued for the recognition of the Peruvian Amazon as subject of law, in its entirety. The decision is pending.

These examples of climate litigation demonstrate that forests are a key element to guarantee a safe and sustainable climate system, especially in the interest of future generations, and the protection of environmental rights. The incapacity or lack of political will of governments to combat and reduce deforestation and protect forests under their territory are directly linked with their common responsibility to protect the climate system and avoid climate change. The cases also indicate a trend towards a more ecological approach to forest protection in the Global South, by recognizing forests as legal entities and rights holders.

3.1.3 An Ecological Approach to the International Legal Framework

[47] In accordance with the decision, the public trust doctrine has been part of international environmental law since the Stockholm Declaration (1972) and has been fully elaborated in many others cases. From it, the Government ought to protect the natural resources for the enjoyment of the general public.

[48] SABIN CENTER FOR CLIMATE CHANGE LAW. Álvares et al v. Peru. See: http://climatecasechart.com/non-us-case/alvarez-et-al-v-peru/

3.1.3.1 The Gaps in the International Protection and States' Obligations Related to Forests: For an Ecological International Legal Regime

Although existing references in several documents since the early 1990s, one can say that the protection of forests at the international level occurs in a transversal, indirect, fragmented way (see section (1) above). In general, the perspective adopted in these instruments is anthropocentric and utilitarian, considering forests according to their utility for human beings or for achieving the protection of other natural elements, such as land, biodiversity or the climate. In brief, the absence of a specific international legal regime for the protection of forests gives rise to a certain "invisibility" of forests in terms of an ecosystemic, holistic and integrated perspective. On the other hand, soft law documents seem to present a more integrative and ecological view by encompassing socio-environmental aspects. This is the case of the 1992 Forest Principles, the Earth Charter,[49] the Agenda 21, the Forest Declarations, and the ODS 15.

However, if an ecological law approach to a novel international legal regime for forests (or to interpreting the existing international environmental law) is to be pursued, this is to be done by fostering a legal framework that enhances the ecosystemic integrity of terrestrial life systems, as it is, for instance, the guidance offered by the Earth jurisprudence.[50] This would encompass the following:

- ecosystemic consideration of forest as a biome, taking into account the particularities of its human and non-human elements, their needs and reciprocal interactions;
- respect for and protection of the life and dignity of non-human beings who are part of the forest life community, due to their intrinsic value in an ecosystemic perspective;
- respect for and protection of the life and dignity of human beings who are part of the community and life of forests, in accordance with international human rights standards, and based on an ecological and intergenerational human rights perspective;
- respect for and recognition of cultural, ethnic and spiritual diversity and values present in forests and their manifestations;
- international and multilevel cooperation in the management of responsibilities towards forests and their inhabitants;

[49] The Earth Charter, 2000. Available at <https://earthcharter.org/discover/the-earth-charter/>.

[50] "The main goal of Earth jurisprudence is to reconnect our thoughts and practices with Nature's processes, including reliance on a bottom-up approach to decision- making that is value-driven in ways that question prevailing ideologies associated with neoliberal globalization and new surges of nationalism. Earth jurisprudence is an approach that underscores the urgency of reconstructing civilization on ecological principles of sustainability and collaborative relationships with the natural world." UN General Assembly. Harmony with Nature - Note by the Secretary-General. 2016 (UN Doc A/71/266). Paragraphe 22.

- recognition of, promotion and respect for rights to participation and to access to information of those involved in the management and maintenance of the ecosystemic integrity of forests;
- adoption and application of ecological criteria for authorized sustainable forest management practices;
- recognition of the traditional and ancestral knowledge, with respect for their land ownership systems;
- consideration of gender issues and inter-ethnic recognition in forest policies, law- and decision-making processes;
- integration of forest governance and legal framework within other environmental agendas, such as land; water, oceans, wetlands, biodiversity, and climate;
- enforcement of joint policies, governance and cooperation for transboundary forests that are shared between countries and communities, aligned with their ecosystemic features;
- recognition of forest as an entity with legal personality, as in Future Generations v. Ministry of the Environment and Others; an ecological legal regime for forests must recognize the fundamental legal rights of forests to exist, thrive and regenerate as an ecosystem;
- legal protection for immaterial values and non-economic services provided by forests;
- recognition, from an ecosystemic and ecological perspective, of the linkages between forests and climate, and thus of the contribution of forests to a safe and sustainable climate system.

Considering the climate crisis, and that climate change reveals the ecological character of human beings-nature relations, it is urgent to safeguard forests in their ecosystemic perspective, as essential for the preservation of decent living conditions on Earth. Forests' biophysical and immaterial elements as manifested in the worldview of forest dwellers, contribute to ensure, through mutual aid, cooperation, solidarity, friendship, and education, the resilience of life. Moreover, the protection and management of forests as a central element of the web of life on Earth, more than a legal measure and an international cooperation commitment, represent an ethical duty for the preservation of living conditions and an unparalleled responsibility for the preservation of humanity in its authentic life[51] in an intergenerational perspective.

3.1.3.2 Climate Change, Human Rights and Rights of Nature: Protecting the Climate System as a Global Common and the Intergenerational and Interspecies Right to a Safe and Sustainable Climate System

[51] Hans Jonas, *El principio responsabilidad: ensaio de una ética para la civilización tecnológica (*Herder, 1995).

Climate change and its negative impacts have become a major source of threats and limitation to the full enjoyment of human rights. To protect the global climate system and to ensure that it will remain safe and sustainable for present and future generations is central to the realisation of human and nature's rights. In this regard, States decisions, actions and/or omissions that affect negatively the climate system may also jeopardize rights of human and non-human members of the Earth community. Therefore, the argument put forward in this section relates to the need to recognize the climate system as a global common good which life with dignity and the well-being of the Earth community rely on. In sum, a safe and sustainable climate system must be recognized as a right, extended to nature itself.

An important precedent with respect to the recognition of common rights for humans and nature is the Advisory Opinion 23-17 on the Environment and Human Rights from the Interamerican Court of Human Rights.[52] The Court considers the right to the environment as a right that protects humans and all elements of the environment, including forests, as "legal interests in themselves":

> the right to a healthy environment as an autonomous right, unlike other rights, protects the components of the environment, such as forests, rivers, seas and others, as legal interests in themselves, even in the absence of certainty or evidence about the risk to the individual people. It is about protecting nature and the environment not only because of its connection with a utility for the human being or for the effects that its degradation could cause on other people's rights, (…) but for its importance to the other living organisms with whom the planet is shared, also deserving of protection in themselves.

Based on this, as well as on growing manifestations in favour of recognizing a right to a safe climate (see below), one can argue that States have the obligation to protect the climate system and to avoid causing harm to it by its decisions, actions or omissions, in order to respect the right to a safe and sustainable climate system as an intergenerational and interspecies right of human beings and of nature itself. This is based on the following premisses:[53]

1. first, the connections between the integrity and dignity of nature and the realization of human dignity and rights, as expressed by the UN Special Rapporteur on Human Rights and the Environment: “human beings are part of

[52] INTER-AMERICAN COURT OF HUMAN RIGHTS. Environment and Human Rights - Advisory Opinion Oc-23/17 Of November 15, 2017 Requested by the Republic of Colombia.

[53] These considerations are based on: Fernanda Cavedon-Capdeville, ‘Jurisprudência ecologizada nas Cortes de Direitos Humanos: contribuições para a ecologização dos direitos humanos’ in José Rubens Morato Leite, Fernanda Cavedon-Capdeville, Leatrice Faraco Daros, Melissa Ely Melo , Patryck de Araújo Ayala, Paula Galbiatti Silveira, *A Ecologização do Direito Ambiental Vigente* (Lumen Juris, 2018).

nature and our human rights are interconnected with the environment in which we live";[54]

2. second, the need to overcome current limitations in terms of rights entitlement and of the timescale and boundaries of environmental harms, in order to extend rights to future generations and non-human beings, and to encompass global issues and conflicts beyond the limits of political power, sovereignty and territory;
3. third, the aim to build a broader system of ecologized rights which encompasses the rights of the Earth and of all members of the Earth community, towards an expanded concept of ecological dignity.

This demands, first, the climate system being recognized and protected as a global common. Global commons are understood as common goods of shared use, in relation to which requirements of non-competition and non-exclusivity apply. This is for the risk of scarcity/vulnerability of these assets, due to possible over-exploitation. Thus, common goods imply new forms of governance[55] and new legal arrangements.[56] As previously mentioned, the UNFCCC recognizes that the climate system is a global good of humankind which requires the engagement and cooperation of all States in its protection for present and future generations (Article 3). As a consequence, States would have positive[57] and negative[58] obligations as common guardians of the climate system.

Case law has somehow addressed the issue. The climate litigation case Urgenda Foundation v. State of the Netherlands[59] (final decision of the Supreme Court on

---

[54] UNITED NATIONS HUMAN RIGHTS PROCEDURES. *Framework Principles on Human Rights and the Environment: The main human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment* – Report of the Special Rapporteur on Human Rights and the Environment. United Nations, 2018.

[55] Johann Rockstrom says that "Governance of the global commons is required to achieve sustainable development and thus human wellbeing. We can no longer focus solely on national priorities for economic development and environmental protection." (UNEP, *Global Commons: The planet we share*. Our Planet, the magazine of the United Nations Environment Programme, 2011. Available at: <https://www.unenvironment.org/resources/report/our-planet-global-commons-planet-we-share>, p. 20.

[56] See, for example, what Kotzé says in relation to an Earth system law as the legal dimension of the Earth system governance, Louis J. Kotzé and Rakhyun, op. cit. Weston and Bollier propose a new paradigm of ecological governance based on human and nature's rights. Burns H. Weston and David Bollier, *Green Governance: Ecological Survival, Human Rights, and the Law of the Commons* **(**Cambridge University Press, 2013).

[57] For example, to be ambitious in its targets to reduce CO2, to adopt climate policies, laws and strategies, to protect and restore forests as carbon sinks and reservoirs.

[58] For example, to refrain from adopting measures and practicing acts that harm the climate system or that stimulate/allow for the degradation of environmental goods essential to climate stability, such as forests.

[59] The issue in this case is whether the Dutch State is obliged to reduce, by the end of 2020, GHG emissions originating from Dutch soil by at least 25% compared to 1990, and whether the courts can order the State to do so**.** SABIN CENTER FOR CLIMATE CHANGE LAW. Urgenda Foundation v. State of the Netherlands. See: <https://www.urgenda.nl/en/themas/climate-case/climate-case-explained/>.

December 20, 2019) is the first case to affirm States' obligations related to the protection of the climate system. The decision recognizes that the risk of climate change is global in nature, for greenhouse gases are emitted and are experienced around the world. Therefore, each country is responsible for its own share and

> cannot escape its own share of the responsibility to take measures by arguing that compared to the rest of the world, its own emissions are relatively limited in scope and that a reduction of its own emissions would have very little impact on a global scale. The State is therefore obliged to reduce greenhouse gas emissions from its territory in proportion to its share of the responsibility.

It is worth noting that the central argument advanced to establish this type of State responsibility is the right to life and the right to respect for private and family life, respectively Articles 2 and 8 of the European Convention on Human Rights. Again, this sheds light on the strong relation between States' obligation to protect the climate system and human rights. Consequently, the second dimension of analysis to which attention should be drawn is the recognition of an intergenerational right to a safe climate.

Actually, the existing linkages between human rights and climate change have been well-explored by the UN Human Rights System bodies. The UN Human Rights Council (HRC) adopted its first resolution about human rights and climate change in 2008, followed by other 8 resolutions up to 2019.[60] In these resolutions, the HRC emphasizes the implications of the adverse effects of climate change for human rights, highlighting the rights to life, adequate food, health, adequate housing, self-determination, safe drinking water and sanitation, work and development. Moreover, in 2009, the Office of the United Nations High Commissioner for Human Rights (OHCHR) published a report on the relationship between climate change and human rights[61] considering how impacts of climate change have implications for the enjoyment of human rights and for the obligations of States under international human rights law. These initiatives have been followed by a wide range of documents on the topic from different UN human rights bodies, sometimes considering a special group,

[60] A/HRC/RES/7/23 (2008), A/HRC/RES/10/13 (2009), A/HRC/RES/19/22 (2011), A/HRC/RES/26/27 (2014), A/HRC/RES/29/15 (2015), A/HRC/RES/32/33 (2016), A/HRC/RES/35/20 (2017), A/HRC/RES/38/4 (2018), A/HRC/RES/41/21 (2019).

[61] UN GENERAL ASSEMBLY. *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*. 2009 (UN Doc. A/HRC/10/61).

such as children,[62] women,[63] indigenous peoples,[64] or migrants,[65] especially from the Special Rapporteur on Human Rights and the Environment.[66]

The 2019 Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment[67] discusses the urgent need for action to ensure a safe climate for humanity. It illustrates the devastating effects of the global climate emergency on the enjoyment of human rights, and the crucial role for human rights in catalysing action to address climate change. The Special Rapporteur concludes that a safe climate is a vital element of the right to a healthy environment and it is absolutely essential to human life and well-being.[68] The report indicates human rights obligations relating to climate change, inspired by the framework principles on human rights and the environment. These are presented through three categories of State's obligations: procedural,[69] substantive,[70]

---

[62] UN HUMAN RIGHTS COUNCIL. *Analytical study on the relationship between climate change and the full and effective enjoyment of the rights of the child* - Report of the OHCHR. 2017 (UN Doc. A/HRC/35/13).

[63] UN GENERAL ASSEMBLY. *Analytical study on gender-responsive climate action for the full and effective enjoyment of the rights of women* - Report of the OHCHR. 2019 (UN Doc. A/HRC/41/26).

[64] UN GENERAL ASSEMBLY. *Report of the Special Rapporteur on the rights of indigenous peoples - Impacts of climate change and climate finance on indigenous peoples' rights.* 2017 (UN Doc. A/HRC/36/46).

[65] UN GENERAL ASSEMBLY. *Addressing human rights protection gaps in the context of migration and displacement of persons across international borders resulting from the adverse effects of climate change and supporting the adaptation and mitigation plans of developing countries to bridge the protection gaps* - Report of the OHCHR. 2018 (UN Doc. A/HRC/38/21).

[66] UN GENERAL ASSEMBLY. *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment focusing on climate change and human rights.* 2016 (UN Doc. A/HRC/31/52)

[67] UN GENERAL ASSEMBLY. *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment.* United Nations, 2019. (A/74/161)

[68] "[…]. 43. As noted in the Special Rapporteur's previous reports, the right to a safe, clean, healthy and sustainable environment is recognized in law by at least 155 Member States. The substantive elements of this right include a safe climate, clean air, clean water and adequate sanitation, healthy and sustainably produced food, non-toxic environments in which to live, work, study and play, and healthy biodiversity and ecosystems. These elements are informed by commitments made under international environmental treaties, such as the United Nations Framework Convention on Climate Change, wherein States pledged to "prevent dangerous anthropogenic interference with the climate system", or in other words to maintain a safe climate. […]".

[69] (a) Provide the public with accessible, affordable and understandable information regarding the causes and consequences of the global climate crisis, including incorporating climate change into the educational curriculum at all levels; (b) Ensure an inclusive, equitable and gender-based approach to public participation in all climate-related actions, with a particular emphasis on empowering the most affected populations, namely women, children, young people, indigenous peoples and local communities, persons living in poverty, persons with disabilities, older persons, migrants, displaced people, and other potentially at-risk communities; (c) Enable affordable and timely access to justice and effective remedies for all, to hold States and businesses accountable for fulfilling their climate change obligations; (d) Assess the potential climate change and human rights impacts of all plans, policies and proposals, including both upstream and downstream effects (i.e. both production- and consumption-related emissions); (e) Integrate gender equality into all climate actions, enabling women

and special obligations towards those in vulnerable situations. The Special Rapporteur highlights in his final recommendations that a failure to fulfil international climate change commitments is a prima facie violation of the State's obligations to protect the human rights of its citizens.

Moreover, the OHCHR, in its key messages on human rights and climate change, indicates obligations and responsibilities of States and their implications for climate change-related agreements, policies, and actions. To ensure that climate change mitigation and adaptation efforts are compliant with human rights obligations, the OHCHR mentions a range of considerations that should be reflected within States' climate action:

- to act to limit anthropogenic emissions of greenhouse gases in order to prevent negative human rights impacts of climate change;
- to ensure that all individuals have the necessary capacity to adapt to climate change;
- to ensure accountability and effective remedy for human rights harms caused by climate change: obligations of States in the context of climate change and other environmental harms extend to all rights-holders and to harm that occurs inside and beyond boundaries, and States should be accountable to rights-holders for their contributions to climate change including for failure to adequately regulate the emissions of businesses under their jurisdiction regardless of where such emissions or their harms actually occur;
- to mobilize maximum available resources for sustainable, human rights-based development;
- international cooperation;
- to ensure equity in climate action, which requires that efforts to mitigate and adapt to the impacts of climate change should benefit people in developing countries, indigenous peoples, people in vulnerable situations, and future generations;
- to guarantee that everyone enjoys the benefits of science;
- to take adequate measures to protect all individuals from human rights harms caused by businesses; to ensure that businesses activities respect and protect human rights; and where such harms do occur to ensure effective remedies;
- efforts to address climate change should not exacerbate inequalities within or between States;

to play leadership roles; (f) Respect the rights of indigenous peoples in all climate actions, particularly their right to free, prior and informed consent; (g) Provide strong protection for environmental and human rights defenders working on all climate-related issues, from land use to fossil fuels. States must vigilantly protect defenders from harassment, intimidation and violence.

[70] States must not violate the right to a safe climate through their own actions; must protect that right from being violated by third parties, especially businesses; and must establish, implement and enforce laws, policies and programmes to fulfil that right. States also must avoid discrimination and retrogressive measures.

- to ensure meaningful and informed participation in climate-related public affairs.

In addition, the UN Committee on Economic, Social and Cultural Rights understands that States failure to prevent human rights harms caused by climate change, or to mobilize the maximum available resources in an effort to do so, could constitute a breach of their obligation to respect, protect and fulfil human rights for all. Thus, other human rights obligations under the UN Committee on Economic, Social and Cultural Rights can be identified as follows:

- State parties have an obligation to mitigate the effects of climate change in order to safeguard the enjoyment of rights protected by the ICESCR;
- States' obligation to adopt measures safeguarding the substantive rights of indigenous peoples, including to mitigate the adverse consequences of climate change;
- States should take steps to prevent transboundary harm that interferes with the enjoyment of human rights in other countries, although the Committee has not applied these statements specifically to climate change.

With respect to the question that gives rise to the request for advisory opinion, it is also important to highlight the strong linkages between the full enjoyment of human rights and the protection of biodiversity and its ecosystem services. This was the subject of a specific report on human rights and biodiversity by the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment.[71] The Special Rapporteur acknowledges that "the full enjoyment of human rights thus depends on biodiversity, and the degradation and loss of biodiversity undermine the ability of human beings to enjoy their human rights". Nevertheless, the Special Rapporteur advises that the components of biodiversity also have intrinsic value that may not be captured by a human rights perspective. From the report's conclusions and recommendations, the following States' obligations can be drawn:

- general obligation to protect ecosystems and biodiversity to protect human rights;
- to assess the social and environmental impacts of all proposed projects and policies that may affect biodiversity;
- to provide public information about biodiversity, in particular to those affected, and in a language that they understand;
- to provide for and facilitate public participation in biodiversity-related decisions;

[71] UN GENERAL ASSEMBLY. *Human Rights and Biodiversity* - Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment. 2017 (UN Doc. A/HRC/34/49).

- to ensure access to effective remedies for the loss and degradation of biodiversity;
- to establish legal and institutional frameworks for the protection of biodiversity that (i) regulate harm to biodiversity and that (ii) implement standards aligned with international ones, and are non-retrogressive and non-discriminatory, and respect and protect the rights of those who are particularly vulnerable to the loss of biodiversity and ecosystem services.

Furthermore, climate litigation cases are also a tool for further advancing the human rights argument, especially with respect to the right to a safe and sustainable climate system. This argument has been raised in a number of paradigmatic cases. For instance, in Juliana v. United States,[72] U.S. District Judge Ann Aiken manifested in these terms: "Exercising my 'reasoned judgment,' I have no doubt that the right to a climate system capable of sustaining human life is fundamental to a free and ordered society."[73] The same can be found in Notre Affaire à Tous and Others vs. France, known as "*L'affaire du siècle"*.[74] One of the key legal arguments of the case is the general principle of law providing for the right of every person to live in a preserved climate system, that means, among others, taking steps intended to protect natural environments.

Since the filling of the first climate litigation cases based on the human rights argument,[75] which have sought to recognise a failure of States to protect human rights as a consequence of their insufficient climate policies or the lack of compliance, a wide range of new cases has followed. These have been making use of the human rights argument as the legal basis to question States' actions and omissions in relation to combating climate change before national courts and also before the UN human rights bodies.[76] From the analysis of the profile of the cases, the human rights argument

[72] The case was dismissed by a three-judge panel in the US Ninth Circuit Court of Appeals (ruled 2-1) on 17, January, 2020. The judges agreed that climate change is an urgent, threatening problem, but ruled that the plaintiffs didn't have standing to sue. The entire content of this decision can be consulted in:<http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2020/20200117_docket-18-36082_opinion.pdf>.

[73] UNITED STATES DISTRICT COURT FOR THE DISTRICT OF OREGON EUGENE DIVISION. Opinion and Order Case No. 6:15-cv-01517-TC. 10 November 2016. P. 32 Accessible at: <http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2016/20161110_docket-615-cv-1517_opinion-and-order-2.pdf>.

[74] Brief on the legal request submitted to the Administrative Court of Paris on 14 march 2019. Available at: <https://notreaffaireatous.org/wp-content/uploads/2019/05/Brief-juridique-ADS-EN-1.pdf>.

[75] For example: Leghari v. Federation of Pakistan (on September 4, 2015 the court, citing domestic and international legal principles, determined that "the delay and lethargy of the State in implementing the Framework offend the fundamental rights of the citizens."), the already mentioned *U*rgenda Foundation v. State of the Netherlands (articles 2 and 8 of the ECHR), the case 25 young people v. Colombia (intergenerational human rights to environment, life and health) discussed below. The Climate Litigation Database from Columbia University indicates 31 non-US cases based on human rights

[76] As in Sacchi et al. v. Argentina et al. in the UN Committee on the Rights of the Child (2019), the UN Human Rights Committee Views Adopted on Teitiota Communication (2020), Rights of Indigenous

seems to be particularly a key feature of the climate litigation of the Global South, as shown below.

The petition in Sacchi et al. v. Argentina et al. (petition to the UN Committee on the Rights of Child, 2019) asserts that respondents have the following obligations under the UNFCCC and Paris Agreement: (i) to prevent foreseeable domestic and extraterritorial human rights violations resulting from climate change; (ii) to cooperate internationally in the face of the global climate emergency; (iii) to apply the precautionary principle to prevent deadly consequences even in the face of uncertainty; and (iv) to ensure intergenerational justice for children and posterity. Wildfires are presented as a consequence of climate change, which are exposing petitioners to life-threatening dangers, as well as harming their health and disrupting their cultural traditions, for some petitioners are from indigenous peoples.

The case 25 young people v. Colombia (STC4360-2018) is the most important example from the list of climate litigation cases based on human rights for addressing the inquiry at the origin of this advisory proceedings. The central argument of the case is the intergenerational scope of human rights and its ecological dimension. It concerns the impacts of deforestation of the Amazonian Forest on the climate system and its harms to the rights to the environment, life and health, and to the environmental rights of present and future generations, especially children and young people living in the Colombian cities most at risk of climate change. The Colombian Amazonian Forest was recognized as a legal entity, holder of rights (rights of nature). The Court ruled that the government must adopt an Intergenerational Pact for the life of Colombian Amazon. The case operated the conjugation of different stages of human rights ecologization and the recognition of the rights of nature as a strategy of mutual reinforcement between these rights to face major global challenges posed by climate emergency, in these terms:[77]

> - recognition of the environmental dimension of human rights such as life and health, and of the impossibility to dissociate these rights from their environmental context;
> - connection between dignity of all living holders of rights and the environmental conditions, recognizing the alterity among all the inhabitants of the Planet, comprising other animal and vegetable species;
> - including in the protection circle the future generations, that deserve to have the same environmental conditions as present generations;

People in Addressing Climate-Forced Displacement (petition to the UN Human Rights Special Rapporteurs, 2020).

[77] Extracted from Fernanda Cavedon-Capdeville, 'Human Rights Ecologization in the 21st Century: From Anthropocentric Individual Rights to Intergenerational Ecological Rights of the Earth Community' (Paper presentation at the 3rd World Congress on Environmental History, helded in Florianópolis-SC, Brazil, 22-26 July 2019).

- environmental rights of future generations encompass the intrinsic value of nature and the ethical duty of species solidarity and human solidarity with nature;
- adoption of an ecocentric perspective for recognizing rights of nature and, specifically, the Colombian Amazon Forest as a rights holder.

The decision of the Colombian Constitutional Court on rights related to a safe climate system of the Amazon Forest brings about a third dimension of analysis. This is: a safe and sustainable climate system must be recognized as a right, extended to nature itself, as an expression of interspecies solidarity and an expanded notion of ecological dignity from all members of the Earth community. In this regard, the Earth Charter affirms the inherent dignity of all human beings, and recognizes that all beings are interdependent and every form of life has value regardless of its worth to human beings (Principle 1 "respect and care for the community of life"). This, the manifestations of the Inter-American Court of Human Rights, and the Colombian Constitutional Court decision can be seen as part of a clear global movement towards enlarging the group of environmental rights holders, to the unborn and to nature itself. This also includes the celebrated Constitutions of Ecuador (2008)[78] and Bolivia (2009),[79] expressions of the so-called new Latin-American constitutionalism.

An updated repertoire of laws and jurisprudence around the world which recognise rights to nature can be found in the UN Secretary-General reports within the context of the Harmony with Nature Programme (first Resolution on Harmony with Nature adopted by the Assembly on 21 December 2009). As highlighted in the latest report of the UN Secretary-General on the subject, in 2019:

> The most significant consequence of acknowledging human interconnectedness and inextricability from the rest of the world has

[78] Article 10: "*La naturaleza será sujeto de aquellos derechos que le reconozca la Constitución"*. Article 71: *"La naturaleza o Pacha Mama, donde se reproduce y realiza la vida, tiene derecho a que se respete integralmente su existencia y el mantenimiento y regeneración de sus ciclos vitales, estructura, funciones y procesos evolutivos*" *Constitución de la República del Ecuador* <https://www.siteal.iiep.unesco.org/pt/bdnp/290/constitucion-republica-ecuador> accessed 9 February 2020.

[79] In 2010, Bolívia adopted the Law of Mother Earth's Rights, providing in article 3: "*Artículo 3. (MADRE TIERRA). La Madre Tierra es el sistema viviente dinámico conformado por la comunidad indivisible de todos los sistemas de vida y los seres vivos, interrelacionados, interdependientes y complementarios, que comparten un destino común. La Madre Tierra es considerada sagrada, desde las cosmovisiones de las naciones y pueblos indígena originario campesinos. Artículo 4. (SISTEMAS DE VIDA). Son comunidades complejas y dinámicas de plantas, animales, micro organismos y otros seres y su entorno, donde interactúan comunidades humanas y el resto de la naturaleza como una unidad funcional, bajo la influencia de factores climáticos, fisiográficos y geológicos, así como de las prácticas productivas, y la diversidad cultural de las bolivianas y los bolivianos, y las cosmovisiones de las naciones y pueblos indígena originario campesinos, las comunidades interculturales y afrobolivianas*" Ley de Derechos de la Madre Tierra (Bolívia, 2010) <https://bolivia.infoleyes.com/norma/2689/ley-de-derechos-de-la-madre-tierra-071> accessed 20 March 2020.

> been casting the non-human world as a legal subject, with a number of jurisdictions adopting constitutional provisions, legislative initiatives and/or judicial decisions recognizing Earth's inherent rights.[80]

Similarly, the 2016 report had already called for the inclusion of rights of nature into governance systems. This report recognises the fundamental legal rights of ecosystems and species to exist, thrive and regenerate, and affirms that these are not in opposition to human rights, as for "the human right to life is meaningless if the ecosystems that sustain us do not have the legal right to exist".[81] It also recommends countries to provide support for the implementation of the IUCN resolution calling for the incorporation of the rights of Nature concepts into law and science (WCC-2012-Res-100, September 2012). Indigenous worldviews and laws have inspired this, and their traditional knowledge about nature must be recognized as an important source for a notion of ecological law.

To conclude, based on the global movement for the recognition of nature's rights, which includes a specific programme within the UN System, and the numerous examples from international treaty, customary and case law, the right to a safe climate system should be recognized as a right of all the Earth community, which encompasses ecosystems, as forests. Thus, as discussed in the climate litigation case 25 young people v. Colombia, forests should integrate the right holders group of environmental rights, which would take into consideration the right to exist, thrive and regenerate. And the right to a safe climate system is a condition to the realisation of the forests' right to exist with dignity (in line with the expanded concept of ecological dignity of all the members of Earth community of life).

3.2 FORESTS AND TRANSBOUNDARY ENVIRONMENTAL HARMS

3.2.1 Introductory Remarks

Environmental harm is also a concern that may transcend the limits of a State and become part of the array of issues to be discussed within international environmental law. This relates to potential transboundary and even planetary effects, which may affect the whole community from both an individual and collective perspective, including nature itself. An example is the linkage between forest protection and climate change, according to scientific evidence from IPCC reports, as well as to commitments encompassed in international documents under the auspices of the UN (see section 3.1 above). Other well-known examples include diffuse and planetary air pollution, greenhouse effect, and acid rain, to name some.

---

[80] UN GENERAL ASSEMBLY. *Harmony with Nature* - Report of the Secretary General. 2019 (UN Doc A/74/236). § 129.

[81] UN GENERAL ASSEMBLY. *Harmony with Nature* - Report of the Secretary General. 2016 (UN Doc A/71/226). § 36.

This raises questions related to the extent to which international law structures offer satisfactory responses to rendering States accountable for transboundary environmental harms. This remains a controversial and difficult issue despite the recognition of the non-harm principle and an existing body of case law; even more so in cases where the interests affected are placed within the notion of global commons (as it can be argued in relation to the climate system). This section aims to examine the international legal regime in place for States´ accountability for transboundary environmental harms in the context of the problem under analysis (forests and climate change).

3.2.2 International Legal Framework

3.2.2.1 Transboundary Environmental Harms Conceptual Issues

Transboundary harms are understood as damages caused by activities or events carried out in places under the jurisdiction of a given State, which is materialized in places under the jurisdiction or control of another State.[82] This could be a neighbor or a distant State, that is impacted by the adverse effects of the causing activity.[83] This concept, however, demands a four-fold analysis, which guides not only the characterization of the damage itself but also the identification of the causing events. The literature points out to the following key aspects:[84]

i) the harm must result from human activity (in the case of harms caused by natural factors, the characterization depends on reasonably proximate causal relation to a human conduct);
ii) the harm must be a physical consequence of the human activity;
iii) there must be a physical effect crossing frontiers (this is precisely the element that triggers the application of the international law. However, the harm does not necessary must materialize in a neighbor county; it is possible to consider a transboundary harm pervading more than one different nation, or even impacting global commons);
iv) the harm must exceed a certain level of severity that demands legal action; it needs to be a "substantial" or "significant" damage.

These being fulfilled, international law may apply. The key international law rule applicable is the no-harm rule or the prohibition to cause transboundary harms. This originates in the ancient international principle of not to inflict damage on or violate the rights of other States. It means that the States may not conduct or permit activities

[82] Allan Rosas, 'Issues of State Liability for Transboundary Environmental Damage', Nordic Journal of International Law *60*(2) <https://doi.org/10.1163/157181091X00061> accessed 19 March 2020, 29.
[83] Marte Jervan, 'T*he Prohibition of Transboundary Environmental Harm. An Analysis of the Contribution of the International Court of Justice to the Development of the No-Harm Rule',* Pluri Courts < https://ssrn.com/abstract=2486421> accessed 22 March 2020, 4-5.
[84] Jervan, 2014, loc. cit.

in their territories – or common spaces – without consideration to other States or to the protection of the global environment.[85]

In addition, it is also worth considering literature on the concept of environmental damage itself, and then to reflect upon the notion of transboundary environmental harms. In this sense, environmental damages may manifest as collective, affecting not only a few individuals but actually an entire indeterminate collectivity, as the environment is a collective/common good.[86] Furthermore, environmental damages are based on uncertainty and can also evolve as trans-temporal, cumulative and gradual.[87] This is the case of climate change, as explored in the previous sections. Finally, an environmental damage may manifest in different dimensions, which may be material, immaterial, and spiritual (here, for instance, in relation to indigenous peoples, who develop a different relationship with the land and the forest; see section 3.2.3.3 below). Thus, the damage is also seen as something intangible, which is performed in a non-materialized way. All these aspects should be explored in the context of the advisory proceedings in place.

3.2.2.2 Transboundary Environmental Harm: An Overview of International Law

The traditional response of international law to transboundary problems has been framed, in general, in terms of imposing liability on the State deemed as responsible for causing the damage, by requiring it to refrain from the conduct or activity that causes the damage, and providing the damaged State with adequate redress. This section examines the existing international environmental law framework (treaty, customary and case law) on the non-harm rule, which is the main legal foundation for this, and the corresponding States' obligations deriving from it.

The non-harm rule is understood as encompassing two other international law notions, in sum, "that States have sovereign rights over their natural resources, and that States must refrain from causing environmental harm."[88] On the one hand, there is the State sovereignty principle. Under this principle, States are free to exercise their authority on and to explore natural resources within their geographical limits, and, also, to pass laws and make decisions about environmental issues and the management of natural resources in their territory.[89] This is the basis of the Permanent Sovereignty over Natural Resources (PSNR) principle.[90] Nevertheless, in the case of transboundary environmental damage, sovereignty must be understood as limited, since if it were absolute it could mean that all States would be free to exploit all their natural resources

[85] Ibid 1.
[86] José Rubens Morato Leite and Patryck Ayala, *Dano Ambiental* (8th end, Editora Gen, 2019).
[87] Ibid.
[88] Jervan (n 83) 21.
[89] Ibid 16-17.
[90] Ibid 17-19.

and degrade the natural environment within their territories.[91] Besides, State's sovereignty in the case of the environment is relative also due to the interdependence between the different terrestrial ecosystems, which do not encounter artificial barriers between countries.[92]

On the other hand, there is the principle of territorial integrity. This means that the State's sovereignty could also be limited by the obligation not to intervene in areas of exclusive jurisdiction of another State. In the arbitration of the Island of Palmas the Permanent Court of Arbitration, presenting the connection between State sovereignty and territorial integrity, established that "Territorial sovereignty [...] involves the exclusive right to display the activities of a State. This right has as corollary a duty: the obligation to protect within the territory the rights of other States, in particular their right to integrity and inviolability in peace and in war, together with the rights which each State may claim for its nationals in foreign territory."[93]

A series of thematic-specific international documents comprise this notion and may be articulated in relation to transboundary environmental harms, as follows:

> (i) Principle 21 of the Stockholm Declaration. The principle in question not only addresses the obligation of States to ensure that activities carried out in their territories, in line with their sovereignty to exploit their own wealth by following their policies, do not cause harm or damage to other States, but also introduces environmental protection.
>
> (ii) The 1982 United Nations Convention on the Law of the Sea.[94] It states in its Preamble that the "area of the seabed and ocean floor and the subsoil, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of man", urging the marine environment to be acknowledged as a heritage of mankind. It therefore defines shared rights and responsibilities and cooperation between States on the marine environment.[95]

---

[91] Ibid 17.

[92] Taking this into account, to a certain extent, all environmental impacts would have transboundary aspects. Ibid 19.

[93] Island of Palmas arbitration, Netherlands v. the United Kingdom, 1928, RIAA vol. 2, 839.

[94] UN. *United Nations Convention on the Law of the Sea* (Jamaica, 1982) <https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf> accessed 15 March 2020.

[95] As, for example: to protect and preserve the marine environment (Article 192); to take measures, individually or jointly, to prevent, reduce and control pollution by adopting the best means available and under its capabilities (Article 194), despite the creation of the Court of the Law of the Sea to settle disputes and conflicts over the Treaty (Annex VI), among other provisions.

(iii) The Convention on Cross-Border Environmental Impact Assessment, signed at Espoo in 1991.[96] It reflects the need for environmental impact assessment criteria when environmental decisions may have cross-border implications, including the obligation to notify the affected State (Article 3) and the obligation to forward complete documentation for an assessment of the environmental damage appropriate to the affected State (Article 4).

(iv) The Convention on the Transboundary Effects of Industrial Accidents [97], signed in Helsinki in 1992. It establishes prevention and emergency measures for industrial accidents, adequate information and public participation in decision-making, a cross-border damage notification plan, assistance, and cooperation, among others.

(v) The Ozone Layer Protection Convention (1985). Based on the precautionary principle, it seeks to promote cooperation among States and exchange of information about activities carried out in their territories, adopting coordinated actions to avoid adverse effects to the ozone layer.[98]

(vi) The Treaty on the Non-Proliferation of Nuclear Weapons (NPT).[99] It came into force in 1970, but since 1995 the treaty has been extended indefinitely. If, on the one hand, the treaty aims to prevent the spread of nuclear weapons, including nuclear disarmament, on the other hand it seeks to promote the peaceful use of energy and technology, in order to prevent environmental risks associated with this harmful use.

Nonetheless, it is relevant to further question whether the non-harm rule refers only to damage compensation or would also encompass a duty to prevention. For that, it is necessary to examine the extent to which the obligation not to cause damage to the environment of other states also includes environmental protection.[100] In this regard, the International Court of Justice (ICJ) already recognizes that States are obliged to prevent damage, from which the following emerges: (1) States have the obligation to

---

[96] UN. *Convention on Environmental Impact Assessment in a Transboundary Context* (Finland, 1991) <https://www.unece.org/fileadmin/DAM/env/eia/documents/legaltexts/Espoo_Convention_authentic_ENG.pdf> accessed 09 March 2020.

[97] This international treaty has a scenario of industrial disasters that could have been prevented and mitigated, such as the chemical accident of 1976 in Seveso, Italy, in which toxic substances were released, including dioxin, and rapid contamination of the atmosphere and natural resources of neighboring cities#, with failures to evacuate the population, in the absence of popular participation in deliberations and in the lack of regulation of risks. Available on: <https://www.unece.org/fileadmin/DAM/env/documents/2006/teia/Convention%20E%20no%20annex%20I.pdf> accessed 15 February 2020.

[98] UNEP, *The Vienna Convention for the Protection of the Ozone Layer* (UNON, 2012) <https://ozone.unep.org/treaties/vienna-convention/articles/preamble?q=treaties/vienna-convention/articles/preamble> accessed 19 February 2020.

[99] UN, *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)* <https://www.un.org/disarmament/wmd/nuclear/npt/> accessed 08 March 2020.

[100] Jervan (n 83).

achieve actual harm prevention; and (2) States have the obligation to act with due care in the implementation of preventive measures or act with due diligence[101] (see section 2.3 below).

It may be observed that ICJ and international case law consider the States' obligation of harm prevention a matter of acting diligently. Thus, countries would be obliged to use all means available to avoid that activities on their territory cause harm to other countries or the global commons. By acting with due diligence, the no-harm rule would not be triggered, meaning that the obligation of harm prevention is not a matter of actual prevention (actual prevention being understood as the accountability of a State despite its negligence or fault to the occurrence of the harm). Given this, states shall take all appropriate measures to prevent significant cross-border damages or to reduce their risks, as highlighted by the International Law Commission when dealing with transboundary damage.[102]

Other duties emerge as outcomes of the obligation of prevention, such as duties of notification, consultation, and negotiation between countries. These are in fact part of a general obligation of States to act in cooperation.[103] Besides, to be able to prevent and control transboundary impacts, States must acquire knowledge concerning the possible environmental impacts of activities they conduct or authorize, which indicates that they are also obliged to assess and monitor environmental impacts.

The Advisory Opinion 23-17 of the Inter-American Court of Human Rights on Environment and Human Rights[104] also considers States' responsibilities arising from the obligation not to cause damage to the environment of other States. The preventive approach was adopted, with emphasis on obligations such as:

> (i) the duty to regulate, supervise and monitor activities under its jurisdiction that may cause significant damage to the environment;
> (ii) to carry out environmental impact assessments where there is a risk of significant damage to the environment;
> (iii) prepare contingency plans to establish safety measures and procedures to minimize the possibility of major environmental disasters and mitigate any significant environmental damage that may have occurred;
> (iv) the duty to cooperate in good faith to prevent environmental damage, including the duty to notify other states that may be affected and to consult and

[101] Ibid 56, 58-62.
[102] United Nations (UN). Environmental Rule of Law (First Global Report. UNEP, 2019) <https://wedocs.unep.org/bitstream/handle/20.500.11822/27279/Environmental_ru-le_of_law.pdf-?sequence=1&isAllowed=y> accessed 15 March 2020.
[103] Jervan (n 83) 88.
[104] Amid growing international concern about the implications for human rights of a transoceanic canal in Nicaragua and concerned about the implications for people living on the Colombian island of San Andrés, Colombia requested an advisory opinion of the ICHR in 2016 on the obligations of the State in relation to the environment in the context of the protection and guarantee of the rights to life and personal integrity.

> negotiate, where a significant risk of transboundary damage and environmental emergencies is likely to arise.

In addition to the preventive approach, there would be the understanding that States must observe the precautionary principle in order to protect the rights to life and personal integrity in front of serious and irreversible damages to the environment. This would imply the necessity of avoiding environmental harm and preventing damage even in the face of scientific uncertainty.

3.2.2.3 Case Law

This section examines case law with the purpose to demonstrate that courts have contributed to clarifying the content and implications of the non-harm rule, with a focus particularly on the context of transboundary environmental harms.

The Trail Smelter dispute between Canada and the United States in the 1930s is regarded as the first step towards understanding the "use your property in such a manner as not to injure that of another" principle actuality as a fundamental rule of international environmental law. The Arbitral Tribunal concluded that Canada was responsible for the harm caused by the trail smelter, deciding for compensation to the United States and the necessity to prevent future transboundary air pollution. The Tribunal stated that:

> under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.[105]

In addition, in the Corfu Channel case (1949)[106] the International Court of Justice established that each State has an obligation not to knowingly allow its territory to be used for acts contrary to the rights of other states, recognizing the existence of a general principle of law avoiding States to violate the rights of other States or to infringe damage to them. The ICJ generalized the principle of the Trail Smelter case and concluded that it may be violated by both acts and omissions.[107]

---

[105] Trail smelter case (United States, Canada). 16 April 1938 and 11 March 1941. VOLUME III. pp. 1905-1982. Available at <https://legal.un.org/riaa/cases/vol_III/1905-1982.pdf> accessed 19 February 2020).

[106] In this case, the ICJ concluded that Albania was responsible for the damage to the British warships in the Northern Corfu Strait. The warships passed through a passage that was part of the Albanian territorial waters and that previously explored mines. During the passage, two of the ships hit the mines, causing explosions that led to severe damage to the ships and the death of 44 people.

[107] Corfu Channel (United Kingdom of Great Britain and Northern Ireland v. Albania). [Online] Available at <https://www.icj-cij.org/en/case/1> accessed 19 February 2020).

In the Lac Lanoux case,[108] the question presented to the Arbitral Tribunal was whether the French government was in breach of the treaty that regulated the administration of these and other waters common to Spain and France while carrying out works for the use of lake water, without a prior agreement between the two States. The arbitration recognized that territorial sovereignty is limited by stating that "admittedly, there is a rule prohibiting the upper riparian State from altering the waters of a river in circumstances calculated to do serious injury to the lower riparian State". The Arbitral Tribunal, however, did not consider the principle significant to the case, because the French project would not modify the waters of the Spanish river. The arbitration also concluded that France could carry out the project without Spain's permission, and thus Spain could not decline the project.

After the Stockholm Declaration, other cases have consolidated the same understanding. Nuclear Tests I and II cases emerged between New Zealand and Australia, and France on the other side (in the second case, only New Zealand and France), concerning the legality of atmospheric nuclear tests conducted by France. Despite the different views of the judges, it may be interesting to notice, in the first case, that the International Court of Justice interpreted that since the French Government had committed to cease atmospheric tests, it has assumed an international obligation not to carry out further testing. In Nuclear Tests II, on the other side, it may be pointed out that New Zealand claimed that France had the obligation to undertake environmental impact assessments regarding the underground nuclear tests, and despite questioning the allegation, France recognized the obligation.[109]

Importantly, the decision in the Gabčíkovo-Nagymaros case[110] brings about three main aspects of interest with regard to international environmental law and the no-harm rule, as follows:

1. The first aspect concerns the question on whether Hungary was allowed to suspend and abandon the project because of a "state of necessity" without breaching international responsibility. The International Court of Justice found the basic requirements for triggering a State of need in that regard.[111] One of the requirements is that the act (of necessity) is the only way of safeguarding an

[108] Regional arbitration of Lac Lanoux. Lac Lanoux is a lake of the French territory, located in the Pyrenees. The waters of the Lake cross the border with Spain where it finally flows into the Ebro, one of the largest rivers in Spain. In 1917, the French government had a plan to use Lac Lanoux's water. France intended to adopt a development project that would transform the lake by establishing a dam and changing the course of the streams that originally flowed into Spain, using the diversion to produce electricity. The two governments repeatedly negotiated on the issue, but Spain was opposed to all the plans presented. The Spanish government considered the project to be detrimental to Spain's rights and interests, notably because it would result in a lack of water for irrigation. As no results of the negotiations were obtained, the two governments decided to submit the dispute to an arbitral tribunal.

[109] Jervan (n 83) 29-35.

[110] Gabčíkovo-Nagymaros Case, *Hungary v. Slovakia*, 1993. Available at: <https://www.icj-cij.org/en/case/92>.

[111] Jervan (n 83) 40.

"important interest." The ICJ noted that ecological preservation of the territory was one of the situations that could result in a state of necessity and stated that it had "no difficulty in recognizing that the concerns expressed by Hungary about its natural environment in the region affected by the Gabčíkovo-Nagymaros Project related to that State's 'essential interest'".[112] While Hungary's submission on this subject matter failed because some of the other key elements of a state of emergency were not present, the ICJ expressly acknowledged the concerns of Hungary about the protection of the natural environment.

2. The second aspect is that, in connection with its declaration about environmental protection as a fundamental interest, the ICJ further emphasized "the great importance it attaches to respect for the environment". It then referred to the paragraph of the advisory opinion on the Legality of Nuclear Weapons according to which States have the general obligation to ensure that their activities respect the environment of other States or areas beyond national control which form part of the corpus of international environmental law.[113] This may mean that the ICJ found that the general obligations referred to in the advisory opinion had the same basis as the essential nature of the environmental protection, and that this basis was universal international law within the meaning of the common law of general principles of law.

3. The third aspect is that, with regards to its argument that the termination notice of the treaty was lawful and therefore successful, Hungary observed that, subsequently, the application of the Treaty was precluded by the enforcement of international law requirements related to environmental protection.[114]

Another relevant precedent is Pulp Mills case.**[115]** Conflict emerged when Uruguay approved the building of two pulp mills on the banks of the Uruguay River, a river that forms the international border between Uruguay and Argentina. In this case, the International Court of Justice considered, according to the Corfu Channel case, that Uruguay should conduct and inform Argentina of the activities that it would carry out. However, the ICJ did not recognize the violation of any substantial obligation, since Argentina had not proven any other damage than noise and odor, which would not be within the jurisdiction of the Court. In addition, the ICJ confirmed the necessity of environmental impact assessments and recognized that it is part of the obligation to act with due diligence.[116]

In brief, in addition to (as seen in section 3.2.2.2) international law (a) recognizing that transboundary harms lead to the application of the international obligation not to cause

[112] Ibid 41.
[113] Ibid 41.
[114] Ibid 42.
[115] Ibid.
[116] Ibid 84.

damage to the environment of other states (no-harm rule); (b) that by this obligation States must prevent the occurrence of transboundary harms, including here the protection of the environment *per se* and to the global commons; and (c) that this duty is fulfilled through the implementation of preventive measures and the use of all means available to safeguard the environment (due diligence); the cases presented above also:

i) recognize the necessity of prevention, implying that the rule creates a legal obligation before the occurrence of any harm (e.g. Trail Smelter Case);
ii) apply the obligation as one of due diligence, and one of conduct rather than of result (e.g. Pulp Mills Case);
iii) indicate that while a violation of the procedural duties to notify, consult and negotiate does not necessarily entail a violation of the due diligence obligation, compliance with these duties reduces the likeliness of violation (e.g. Pulp Mills Case);
iv) recognize the necessity of environmental impact assessment to be carried out (e.g. Pulp Mills Case).

However, when it comes specifically to the case of transboundary environmental harm linked to climate change, which is the subject of interest of this statement, other complex issues remain unsettled. In this regard, one of the key controversies that deserves further examination in the context of liability for climate-related damage is how to deal with the causal chain. A temptative strategy for that is drawn here, although it is not explored thoroughly.

Climate-related harms may be verified by demonstrating that certain human activity or certain agents would not have taken satisfactory preventive measures and therefore would have contributed (a) to harmful results or (b) to the creation of risks. In the case of (a), the causal relation can be informed through the use of available evidence-based knowledge about climate science, at first, and then through the application of alternative imputation techniques.[117] For example, if it is possible to eliminate the harm by eliminating the conduct, hence it is necessary to consider that there is a contribution to the harmful situation. In the case of (b), although damages may have not taken place yet, the conduct violating the duties of prevention or precaution itself would be considered suitable for putting people or ecological processes at risk which could not be adequately supported. If the damage is already foreseeable (by climate science) it is not possible to subtract from governments a duty to avoid and to take necessary actions to avoid it, including supporting its costs.

The proposed strategy would be justified for it would prevent courts from hiding under what may be called a "consequentialist alibi"; and would provide a less conventional

[117] DAMACENA, Fernanda Dalla Libera. Direito dos Desastres e Compensação Climática no Brasil: Limites e Potencialidades (Lumen Juris, 2019).

and linear understanding of risks.[118] The current state of knowledge produced by climate science allows for demonstrating the need to deal with tipping points and nonlinear effects and consequences of human actions.

In brief, when it comes to transboundary environmental harms linked to climate change, in the view of forest protection, it is necessary to note that not only changes in the climate affect forests and ecological processes, but also forest degradation affects the climate regime (see section 3.1). In such a complex scenario, international environmental law faces the challenge of interpreting the chain of causality, and to do so entails a broader and more comprehensive approach. If it is possible to claim that the harm caused by a certain State is not capable to interfere in the global climate regime, through an integrative and complex approach it would be observed that the problem of climate change is the result of the accumulation of events over time. Therefore, although a country cannot be held responsible for climate change, it is contributing to it.[119] In this sense, it would be reasonable to deal with States' obligation to protect forests from any harm under international law *in the context of* climate change, that is, attention must be paid to the multiple ways in which climate change issues are not directly or intuitively present.[120]

3.2.3 An Ecological Approach to the International Legal Framework on Transboundary Environmental Harms

3.2.3.1 *In Dubio pro Natura*

As outlined in sections 2.2 and 3.3, ecological law embodies the vision of "living in harmony with(in) Nature", prioritizes intergenerational equity, and provides several novel pathways and approaches to discuss and address current environmental legal issues, including those related to transboundary environmental harms. Among these new nature-centered approaches we can highlight the *in dubio pro natura principle*, which has been developed and incorporated by several Latin American countries, such as Brazil, and can guide and contribute to the review of the legal challenges raised by the current case.

The *in dubio pro natura* principle is enlisted by the IUCN World Declaration on the Environmental Rule of Law as an "emerging substantive principle for promoting and achieving environmental justice through the environmental rule of law". Notably, the application of the principle goes beyond the judicial decision-making sphere and can

[118] WEAVER, Henry; KYSAR, Douglas. Courting Disaster: climate change and the adjudication of catastrophe (2017) 93 Notre Dame L. Rev. 295. Available at <https://scholarship.law.nd.edu/ndlr/vol93/iss1/7> accessed 22 April 2020.

[119] Jacqueline Peel, 'Issues in Climate Change Litigation' (2011) 5(1) Carbon & Climate Law Review <http://dx.doi.org/10.21552/cclr/2011/1/162> accessed 18 March 2020.

[120] Kim Bouwer, 'The Unsexy Future of Climate Change Litigation' (2018) 30(3) Journal Of Environmental Law < http://dx.doi.org/10.1093/jel/eqy017> accessed 18 March 2020.

provide guidance to all kinds of state decision-making processes. In this context, the principle can be summarized as follows:

> In cases of doubt, all matters before courts, administrative agencies, and other decision-makers shall be resolved in a way most likely to favour the protection and conservation of the environment, with preference to be given to alternatives that are least harmful to the environment. Actions shall not be undertaken when their potential adverse impacts on the environment are disproportionate or excessive in relation to the benefits derived therefrom. [121]

In Latin America it was first recognized by the Constitution of Ecuador (2008), which states that "[i]n the event of doubt about the scope of legal provisions for environmental issues, it is the most favorable interpretation of their effective force for the protection of nature that shall prevail" (Article 395.4).[122] That is to say, "in doubt, favor the environment", which is a notion that goes hand-in-hand with the mutually reinforcing – and widely recognized – precautionary and sustainable development principles. The latter helps delimiting the scope of environmental standards while the first prescribes that uncertainties cannot be used as an excuse for not protecting the environment. Altogether, the three principles hermeneutically provide guidance to decision-makers regarding all aspects of Nature, including forests.

Furthermore, within an ecological legal framework, the *in dubio pro natura* principle supports and calls for a teleological interpretation of the environmental legislation, the adoption of a preventative approach, and full compensation for environmental damages. This is the perspective of the Brazilian High Court (*Superior Tribunal de Justiça*, STJ in Portuguese), whose case law has been adopting the principle to discuss the extent of state's liability for transboundary environmental damages and their full compensation (including moral, interim, and future damages).[123] Of note, guided by all

---

[121] World Commission on Environmental Law, *IUCN World Declaration on the Environmental Rule of Law* (WCEL, 2016) <https://www.iucn.org/sites/dev/files/content/documents/english_world_declaration_on_the_environmental_rule_of_law_final.pdf> accessed 20 March 2020.

[122] Constitución de la República del Ecuador <https://www.siteal.iiep.unesco.org/pt/bdnp/290/constitucion-republica-ecuador> accessed 9 February 2020.

[123] "In case of doubt or another technical-editorial anomaly, the environmental norm requires interpretation and integration according to the hermeneutic principle *in dubio pro natura.* It is this way precisely because, it should be remembered, all legislation to protect the vulnerable subjects and the diffuse and collective interests must always be understood in the most profitable and best way possible, given the practical results, the judicial provision and the ratio essendi of the standard". Superior Court of Justice of Brazil. Recurso Especial n° 1.255.127 - MG, 8. BRASIL. Superior Tribunal de Justiça . Recurso Especial n. 1.669.185/RS. Relator: Min. Herman Benjamin. Disponível em: http://www.stj.jus.br. Acesso em: 02/04/2019; BRASIL. Superior Tribunal de Justiça . Recurso Especial n. 1.255.127/MG. Relator: Min. Herman Benjamin. Disponível em: http://www.stj.jus.br. Acesso em: 02/04/2019; BRASIL. Superior Tribunal de Justiça. Recurso Especial n. 1.328.753/MG. Relator: Min. Herman Benjamin. Disponível em: http://www.stj.jus.br. Acesso em: 02/04/2019; BRASIL. Superior Tribunal de Justiça. Recurso Especial n. 1.198.727/MG. rel. Min. Herman Benjamin. Disponível em: <http://www.stj.jus.br>. Acesso em: 02/04/2019; BRASIL. Superior Tribunal de Justiça. Recurso

principles outlined here, the Court has also been addressing the reversal of the burden of proof,[124] and compensation for collective moral damages.[125]

All in all, STJ's case law on the *in dubio pro natura* principle is an interesting contribution to the discussion around better defining the States' obligations under international law to protect forests as it didactically outlines the link between the principle and the protection of public and collective rights.

3.2.3.2 Ecosystems Services Valuation

Furthermore, debates on the legal aspects of environmental harms raise complex questions about the valuation of ecosystems services. These services must also be taken into consideration in compensation litigation cases, for the quality of life of human populations depends on the maintenance of the flows of services offered by ecosystems in all their dimensions (chemical, biological and cultural). Forests protection is key to this. Moreover, biodiversity-rich countries, as well as traditional communities and vulnerable groups, may be more dependent on these services, and thus compensation should encompass such aspects. Moreover, efforts towards designing methodologies for attaching value to these services can help to build up decision-making processes that may result in good management practices,[126] even if it is not the solution to the question of their preservation. For these reasons, valuation of ecosystems services is a key element of an ecological law perspective.

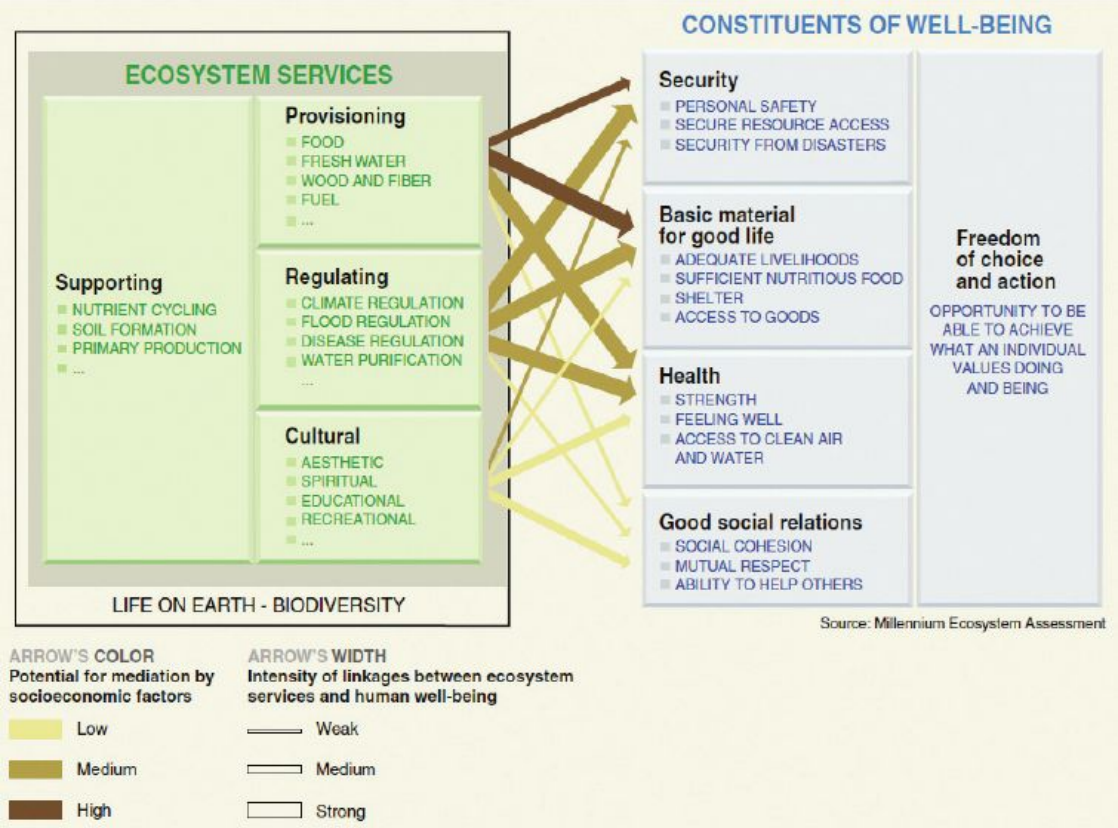
To better understand what ecosystem services are and the benefits they provide for humanity, see the image below:

Especial n. 1.145.083/MG. rel. Min. Herman Benjamin. Disponível em: <http://www.stj.jus.br>. Acesso em: 02/04/2019; BRASIL. Superior Tribunal de Justiça. Recurso Especial n. 1.180.078/MG. Relator: Min. Herman Benjamin. Disponível em: http://www.stj.jus.br. Acesso em: 02/04/2019; BRASIL. Superior Tribunal de Justiça. Recurso Especial n. 1.114.893/MG. Relator: Min. Herman Benjamin. Disponível em: http://www.stj.jus.br. Acesso em: 02/04/2019.

[124] BRASIL. Superior Tribunal de Justiça. Recurso Especial n. 883.656/RS. Relator: Min. Herman Benjamin. Disponível em: http://www.stj.jus.br. Acesso em: 02/04/2019. See also the Brazilian High Court Thesis n. 4, based on 33 precedents. Cf. BRASIL. Superior Tribunal de Justiça. Jurisprudência em Teses. Disponível em: http://www.stj.jus.br/SCON/jt/toc.jsp. Acesso em 04.04.2019

[125] BRASIL. Superior Tribunal de Justiça. Recurso Especial n. 1.269.494/MG. Relatora: Min. Eliana Calmon. Disponível em: http://www.stj.jus.br. Acesso em: 02/04/2019; BRASIL. Superior Tribunal de Justiça. Recurso Especial n. 1.367.923/RJ. Relator: Min. Humberto Martins. Disponível em: http://www.stj.jus.br. Acesso em: 02/04/2019.

[126] Gretchen C. Daly et al, 'The value of nature and the nature of value' (2000) 5478(395) Science <https://science.sciencemag.org/content/289/5478/395.full> accessed 14 February 2020.



Initiatives such as The Economics of the Ecosystem and Biodiversity Study (TEEB)[127] and the Millennium Ecosystem Assessment[128] demonstrate that the non-recognition of the benefits of ecosystems to human activities is a relevant driver for the growing loss of biological diversity. Both reports also indicate that the degradation of ecosystems not only diminishes the goods and services offered to humans, but also puts at risk the economic system and the quality of life of future generations. Moreover, a pioneering study developed by Costanza et al. (1997) estimated the price of 33 trillion dollars per year for services provided by ecosystems. The result is based on the calculation of how much investment would be necessary to replace these services, in case this would be technically possible.[129]

[127] This is the result of an agreement between the eight countries considered most industrialized and developed in the world, the G8, prepared by a team of more than 100 researchers led by Pavan Sukhdev and receiving institutional support from the European Community and the United Nations For the Environment. It was estimated that a $45 billion investment in protected areas could enable the production of environmental amenities set to the tune of $ 5 trillion per year, including carbon sequestration, protection and purification of water resources, and containment of floods.

[128] See: <https://www.millenniumassessment.org/en/index.html>.

[129] The study indicates the value of ecosystems services (e.g. provision, regulation, cultural, and support services) in terms of dollars per hectare-year, as well as the most used valuation techniques on which the estimates were based on (e.g. market pricing, avoided cost, replacement cost, marginal product, hedonic pricing, contingent valuation). Robert Costanza et al, 'The value of the world's ecosystem services and natural capital' (1997) <https://doi.org/10.1038/387253a0> accessed 25 March 2020.

However broader in scope (global perspective), these studies focus mainly on the economic benefits of biodiversity, including increasing costs arising from the loss and degradation to ecosystems. Nevertheless, this economic approach to ecosystem services, especially when dealt with in a more narrow perspective, could contribute to these services being considered as merchandise, which may jeopardize environmental protection. In this context, it is relevant to shed light on the moral limits of the market, a discussion developed by Sandel, among others. To decide what could and could not be marketed in the market, that is, what money can or cannot buy, it is necessary to know what values govern the different spheres of civic and social life. Thus, in order to decide the circumstances in which the market makes sense and those for which it should be removed, one has to define what value should be attributed to those goods.[130] For the purpose of this written statement, hard examples are spiritual damages caused to indigenous people, genetic resources or the Earth's capacity to neutralize emissions.

On the matter, Martínez Alier argues that prior to attributing economic value to ecosystem services it is necessary to develop the social perception that they exist and are valuable. For the author, the values attributed will depend on the different outcomes of conflicts involving distribution of income in society. In this regard, there is great difficulty in reaching a consensus about the economic value of externalities that the market does not actually value. Economic value (market price) is determined by the trading of the individuals in the market, but if we trust in the current individual preferences, the question is how to determine the value of future contingencies and uncertainties. There is a double uncertainty: about the facts (for example, how much CO2 is absorbed by the oceans?), and about the appropriateness of our representations (scientific or not) of the environmental reality.[131]

Furthermore, there has been a demand for technological solutions to provide ecosystem services (to replace them when possible), using both public and private financial resources.[132] This is controversial. One of the controversies concerns the scale of the processes responsible for maintaining ecosystem services. These are the result of complex natural cycles such as biogeochemical cycles of global scale, including the movement of carbon between the environment and living beings, to the life cycle of bacteria on a microscopic scale.[133] Even though some services derived from smaller

---

[130] Michael Sandel, *O que o dinheiro não compra: os limites morais do mercado* (Clóvis Marques tr, 7th. ed, Civilização Brasileira, 2015) 15-16.

[131] Joan Martínez Alier, *Da economia ecológica ao ecologismo popular* (Armando de Melo Lisboa tr, . Editora da FURB, 1998) 169-170.

[132] Some examples can be mentioned: the suppression of biological control of pests and diseases in plants by the use of pesticides and other chemicals; the absence of soil fertility mitigated by the use of chemical and organic fertilizers; methods of artificial pollination to replace natural pollination and sophisticated methods of purifying water when it is contaminated. Nurit Bensunan, 'A impossibilidade de ganhar a aposta e a destruição da natureza' in Nurit Bensunan (ed), *Seria Melhor Mandar Ladrilhar? Biodiversidade: Como, Para que e Por quê* (2nd edn, Editora Universidade de Brasília, 2008a). 27.

[133] An example is that of nitrogen that is available in the atmosphere and is a key element for human survival, in view of being the main component of human proteins. "By means of fixing bacteria it is transformed into ammonia. This compound is converted into nitrate by the nitrifying bacteria, allowing

scales can be replaced by technological alternatives, at least partially, those that result from cycles of larger scales cannot, such as carbon and other fundamental elements, meaning that their interpellation would result in the end of human life. Examples include air purification and climate stabilization.[134]

Another controversy that emerges from the replacement of ecosystem services for technological solutions is the increasing in the final value of the product. For example, food for which artificial pollination has been used will have a higher price, since the cost of pollination will comprise the cost of the product. It is important to observe that the more natural environments are degraded with the consequent impairment of ecosystem services, the more their respective values tend to increase. Consequently, a large part of the population may be excluded from accessing the product for it not being affordable. Therefore, there is a clear connection between the conservation/destruction of biodiversity and ecosystem services and social and economic vulnerability, which connects to the ecological justice debate (an issue associated with the ecological law approach). To sum up, environmental degradation exacerbates the processes that generate social injustices.

Finally, in the event of environmental harms taking place, the handling of redress measures must take into consideration the impacts on ecosystems services, including the ones provided by forests (the subject matter of this statement). Therefore, litigation cases demand the carrying out of technical assessment and evidence-based proof about the scope of the damages in relation to the ecosystems services affected and to the actual state of the natural environment. This is key for estimating proper compensation. Methodologies for this have been developed, encompassing efforts to calculate the value of the environmental damage in its both dimensions material and immaterial.[135] However, technical challenges remain which deserve further attention. Nonetheless, some guidance for legal response in this direction does exist and can be found in the notion of the "integral redress" of environmental damages: to consider, (i) firstly, the costs of *in natura* reparation, (ii) then the costs of environmental compensation broady, and, (iii) finally, when those are not satisfactory, to combine them with the duty to compensate for harm associated with the time period communities and the environment would have been deprived of enjoying ecosystems services while the nature recovers.[136]

---

its absorption by the plants and, consequently, by the animals. With the death of living beings and through their waste, the cycle closes and nitrogen returns to the physical environment. If any of these stages is compromised, the cycle stops." (Nurit Bensunan, 'O que a natureza faz por nós: serviços ambientais' in Nurit Bensunan (ed), *Seria Melhor Mandar Ladrilhar? Biodiversidade: Como, Para que e Por quê* (2nd edn, Editora Universidade de Brasília, 2008b, 230).

[134] Ibid.

[135] For example: production function methods (marginal productivity method; replacement goods market method - replacement cost; avoided costs and control costs); demand function methods (market methods for complementary goods - hedonic prices and travel costs; contingent valuation); cost-benefit method.

[136] An example of domestic law is the Precedent n. 629 from the Brazilian High Court (STJ): "In relation to environmental harm, it is possible to condemn the defendant to the duty to act or not to act combined with that to compensate."

3.2.3.3 Spiritual and Immaterial Dimensions of Damages to Indigenous Peoples

The key question addressed in the context of the present advisory proceedings fails to expressly refer as to whether there is any interest of forest dwellers at risk, in particular indigenous peoples or traditional communities, when it comes to States' obligations under international law. This statement considers that these peoples living within forest areas could be impacted. This would be two-fold: (i) first, by the destruction of forests that are, in fact, their means of subsistence and their traditional territories - and, as such, the basis for their worldview and spirituality -, which could therefore cause material, immaterial and spiritual damages; (ii) second, by the contribution of forest fires to climate change, for their traditional territories, ways of life and worldview are directly menaced and harmed by the climate crisis, as the 2017 Report by the UN Special Rapporteur on the Rights of Indigenous Peoples recognizes.[137] Thus, this section focuses on the body of international norms and case law that ensure indigenous peoples the right to traditional territories (including correspondent environmental, cultural and spiritual elements), as well as procedural rights, especially the right to participation. It also looks at the linkages between these and climate change. The purpose is to explore a wider conceptual basis for environmental harms that demand redress, one that takes into consideration spiritual and immaterial dimensions.

On the one hand, international documents have already encompassed the collective, immaterial and spiritual dimensions of indigenous territories, in particular documents by the International Labour Organization (ILO). The ILO Convention No. 107 recognized the collective dimension of the indigenous territories when affirms that indigenous communities should not be removed without their free consent. Also, ILO Convention No. 169 changed the paradigm for indigenous rights by recognizing respect for ethnic and cultural differences and considering indigenous land within its aspects of physical and cultural reproduction. According to Article 13 of ILO Convention No. 169, governments shall respect the particular relevance of cultural and spiritual values linked to territories and the collective aspects of this relationship. In addition, the United Nations Declaration on the Rights of Indigenous Peoples (2007) establishes the right to maintain and strengthen their spiritual relationship with the territory and its environmental elements (Article 25).

On the other hand, there is a consistent body of international norms ensuring the right of indigenous peoples to participation and to consultation in relation to policy changes and decisions that could have impacts on their territories.[138] For instance, ILO

[137] UN GENERAL ASSEMBLY. *Report of the Special Rapporteur on the Rights of Indigenous Peoples - Impacts of Climate Change and Climate Finance on Indigenous Peoples' Rights*. 2017 (UN Doc. A/HRC/36/46).

[138] In this sense, the Judgment C-030/08 of the Constitutional Court of Colombia, when deciding about territories, consultation and participation, culture and spiritual values, affirms that "Thus, although one of the key aspects of the Convention is promoting the participation of indigenous and tribal peoples in

Convention No. 169 establishes a series of states' duties in this sense: (a) to consult the people concerned, through appropriate procedures and, in particular, through their representative institutions; (b) to establish how the people concerned can participate freely, at least to the same extent as other sectors of the population and at all levels; (c) to establish the means for the full development of the institutions and initiatives of the peoples and, in appropriate cases, provide the necessary resources for this purpose. Also, the United Nations Declaration on the Rights of Indigenous Peoples recognizes the right of indigenous peoples to participation and the right to determine and elaborate priorities and strategies for the development or use of their lands or territories (Article 32). States must therefore act in order to obtain free and informed consent prior to approving any project affecting indigenous peoples territories and other resources. Finally, it establishes that States should set up effective mechanisms for fair and equitable reparation for these activities and should adopt appropriate measures to mitigate their harmful consequences from an environmental, economic, social, cultural or spiritual dimensions.

In summary, indigenous peoples are subjects of international law and, according to this legal framework, they must be heard according to their system of representation, and be allowed to influence and plead reparation as they deem appropriate. Moreover, as mentioned in the item (A) of this Statement, a wide range of considerations about indigenous peoples' role and correspondent rights in the context of the sustainable management of forests, biodiversity and climate system have been identified within international binding and non-binding documents. Therefore, it is key for member states to comply with the obligation to provide for the participation of indigenous peoples in all matters relating to the protection of forests. And to do so through their own deliberation processes and by respecting their self-determination in resolving the problems presented, which would include the form of reparation for achieving their right to development. The UN Declaration on the Rights of Indigenous Peoples provides for reparation from the indigenous perspective, from their worldview, made from their own deliberative processes (Article 20).

In addition, indigenous peoples rights have been articulated at the international level with debates on climate change. It has been recognized that they are at the forefront of the climate crises not only for the vulnerability of their traditional territories and ways of life, but also for the relevance of their traditional knowledge for the non-indigenous community to seek alternatives to this phenomenon. For instance, the Paris Agreement mentions the importance of the recognition of indigenous rights and traditional knowledge to respond to climate change.[139] This also manifests through case law from

all proceedings where measures that affect them are adopted, we cannot lose sight of the fact that the Convention itself provides for different methods of participation, and has given the States themselves extensive leeway in determining how these methods will be enforced" (Application of Convention No. 169 by domestic and international courts in Latin America).

[139] 136. Recognises the need to strengthen the knowledge, technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change, and

international courts. This case law, on the one hand, affirms the immaterial dimensions of indigenous territories and thus recognizes the potential existence of spiritual and immaterial damages; and, on the other hand, takes into consideration the impacts of climate change on indigenous rights, territories, spirituality and way of life, including situations of forced displacement and destruction of sacred places.[140].

In this context, it is worth considering case law from the Inter-American Court of Human Rights which relates indigenous rights to the environment and to associated immaterial values and damages. The first case in which the Court established linkages between the realization of rights of indigenous communities and the environment was Community Mayagna (Sumo) Awas Tingni vs. Nicarágua (2001). This was the starting point for the development of an ecological jurisprudence that reinterpreted the rights to property, life, physical integrity and participation, towards recognizing the immaterial value of their traditional territories and environmental elements. Since then, ten other cases with this profile have been decided by the Court.[141] Some of the key cases are mentioned below:

> (i) The Court has incorporated an intergenerational dimension to property and recognized the traditional property as an immaterial, cultural patrimony to be transmitted to future generations in Community Mayagna (Sumo) Awas Tingni vs. Nicarágua, Community Yakye Axa of the People Enxet-Lengua vs. Paraguay (2005), and Kichwa Indigenous People of Sarayaku vs. Ecuador (2012). The territory, with all its elements interconnected, is an intangible and intergenerational heritage that integrates the worldview and cultural identity of these peoples. As the Inter-American Court stated in Kichwa Indigenous People of Sarayaku vs. Ecuador, '[...] for indigenous communities, the relationship with the land is not merely a matter of possession and production but a material and spiritual element to which they must enjoy fully, including preserving their cultural heritage and transmitting it to future generations'.

---

establishes a platform for the exchange of experience and sharing of best practices on mitigation and adaptation in a holistic and integrated manner.

[140] A wider approach to harms to traditional indigenous territories could also consider the "ecocide" perspective. Ecocide is understood in the literature as 'the extensive damage, destruction to or loss of ecosystems of a given territory, whether by human agency or by other causes, to such an extent that peaceful enjoyment by the inhabitants of that territory has been severely diminished' (Polly Higgins,. *Earth is Our Business: Changing the Rules of the Game* (Shepheard-Walwyn, 2012) 3. However, this subject matter would be out of the scope of the jurisdiction of this Court.

[141] Community Mayagna (Sumo) Awas Tigni c. Nicarágua (2001); Indigenous Community Yakye Axa vs. Paraguay (2005); Community Sawhoyamaxa vs. Paraguay (2006); Saramaka People c. Suriname (2007); Comunidade Xákmok Kásek c. Paraguay (2010); Kichwa Indigenous People of Sarayaku c. Ecuador (2012); Comunidades afrodescendentes deslocadas da bacia do rio Cacarica (Operação Gênesis) c. Colômbia (2013); Povos indígenas Kuna de Madungandí and Emberá de Bayanos c. Panamá (2014); Povos Kalina and Lokono v. Suriname (2015); Community Garífuna Triunfo de la Cruz c. Honduras (2015); Community Garífuna de Punta Piedra c. Honduras (2015)

(ii) The Court also stated that, considering the close relationship between the physical survival of indigenous peoples and the protection of their cultural identity, the degradation of this identity could be recognized as a spiritual damage.[142] The reference to this kind of damage was made in the vote of judge Cançado Trindade in Community Moiwana v. Suriname. Justice Trindade's vote recognized the community's right to a project of life and the afterlife and the right to reparation for material, immaterial and spiritual damage, which would represent intergenerational harm. The spiritual damage was understood as autonomous from moral damage, exposing a relationship between the living and the dead, and the specificity of the object of protection, that would only enable their reparation through measures of protection consistent in 'obligations to do', able to mitigate the collective spiritual suffering. Therefore, the spiritual damage is an aggravation of moral damage, with implications in the most intimate sphere of humans, in its beliefs, in the destiny of humanity and its relations with the dead. This is why spiritual damage is not compatible with material compensation. The new category of damage, as perceived by the Rapporteur, comprises the principle of humanity in a temporal dimension, including the living in their relations with the dead and future generations.[143] The testimonial evidence presented before the Court showed that according to the cosmovision of the N'dujuka, living and dead suffer together, earning the damage an intergenerational proportion. Thus, unlike moral damage, the spiritual one is not quantifiable and will only be repaid in a secure manner through obligations to do in the form of satisfaction, for example, by honoring the dead in the people of the living.[144]

(iii) In Saramaka v. State of Suriname, although the spiritual damage has not been expressly affirmed, it has been recognized. Taking into account the spiritual connection of the Saramaka people with their territory, the destruction of land and resources traditionally used reproduces a set of violations externalizing immaterial damage, giving them a right to reparation.[145] The affirmation of spiritual damage implies admitting off-balance-sheet effects that can be repaired (albeit using special and differentiated measures), thus making possible the affirmation of the hypothesis of reparation of environmental non-material damage.

---

[142] INTER-AMERICAN COURT OF HUMAN RIGHTS. Comunidad Moiwana v. Surinam. [Online]. Available at<www.corteidh.or.cr/docs/casos/votos/vsc_cancado_124_esp.doc> accessed 19 February 2020).

[143] *Ibid.*

[144] The ancient and harmonious relations that the N'Djuka had with their dead were enormously disorganized by the change of fate of the mortal remains of the direct victims, the lack of observance of the funeral rites and ceremonies, and the lack of an adequate burial. The massacre in 1986, organized by the state military power ended up destroying the cultural tradition of the Maroon communities in Moiwana, evidencing the forensic evidence of "illnesses of spiritual origin".

[145] INTER-AMERICAN COURT OF HUMAN RIGHTS. *Pueblo Saramaka v. Surinam* <www.corteidh.or.cr/docs/casos/articulos/seriec_172_esp.pdf> accessed 19 February 2020.

Particularly with regards to the linkages between indigenous rights and climate change, indigenous communities have been seeking protection before the UN Human Rights bodies. Three recent petitions could be highlighted, even though they have not been appreciated yet at the time of writing. These are the following:

> (i) Torres Strait Islanders v. Australia, petition to the UN Human Rights Committee (2019). The claimants are eight members of a unique First Nation people and indigenous culture, inhabitants of four Torres Strait islands. Their territory is menaced by rising seas that are threatening homes, damaging burial grounds and sacred cultural sites, with a serious risk that their island disappears, with impacts to their culture and survival. The omission of the Australian government to take adequate action to reduce emissions or to build proper adaptation measures on the islands are considered as a failure of its obligation to protect Torres Strait people rights to culture, life and family.
>
> (ii) Chiara Sacci and others v. Argentina, Brazil, France, Germany and Turkey, petition to the UN Committee on the Rights of Child (2019). The petitioners are sixteen children from twelve countries, directly affected by the adverse effects of climate change, either through the development of diseases, exposure to extreme events and disasters, risks to the maintenance of their culture and ways of life and the loss of their territory, which could lead to situations of forced displacement. They highlighted the risks and future impacts due to the inaction of the defendants, which would lead to the impossibility of guaranteeing safe and sustainable livelihoods for future generations. Although all the petitioners are experiencing harm from climate change, for two of them, from indigenous communities Sami (Sweden) and Yupiaq (Alaska), the effects of climate change could destroy their way of life, culture and livelihoods. The authors claim that the respondent States are responsible (a) for failing to prevent foreseeable human rights violations caused by climate change by reducing its emissions at the "highest possible ambition", and (b) for delaying the steep cuts in carbon emissions needed to protect the lives and welfare of children at home and abroad.

> (iii) Rights of Indigenous People in Addressing Climate-Forced Displacement, complaint submitted to ten UN Human Rights Special Rapporteurs by four Louisiana tribes and the Alaska tribe of the Native Village of Kivalina (15 January 2020). The petitioners consider that the United States government has failed to protect their human rights as they are being forcibly displaced from their ancestral lands in consequence of climate change, resulting in the loss of sacred ancestral homelands, destruction to sacred burial sites and endangerment of cultural traditions, heritage, health, live and livelihoods.The government has failed to engage, consult, acknowledge and promote indigenous self-determination as they identify and develop adaptation strategies, including resettlement, placing the tribes at existential risk. The tribes urge the Special Rapporteurs to find that climate-forced displacement is a human rights crisis.

Based on the case law examined and on other arguments presented above, one can conclude that damage to the environment, including climate-related ones, can result in negative impacts on a broad spectrum of existential, cultural, spiritual and intergenerational dimensions of indigenous peoples rights. For the special relationship established between indigenous peoples and their traditional territory and its environmental elements, their worldview and spirituality depends on the integrity of territory and environment to be preserved and transmitted to future generations. As a consequence, environmental damages that affect indigenous territories also include immaterial and spiritual dimensions which should be recognized and redressed. This understanding allows for incorporating the ecological worldview of indigenous peoples into the conceptualization of environmental damage and, therefore, for broadening the reach of claims for reparation.

4 CONCLUSION

Considering (a) the key inquiry raised on the legal obligations of UN member States under international law to protect their forests, and (b) the arguments put forward in this written statement, we recommend that an advisory opinion from the International Court of Justice on the subject matter addresses the following questions:

4.1 FOREST AND CLIMATE CHANGE

4.1.1 Forests Legal Regime under International Environmental Law

Forests legal regime within international law remains fragmented. Forests actually appear as a cross-cutting theme that establishes connections between different frameworks protecting specific environmental elements. This undermines the chances of ensuring the maintenance of forests' integrity, ecological, social, cultural, spiritual and economic functions. Although provisions included in the CBD, UNFCCC

framework, and UNCDD contribute to the protection of forests, they are insufficient to fully achieve this goal, for they protect only one dimension or aspect of the forests. For instance, there is no consideration of forests' entirety, with the focus remaining on the protection of their individual elements; also, sometimes the provisions are based on an utilitarian view in relation to human-beings' needs. As a consequence, the absence of a specific international legal regime for forest protection gives room for a certain "invisibility" of forests, in terms of being considered from an ecosystemic, holistic and integrated perspective (unique and complex ecosystem, formed by a socio-biodiversity community of human and non-human living beings and multiple interconnected environmental elements, immaterial values and ecological services). Moreover, despite the evolving body of soft law presenting a more protective content and an integrating vision of socio-environmental aspects, they lack effectiveness. In consideration of the foregoing, we ask the Court:

> *(i) Do forests deserve specific protection under international environmental law, through the establishment of a thematic-specific legal framework with an ecological perspective that recognizes and protects the material and immaterial values and ecological services they provide to human and non-human beings, providing for clear rules and specific obligations to States to protect, conserve and restore forests?*
>
> *(ii) Should an intended international legal framework on forests or the interpretation of existing hard and soft law applied to forests adopt an ecological perspective guided by ecocentric values, thus prioritizing the protection of the ecosystemic integrity of terrestrial life systems, and taking inspiration from an ecological justice approach?*

4.1.2 Forests in Nationally Determined Contributions (NDCs)

The role of forests in the NDCs is a central issue and therefore must be considered by the Court when issuing an advisory opinion on the subject matter. The Paris Agreement (Article 3) provides that efforts communicated by Parties must be ambitious and represent a progression over time. It also engages Parties to pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions (Article 4). In consideration of the foregoing, we ask the Court:

> *(i) To what extent measures and targets communicated by states in their Nationally Determined Contributions engage the states' responsibility when those policies, measures and/or legal frameworks are not compatible or sufficient to reach the ambitions communicated in the NDC?*
>
> *(ii) Considering the answer to the question above, other inquiry to be addressed refers as to whether the following obligations could be attributed to states:*

(a) to provide in its NDCs ambitious and progressive measures to reduce deforestation, protect and restore forests as a nature-based initiative to prevent and reduce greenhouse gases emissions;

(b) to adopt domestic concrete mitigation measures aimed at reducing deforestation, restoring degraded forests and protecting forests as carbon sinks, these including specific and effective legal framework, institutional and financial means to its implementation. This is to say, states should guarantee that its domestic political measures, legal framework and financing are sufficient and aligned with contributions and ambitions reported in their NDCs.

4.1.3 Climate Change, Human Rights and the Rights of Nature

The failure of the national governments to protect their forests, for instance, by not preventing deforestation and fires, could generate negative impacts on the global climate system, thus jeopardizing the full enjoyment of human rights inside and beyond its jurisdiction. Human rights are dependent on the quality, safety and stability of the climate system to be fully enjoyed, as it is affirmed in a number of international documents, as well as in both international and domestic case law. This raises concerns about the urgent need to recognize and to manage the climate system as a global common good. Moreover, it also relates to the recognition of the right to a safe and sustainable climate system as an intergenerational and interspecies right, extended to nature itself. In consideration of the foregoing, we ask the Court:

(i) Do states have the obligation to protect the climate system and avoid causing harm to it by its decisions, actions or omissions, in order to respect the right to a safe and sustainable climate system as an intergenerational and interspecies right of human beings and of nature itself?

(ii) Are states therefore obliged to reduce greenhouse gas emissions from their territory in proportion to their shares of responsibility to guarantee a safe and sustainable climate system?

(iii) Could the right to a safe climate system capable of sustaining life on Earth be recognized and protected as a dimension of the right to the environment? Could a failure to fulfil international climate change commitments be considered as a violation of the state's obligations to protect human rights?

(iv) Could the reach of the right to a safe climate system be expanded in order to be considered as a right of all the Earth Community, including ecosystems and forests as rights holders?

4.2 FORESTS AND TRANSBOUNDARY ENVIRONMENTAL HARM

International environmental law has long faced the challenges of a reality where a local activity can produce transboundary or even global environmental impacts and losses, often with irreversible consequences and complex compensation schemes. Nevertheless, the international legal framework in place seems to remain somehow fragmented and inconsistent on the development of more adequate and effective mechanisms for preventing transboundary harms or promoting the liability of those responsible for the harmful conduct. Despite this, progress has been made in the comprehension and in the application of the no-harm rule and its associated obligations, such as prevention and the need to act with due diligence. This rule, by promoting a balance between the principles of territorial integrity and sovereignty, although varying interpretations, provides subsidies for greater and better accountability of the states. In this context, a more ecological view to environmental harms should also be fostered, as this would help to shift the problem towards the protection of the environment itself (nature for its intrinsic values) and even of the global commons, as well as it would allow for widening the basis of claims for compensation. In consideration of the foregoing, we ask the Court:

> *(i) By allowing deforestation in their territory, encouraging the expansion of activities prejudicial to the environment, neglecting to comply with commitments related to climate change, and failing to enforce their environmental protection laws, do States violate the international obligation of not to cause harm to other States?*
>
> *(ii) If so, could the States be held responsible for the transboundary harms caused to others, such as the ones related to air pollution, and, therefore, should they (a) compensate for the impacts caused to neighboring States and (b) be forced to implement more effective preventative measures?*
>
> *(iii) Besides being liable for the transboundary air pollution, could the States be liable for the consequences of the negative impacts on the climate system understood as a global common, that is, for the increase in the emissions of Greenhouse gases, and so for contributing to climate change as a transboundary environmental harm?*
>
> *(iv) Considering that indigenous peoples have a strong spiritual and immaterial relationship with their territories and that international law recognises not only this cultural aspect, but also that the indigenous right to their lands is a human right, could States be responsible for climate change-related impacts on those traditional territories? How the notion and the value of ecosystem services could be articulated with that?*

5 INDEX OF AUTHORITIES

LEGAL TEXTS

International Conventions and Declarations

The Charter of the United Nations or Charter of San Francisco and the Statute of the International Court of Justice (26 June 1945, 24 October 1945) <https://treaties.un.org/doc/Publication/CTC/uncharter.pdf> accessed 5 March 2020.

UN. *Convention on Environmental Impact Assessment in a Transboundary Context* (Finland, 1991) <https://www.unece.org/fileadmin/DAM/env/eia/documents/legaltexts/Espoo_Convention_authentic_ENG.pdf> accessed 09 March 2020.

UN. *Declaration of the United Nations Conference on the Human Environment* (United Nations, from 5 to 16 June 1972, Stockholm) <http://www.un-documents.net/aconf48-14r1.pdf> accessed 18 March 2020.

UN. *United Nations Convention on the Law of the Sea* (Jamaica, 1982) <https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf> accessed: 15 February 2020.

UN, *Treaty on the Non-Proliferation of Nuclear Weapons (NPT)* <https://www.un.org/disarmament/wmd/nuclear/npt/> acessed 08 March 2020.

UNEP, *The Vienna Convention for the Protection of the Ozone Layer* (UNON, 2012) <https://ozone.unep.org/treaties/vienna-convention/articles/preamble?q=treaties/vienna-convention/articles/preamble> accessed 19 February 2020.

The Indigenous and Tribal Peoples Convention. International Labour Organization, 1989.<https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169> accessed 22 March 2020.

The United Nations Convention on Transboundary Effects of Industrial Accident, (Finland, 1992) <http://www.unece.org/fileadmin/DAM/env/documents/2006/teia/Convention%20E%20no%20annex%20I.pdf> accessed 28 March 2020.

Rio Declaration on Environment and Development, Conference of United Nations, (From 3 to 14 June 1992, Rio de Janeiro) <https://digitallibrary.un.org/record/144444?ln=en> accessed 21 March 2020.

The United Nations Convention on Biological Diversity, Conference of United Nations (From 3 to 14 June 1992, Rio de Janeiro) <https://digitallibrary.un.org/record/214399?ln=en> accessed 27 February 2020.

The United Nations Framework Convention on Climate Change (UNFCCC), 1992, (From 3 to 14 June 1992, Rio de Janeiro) <https://digitallibrary.un.org/record/148994?ln=en> accessed 23 March 2020.

The United Nations Convention Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (UNCCD), Paris, 1994, <https://digitallibrary.un.org/record/175468?ln=en> accessed 10 March 2020.

The Earth Charter, 2000, <https://earthcharter.org/discover/the-earth-charter/> accessed 22 Februaty 2020.

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), 2007, <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html> accessed 12 March 2020.

World People's Conference on Climate Change and the Rights of Mother Earth, *Universal Declaration of Mother Nature's Rights*, 2010, <https://pwccc.wordpress.com> accessed 18 March 2020.

New York Declaration on Forests (NYDF). Climate Summit, 2014, <https://forestdeclaration.org> accessed 10 March 2020.

Paris Agreement, United Nations, 2015, Paris, <https://digitallibrary.un.org/record/827098?ln=en> accessed 14 March 2020.

IUCN, *IUCN World Declaration on the Environmental Rule of Law* (Cm, 2016, 1st World Congress on Environmental Law of the International Union for the Conservation of Nature).

National texts

Constitución de la República del Ecuador <https://www.siteal.iiep.unesco.org/pt/bdnp/290/constitucion-republica-ecuador> accessed 9 February 2020.

Ley de Derechos de la Madre Tierra (Bolívia, 2010) <https://bolivia.infoleyes.com/norma/2689/ley-de-derechos-de-la-madre-tierra-071> accessed 20 March 2020.

ARBITRATIONS, JUDGEMENTS AND ADVISORY OPINIONS

Island of Palmas Case, Netherlands v. the United Kingdom, 1928. Available at: https://legal.un.org/riaa/cases/vol_II/829-871.pdf

Trail Smelter Case, United States v. Canada, 1938. Available at: https://legal.un.org/riaa/cases/vol_III/1905-1982.pdf

Corfu Channel Case, United Kingdom and North Ireland v. Albania, 1949. Available at: https://www.icj-cij.org/en/case/1

Lac Lanoux Case, Spain v. France, 1957. Available at: https://legal.un.org/riaa/cases/vol_XII/281-317_Lanoux.pdf

Gabčíkovo-Nagymaros Case, Hungary v. Slovakia, 1993. Available at: https://www.icj-cij.org/en/case/92

Pulp Mills Case, Argentina v. Uruguay, 2010. Available at: https://www.icj-cij.org/en/case/135

SABIN CENTER FOR CLIMATE CHANGE LAW. Urgenda Foundation v. State of the Netherlands. Available at: http://climatecasechart.com/non-us-case/urgenda-foundation-v-%20kingdom-of-the-netherlands/

SABIN CENTER FOR CLIMATE CHANGE LAW. Sheikh Asim Farooq v. Federation of Pakistan. Available at: http://climatecasechart.com/non-us-case/sheikh-asim-farooq-v-federation-of-pakistan-etc/

SABIN CENTER FOR CLIMATE CHANGE LAW. Leghari v. Federation of Pakistan. Available at: http://climatecasechart.com/non-us-case/ashgar-leghari-v-federation-of-pakistan/

SABIN CENTER FOR CLIMATE CHANGE LAW. Álvares et al v. Peru. Available at: http://climatecasechart.com/non-us-case/alvarez-et-al-v-peru/

SABIN CENTER FOR CLIMATE CHANGE LAW. Future Generations v. Ministry of the Environment of Colombia and Others. Available at:

http://climatecasechart.com/non-us-case/future-generation-v-ministry-environment-others/

SABIN CENTER FOR CLIMATE CHANGE LAW. People of the State of New York v. Exxon Mobil Corporation. Disponível em: <http://climatecasechart.com/case/people-v-exxon-mobil- corporation/>.

SABIN CENTER FOR CLIMATE CHANGE LAW. Juliana v. United States. Available at: http://climatecasechart.com/case/juliana-v-united-states/

SABIN CENTER FOR CLIMATE CHANGE LAW. Notre Affaire à Tous and Others v. France. Available at: http://climatecasechart.com/non-us-case/notre-affaire-a-tous-and-others-v-france/

SABIN CENTER FOR CLIMATE CHANGE LAW. Sacchi et al v. Argentina et al. Available at: http://climatecasechart.com/non-us-case/sacchi-et-al-v-argentina-et-al/

INTER-AMERICAN COURT OF HUMAN RIGHTS. Comunidad Moiwana v. Surinam. Available at: www.corteidh.or.cr/docs/casos/votos/vsc_cancado_124_esp.doc

INTER-AMERICAN COURT OF HUMAN RIGHTS. *Pueblo Saramaka v. Surinam* <www.corteidh.or.cr/docs/casos/articulos/seriec_172_esp.pdf> accessed 19 February 2020.

INTER-AMERICAN COURT OF HUMAN RIGHTS. Pueblo Kichwa of Sarayaku v. Ecuador. Available at: http://www.corteidh.or.cr/docs/casos/articulos/seriec_245_ing.pdf

INTER-AMERICAN COURT OF HUMAN RIGHTS. Environment and Human Rights - Advisory Opinion Oc-23/17 Of November 15, 2017 Requested by the Republic Of Colombia. Available at: http://www.corteidh.or.cr/sitios/libros/todos/docs/infografia-eng.pdf

CONSTITUTIONAL COURT OF COLOMBIA. T-622/ 2016. Available at: http://cr00.epimg.net/descargables/2017/05/02/14037e7b5712106cd88b687525dfeb4b.pdf

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 883.656/RS

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.198.727/MG

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.145.083/MG

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.180.078/MG

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.114.893/MG

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.269.494/MG

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.255.127/MG.

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.367.923/RJ

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.328.753/MG

SUPERIOR COURT OF JUSTICE OF BRAZIL. Resp nº 1.669.185/RS

SUPERIOR COURT OF JUSTICE OF BRAZIL. Súmula 629.

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF OREGON EUGENE DIVISION. Opinion and Order Case No. 6:15-cv-01517-TC. 10 November 2016. Available at: http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2016/20161110_docket-615-cv-1517_opinion-and-order-2.pdf.

ARTICLES, BOOKS, JOURNALS, THESIS

Andrade, D. C, *Valoração econômico ecológica: bases conceituais e metodológicas* (Annablume, 2013).

ARBOUR, J-M; LAVALLÉE, S; SOHNLE, J; TRUDEAU, H, *Droit international de l'environnement* (3rd edn, Éditions Yvon Blais, 2016).

Aragão, A.,'*A* natureza não tem preço...mas devia: O dever de valorar e pagar os serviços dos ecossistemas*'* in *Estudos em homenagem ao Professor Doutor Jorge Miranda* (Faculdade de Direito da Universidade de Coimbra, 2020).

Bensunan, N, 'A impossibilidade de ganhar a aposta e a destruição da natureza' in Bensunan, N. (ed), *Seria Melhor Mandar Ladrilhar? Biodiversidade: Como, Para que e Por quê* (2nd edn, Editora Universidade de Brasília, 2008a).

Bensunan, N, 'O que a natureza faz por nós: serviços ambientais' in Bensunan, N. (ed), *Seria Melhor Mandar Ladrilhar? Biodiversidade: Como, Para que e Por quê* (2nd edn, Editora Universidade de Brasília, 2008b.

Boff, L, *Ethos mundial: um consenso mínimo entre os humano,* (Record, 2009).

Baxter, B, *A theory of ecological justice*, (Routledge, 2005).

Bosselmann, K, *The principle of sustainability: transforming law and governance* (Ashgate, 2008).

Bosselmann, K, 'Losing the forest for the trees: environmental reduction in the law' (2010) 2(8) Sustainability <https://doi.org/10.3390/su2082424> accessed 16 February 2020;

Bosselmann, K, 'Grounding the rule of law' in Christina Voigt (ed), *Rule of Law for nature: new dimensions and ideas in Environmental Law* (Cambridge University Press, 2013);

Bosselmann, K, 'The rule of law in the Anthropocene' in Paul Martin et al. (eds), *The search for environmental justice* (Edward Elgar, 2017) 44-61

Bosselmann, K; Taylor, P. (eds.), *Ecological Approaches to Environmental Law (*Edward Elgar, 2017).

Bouwer, K, 'The Unsexy Future of Climate Change Litigation', (2018) 30(3) Journal Of Environmental Law < http://dx.doi.org/10.1093/jel/eqy017> accessed 16 February 2020.

Bugge, C, 'Twelve fundamental challenges in environmental law: an introduction to the concept of the rule of law for nature' in Voict, C. (ed), *Rule of Law for Nature: new dimensions and ideas in Environmental Law* (Cambridge University Press, 2013).

Capra, F, and Mattei, U, *The ecology of law: toward a legal system in tune with nature and community* (Barret-Koheler Publishers, 2015).

Capra, F, and Mattei, U, *Revolução Ecojurídica: o direito sistêmico em harmonia com a natureza e a comunidade* (Cultrix, 2018)

Cunha, M, C, and Almeida, M, B, (eds), *Encyclopedia of the Forest* (Practices and Knowledge of the Populations, 1 edn, Cia. Das Letras 2002).

Cavedon-Capdeville, F, et al. *A Ecologização do Direito Ambiental vigente: rupturas necessárias* (José Rubens Morato Leite tr, Lumen Juris, 2018)

Cavedon-Capdeville, F, 'Jurisprudência ecologizada nas Cortes de Direitos Humanos: contribuições para a ecologização dos direitos humanos' in José Rubens Morato Leite, Fernanda Cavedon-Capdeville, Leatrice Faraco Daros, Melissa Ely Melo , Patryck de Araújo Ayala, Paula Galbiatti Silveira, *A Ecologização do Direito Ambiental Vigente* (Lumen Juris, 2018).

Cavedon-Capdeville, F, 'Human Rights Ecologization in the 21st Century: From Anthropocentric Individual Rights to Intergenerational Ecological Rights of the Earth

Community' (Paper presentation at the 3rd World Congress on Environmental History, helded in Florianópolis-SC, Brazil, 22-26 July 2019).

Costanza, R, et al, 'The value of the world's ecosystem services and natural capital' (1997) <https://doi.org/10.1038/387253a0> accessed 25 March 2020.

DALY, G, C, et al, 'The value of nature and the nature of value' (2000) 5478(395) Science <https://science.sciencemag.org/content/289/5478/395.full> accessed 14. February 2020.

Fraser, N, *Fortunas do feminismo: del capitalismo gestionado por el Estado a la crisis neoliberal*, (Cristina Piña Aldao tr, Traficantes de Sueños, 2015).

Gudynas, E, *Derechos de la Naturaleza: Ética Biocéntrica y Políticas Ambientales* (Lima, 2014).

Higgins, P, *Earth is Our Business: Changing the Rules of the Game* (Shepheard-Walwyn, 2012).

Jervan, M, 'T*he Prohibition of Transboundary Environmental Harm. An Analysis of the Contribution of the International Court of Justice to the Development of the No-Harm Rule',* Pluri Courts < https://ssrn.com/abstract=2486421> accessed 22 March 2020.

Jonas, H, *El principio responsabilidad: ensaio de una ética para la civilización tecnológica (*Herder, 1995).

Kotzé, L. J. and Kim, R. E, 'Earth system law: The juridical dimensions of earth system governance' (2019) 1(1) ESG Journal <https://doi.org/10.1016/j.esg.2019.100003> accessed 17 February 2020

Kotzé, L. J, "A Global Environmental Constitution for the Anthropocene? Transnational Environmental Law" (2019) 8(1) Journal of Environmental Law <https://doi.org/10.1017/S2047102518000274>. Accessed 15 February 2020.

Kotzé, L. J, 'Reflections on the future of environmental scholarship and methodology in the Anthropocene' in Pedersen, Ole W. (ed), *Perspectives on Environmental Law Scholarship* (Cambridge University Press, 2018)

Leite, J. R. M; Silveira, P. G, 'A Ecologização do Estado de Direito: uma ruptura ao Direito Ambiental e ao Antropocentrismo vigentes' in Leite, J. R. M. (ed), *A Ecologização do Direito Ambiental vigente: rupturas necessárias* (Lumen Juris, 2018).

Leite, J. R. M; Ayala, P, *Dano Ambiental* (8th end, Editora Gen, 2019).

MARTÍNEZ ALIER, J, *Da economia ecológica ao ecologismo popular* (Armando de Melo Lisboa tr, Editora da FURB, 1998).

Mayer, B, 'International Law Obligations Arising in relation to Nationally Determined Contributions' (2018) 7(2) Transnational Environmental Law <https://doi.org/10.1017/S2047102518000110> accessed 20 March 2020.

Nussbaum, M, *Crear Capacidades: propuesta para El desarrollo humano*, (Paidós, 2012).

Peel, J, 'Issues in Climate Change Litigation' (2011) 5(1) Carbon & Climate Law Review <http://dx.doi.org/10.21552/cclr/2011/1/162> accessed 18 March 2020.

Prado, R, *El arreglo pacífico de controvérsias internacionales ambientales ante la Corte Internacional de Justiça: Qual su contribución para el desarrollo del Derecho Internacional del Medio Ambiente? (*Dphil thesis, Universitat de Barcelona, 2019).

Prieur, M, 'The Principle of Non-Regression' in Michael Faure (ed), *Elgar Encyclopedia of Environmental Law* **(**Edward Elgar Publishing, 2018).

Prieur, M, 'Non-Regression in Environmental Law' (2012) 5(2) S.A.P.I.EN.S <http://journals.openedition.org/sapiens/1405> accessede 20 February 2020.

Rosas, A, 'Issues of State Liability for Transboundary Environmental Damage', Nordic Journal of International Law 60(2) <https://doi.org/10.1163/157181091X00061> accessed 19 March 2020.

Kim, R and Bosselmann, K, 'International Environmental Law in the Anthropocene: Towards a Purposive System of Multilateral Environmental Agreements' (2013) 2(2) Transnational Environmental Law <https://doi.org/10.1017/S2047102513000149>. accessed 16 February 2020.

Sandel, M, *O que o dinheiro não compra: os limites morais do mercado* (Clóvis Marques tr, 7th. end, Civilização Brasileira, 2015)

Schlosberg, D, *Defining Environmental Justice: Theories, Movements, and Nature* (Oxford University Press, 2007);

Schlosberg, D, 'Climate Justice and Capabilities: A Framework for Adaptation Policy' (2012) 26(4) Ethics and International Affairs <https://doi.org/10.1017/S0892679412000615> accessed 18 February 2020.

Schlosberg, D, 'Ecological Justice for the Anthropocene' in M.L.J. Wissenburg and David Schlosberg (eds), *Political Animals and Animal Politics*. Basingstoke (Palgrave Macmillan, 2014).

WEISS, E, B, 'The planetary trust: conservation and intergenerational equity', Ecology Law Quarterly. Reprinted from the Ecology Law Quarterly 11(4) 1984 <http://scholarship.law.georgetown.edu/facpub/334> accessed 18 March 2020.

Weston, B. H, and Bollier, D, *Green Governance: Ecological Survival, Human Rights, and the Law of the Commons* **(**Cambridge University Press, 2013).

Young, I. M, *Justice and the Politics of Difference*, (Princeton University Press, 2011).
Sen, A, 'O desenvolvimento como expansão das capacidades' (1993) Lua Nova Revista de Cultura e Política <https://doi.org/10.1590/S0102-64451993000100016> accessed 15 February 2020.

REPORTS

IPCC. Nabuurs, G.J., O. Masera, K. Andrasko, P. Benitez-Ponce, R. Boer, M. Dutschke, E. Elsiddig, J. Ford-Robertson, P. Frumhoff, T. Karjalainen, O. Krankina, W.A. Kurz, M. Matsumoto, W. Oyhantcabal, N.H. Ravindranath, M.J. Sanz Sanchez, X. Zhang, 2007: Forestry. In Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 2007. Available at:https://www.ipcc.ch/report/ar4/wg3/

UNITED NATIONS GENERAL ASSEMBLY. Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights. 2009 (UN Doc. A/HRC/10/61). Available at: https://www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/Study.aspx

UNITED NATIONS GENERAL ASSEMBLY. Resolution 71/285. *United Nations Strategic Plan for Forests 2017-2030*, May 1st 2017 (A/RES/71/285). Available at: https://www.un.org/esa/forests/documents/un-strategic-plan-for-forests-2030/index.html.

UNITED NATIONS GENERAL ASSEMBLY. Harmony with Nature - Report of the Secretary General. 2010 (UN Doc A/65/314. Available at: http://nbsapforum.net/sites/default/files/UN.%202010.%20Harmony%20with%20Nature_Report%20of%20the%20Secretary-General.pdf

UNITED NATIONS ENVIRONMENTAL PROGRAM (UNEP), Global Commons: The planet we share. Our Planet, the magazine of the United Nations Environment Programme, 2011. Available at: https://www.unenvironment.org/pt-br/node/11617

UNITED NATIONS GENERAL ASSEMBLY. Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment focusing on climate change and human rights. 2016 (UN Doc. A/HRC/31/52). Available at: https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/SRenvironmentIndex.aspx

UNITED NATIONS GENERAL ASSEMBLY. Harmony with Nature - Report of the Secretary General. 2016 (UN Doc A/71/226). Available at: https://cpb-us-e1.wpmucdn.com/blogs.uoregon.edu/dist/7/13481/files/2016/09/UN-Harmony-with-Nature-Report-on-Earth-Jurisprudence-2016-ttozwg.pdf

UNITED NATIONS HUMAN RIGHTS COUNCIL. Analytical study on the relationship between climate change and the full and effective enjoyment of the rights of the child - Report of the OHCHR. 2017 (UN Doc. A/HRC/35/13). Available at: https://www.ohchr.org/EN/Issues/HRAndClimateChange/Pages/RightsChild.aspx

UNITED NATIONS GENERAL ASSEMBLY. Report of the Special Rapporteur on the rights of indigenous peoples - Impacts of climate change and climate finance on indigenous peoples' rights. 2017 (UN Doc. A/HRC/36/46). Available at: https://www.ohchr.org/EN/Issues/IPeoples/SRIndigenousPeoples/Pages/SRIPeoplesIndex.aspx

UNITED NATIONS GENERAL ASSEMBLY. Human Rights and Biodiversity - Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment. 2017 (UN Doc. A/HRC/34/49). Available at: https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/Biodiversity.aspx

UNITED NATIONS HUMAN RIGHTS PROCEDURES. Framework Principles on Human Rights and the Environment: The main human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment – Report of the Special Rapporteur on Human Rights and the Environment. United Nations, 2018. Available at: https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/FrameworkPrinciplesReport.aspx

UNITED NATIONS GENERAL ASSEMBLY. Addressing human rights protection gaps in the context of migration and displacement of persons across international borders resulting from the adverse effects of climate change and supporting the adaptation and mitigation plans of developing countries to bridge the protection gaps - Report of the OHCHR. 2018 (UN Doc. A/HRC/38/21). Available at: https://www.ohchr.org/EN/Issues/Migration/Pages/StudiesAndReports.aspx

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC). Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. 2018. Available at: https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC). Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)], 2019. Available at: https://www.ipcc.ch/report/srccl/

United Nations (UN). *Environmental Rule of Law* (First Global Report. UNEP, 2019) <https://wedocs.unep.org/bitstream/handle/20.500.11822/27279/Environmental_ru-le_of_law.pdf-?sequence=1&isAllowed=y> accessed 15 March 2020.

INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES. *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. May 2019. (IPBES/7/10/Add.1), Available at: https://ipbes.net/global-assessment

IPCC, Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems, 2019. Available at: <https://www.ipcc.ch/srccl/>.

MEA. MILLENNIUM ECOSYSTEM ASSESSMENT. Ecosystems and their services. *A framework for assessment,* 2005. Available at: < http://www.millenniumassessment.org/documents/document.300.aspx.pdf>.

UNITED NATIONS GENERAL ASSEMBLY. Analytical study on gender-responsive climate action for the full and effective enjoyment of the rights of women - Report of the OHCHR. 2019 (UN Doc. A/HRC/41/26). Available at: https://reliefweb.int/report/world/analytical-study-gender-responsive-climate-action-full-and-effective-enjoyment-rights

UNITED NATIONS GENERAL ASSEMBLY. Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment. United Nations, 2019. (A/74/161). Available at: https://digitallibrary.un.org/record/861173

UNITED NATIONS GENERAL ASSEMBLY. Harmony with Nature - Report of the Secretary General. 2019 (UN Doc A/74/236). Available at: https://undocs.org/en/A/74/236