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Evolution of the International Forest Regulation

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Abstract: In 2019, the World came face to face with the unprecedented challenges of the COVID-19 pandemic. While the immediate global priority has become to tackle the global public health emergency, the long-term response must also address the underlying causes of such a pandemic. Degradation and loss of forests is one of such contributing factors disrupting nature's balance and increasing the risk and exposure of people to zoonotic diseases. Worldwide deforestation and forest degradation are continuing at alarming rates. The underlying causes of deforestation and forest degradation include the lack of good governance at both international and national levels, the undervaluation of forest products and ecosystem services and the inadequate cross-sectoral policies (e.g. policies that encourage the conversion of forestland to other uses). In order to overcome these major obstacles in combating deforestation and forest degradation it is important to provide for forest-related policy consistency and for effective policy coordination. Up until now, although in general the need for consistency and coordination has been recognized, the extent to which various environmental regimes interact concerning forest regulation and/or may be in conflict with one another remains underexploited. In order in a later step of the research to investigate the interactions and identify conflicts, gaps and synergies with regards to forest regulation, this current article sets the background and investigates the forest regulation under the international environmental

law. The challenge for such investigation lies in the fragmentation of the international forest regulation: instead of a basis in a single convention or a protocol, provisions related to forests are scattered through the pieces of hard, soft and private international law. The objective of the current article is to grasp the overall scope of the international forest-related instruments and their evolution under various environmental regimes. The main methodology employed throughout the research is desktop research and legal analysis. In a chronological order the article investigates the evolution of the international forest regulation and reveals its current highly fragmented state.

Following the introduction is the essential scientific background for the purpose of the legal research: a brief explanation of what constitutes "forests", an overview of forests resources worldwide and of the current alarming rates of forests decline. In the following, the article looks at the evolution of the topic of forests in the international agenda from their first appearance up until today. For the purpose of the research three developmental stages in the evolution of the forest regulation at the international level are distinguished: the Foundational Period (i.e. before 1990) — when the scientific consensus about global deforestation and forest degradation developed and transformed from a scientific into a policy issue; the Fragmentation Period (from 1990 until 2011) — when forests entered the UN environmental agenda and gained attention as a stand-alone topic and the United Nations Forum on Forests (UNFF) was established; and the Pre-Constitutional Period (from 2011 — onwards) — when negotiations on the Legally Binding Agreement (LBA) on forests in Europe are taking place. Finally, the conclusions bring the findings of the article together and provide the ground for subsequent legal research.

Keywords: forests, deforestation and forest degradation, international forest regulation, interntaional forest law and policy, international forest convention, legally binding agreement on forests, fragmentation, environmental law

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I. Introduction

Deforestation and forest degradation amount to a global environmental problem that has long accompanied population growth and development throughout the world. There have been several attempts to address the problem and to provide for a comprehensive international forest regime based on a single legally binding instrument, although unsuccessfully. As a result, today the "international forest regime"[1] is

[1] Please note that there is an ongoing controversy among legal scholars as to whether a global forest regime currently exists in the absence of a legally binding comprehensive agreement covering this issue area. Some legal scholars (Abanina, 2013) argue that at present it is "…yet too early to assign international forestry law as a separate branch of law." Others (e.g. F. Lesniewska, 2015) refer specifically to "international forest law," which "is constituted by a diversity of treaties and agreements that are evolving relatively independent to each other." N. Srivastava (2011) comments that "a single binding forest regime has not yet emerged… there are several instruments that govern forest laws internationally." According to Desai (2011), "the current international regime, which guides the utilization and management of forests, is composed of numerous instruments, some of which are legally binding, such as CBD, the UNFCCC, the 1994 Convention to Combat Desertification and the… ITTA. The most important — soft law instruments relating to forests include Forest Principles and Chapter 11 of Agenda 21…" Some legal scholars (e.g. Tarasofsky, 1999) refer to the "international *legal* regime on forests" (emphasis added). The scholar defines such regime as "the sum total of international instruments and institutions

disconnected and multi-centric; it has developed at different speeds and in different directions, rather than strategically and holistically along a common front (Humphreys, 2006). Provisions related to forests are scattered through the pieces of hard, soft and private international law (Gluck, 2010; Eikermann, 2015; Bondarenko and Lukiyanov, 2015; Gordeeva, 2019). Different treaties and agreements of the international forest regime focus on different aspects of forests, their specific functions and services (Lesniewska, 2015; Srivastava, 2011; Brunnee and Nollkaemper, 1996). As of now, all the attempts to consolidate all forest-related issues within one individual treaty have remained unsuccessful (MacKenzie, 2012).

The objective of the present research is to grasp the overall scope of the international forest-related instruments and their evolution under various environmental regimes. Following the introduction to the article there is a brief explanation of what constitutes "forests". Next, the author gives an overview of forest resources worldwide and an introduction to the forest functions and ecosystem services. Then, attention in the article is paid to the current alarming rates of the global forest decline, including the major causes of the global environmental problem and its impacts. One of such impacts is the immediate global priority, i.e. the recent COVID-19 pandemic. In the following, the article looks at the evolution of the topic of forests in the international agenda from their first appearance up until today. For the purpose of the research three developmental stages in the evolution of the forest

that create the framework for international action." Other legal scholars (e.g. H. van Asselt, 2011 and 2014) refer to the forest regime as a "regime complex", i.e. "an array of partially overlapping and non-hierarchical institutions, governing a particular area." A regime complex exists somewhere towards the middle of a spectrum between a comprehensive regime based on a single legally binding instrument at the one end and a very loose and barely coordinated set of governance arrangements at the other. According to H. van Asselt "regime complex" for forests includes various initiatives within and outside of the UN context and there is a "need to study how the 'regime complex' for forests functions as a whole, and how its various elements interact with each other." There are also legal scholars (e.g. R. Macguire, 2013) who investigate the "governance" of the global forests. R. Macguire for "the concept of governance within forest resources," suggests that "environmental governance includes the various institutions and structures of the authority engaged in the protection of the natural environment."

regulation at the international level are distinguished: the "Foundational period" (i.e. before 1990) when the scientific consensus about global deforestation and forest degradation developed and transformed from a scientific issue into a policy issue; the "Fragmentation period" (from 1990 until 2011) when forests entered the UN environmental agenda, gained attention as a stand-alone topic and the United Nations Forum on Forests (UNFF) was established; and the "Pre-Constitutional period" (from 2011 — onwards) when negotiations on the Legally Binding Agreement (LBA) on forests in Europe are taking place. Finally, the conclusions bring the findings of the article together and provide the ground for subsequent legal research.

The investigation in this article is not intended to be exhaustive and serves the broader objective — in a further step of the research to evaluate the interactions of various instruments with regards to forest regulation (whether there are gaps, synergetic or conflicting interactions). Thus, for instance, due to the environmental focus of the present reserach, treaties specific to the rights of indigenous people and local communities, and the World Trade Organization (WTO) law is not included into the investigation. Other studies have as well provided a historical summary at different stages in the developemt of the global forest-related regime (Gordeeva, 2017; Eikermann, 2015; McDermott et al., 2007).

II. Forest Definition

Defining of what constitutes a forest is a challenging task. Some legal scholars have already referred to the process as "one among numerous and persistent problems inherent in forests" (Assembe-Mvondo, 2010). Worldwide forest types differ significantly influenced by factors including latitude, temperature, rainfall patterns, soil composition and human activity. Thus, for instance, people living in the European Union (EU) or in the Russian Federation might identify forests differently, for instance, from definitions adopted in Africa or in Brazil. The 2021 study (Lund, 2018) of different definitions of forests found that more than 1713 different definitions for forests and

wooded areas are in use around the world, with some countries officially adopting several of such definitions at the same time (Figure 1).

Figure 1: Summary of number of published definitions of "forest" found as of 8 June 2021

Definition Type	Scope				Total
	General	International	National	Local	
Administrative	21	0	110	21	152
Cover	245	104	559	106	1014
Use	63	53	220	112	448
Ecological/Miscellaneous	25	6	51	17	99
Total	354	163	940	256	1713

Source: adopted from Lund, H.G., (2018). Definitions of Forest, Deforestation, Afforestation, and Reforestation. Available at: https://www.researchgate.net/publication/324755790_2018_Definitions_of_Forest_Deforestation_Afforestation_and_Reforestation [accessed: 8 June 2021].

Different definitions are required for different purposes and at different scales (United Nations Environmental Program (UNEP), Food and Agricultural Organization of the United Nations (FAO UN), UNFF, 2009. Definitions may highlight various vantage points of forests, i.e. forest as a source of timber products, an ecosystem composed of trees along with various forms of biological diversity, a sink and/or a reservoir for carbon storage. A definition based on physical characteristics, such as the canopy cover,[2] will most likely be used for an assessment of the forest extent, whilst a definition based on botanical characteristics, i.e. variety of tree species, will be used for assessing various classes or types of forests. An assessment focusing on the availability of timber for commercial or industrial purposes may exclude small wooded areas and types of forest not considered to be of commercial value. An overall assessment carried out at a global level is unlikely to satisfy more detailed national level requirements. Conversely, a definition developed

[2] Canopy cover (also called crown closure or crown cover) — the percentage of the ground covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of plants. Cannot exceed 100 % (FAO, 2015; Intergovernmental Panel on Climate Change (IPCC, 2003).

to suit the needs of any given country is unlikely to be applicable at a global level.

At the global level a number of common definitions of forests have been developed. As a rule, such common definitions are very broad in order to encompass all types of forests; these definitions reflect the various forest management objectives (Figure 2). In 1948, the FAO UN adopted the first forest definition in order to assess global wood harvesting potential after the World War II. It remains the most widely used forest definition up until today (Chazdon et al., 2021). Over time, conservation became increasingly incorporated into forest management objectives and new forest definitions have been developed (e.g. under the Convention on Biological Diversity (CBD)). The UN Framework Convention on Climate Change regime (UNFCCC) initiated a new forest management objective, i.e. forests as carbon sinks and/or reservoirs, and adopted its own definition of forests. As scholars note, "currently the multiple definitions of forests coexist, [...yet], aligning their objectives and roles in policy-making and governance remains a major challenge" (Chazdon et al., 2021).

This present paper, if not specified otherwise, adopts a wide definition of forest, including all areas with substantial tree cover, all types of forest composition in any geographical range and with any species structure. For the purpose of the present paper, it is also important to stress, that not only the forest types vary and, thus, the definitions, but also forest functions and services[3] differ on all spacial and temporal levels. The Millennium Ecosystem Assessment (Hassan et al., 2005), for instance, indicates that "some national classifications account for as many as 100 different kinds of forest services, such as delivery of industrial and fuel wood, water protection and regulation, ecotourism, and spiritual and historical values."[4] FAO distinguishes five

[3] The term "services" is used here synonymously with the term "functions". These terms are meant to comprise all performances provided for by forests.

[4] For instance, the Millennium Ecosystem Assessment distinguishes between resource services (production of fuel-wood; industrial wood and NWFP); ecological services (water protection; soil protection and health protection); biospheric services (biodiversity conservation; and climate regulation); social services (ecotourism and recreation); amenities services (spiritual; cultural; and historical).

broad forest ecosystem services: biodiversity conservation; productive functions of forests; cultural or spiritual values; protective functions; socio-economic functions (FAO, 2010). Some of these broad ecosystem services can be further split up.[5] Due to the physical location of forests within national boundaries most functions and services provided by forests are local and/or national in scope (e.g. timber production, water purification, tourism, etc.). However, as in the case of climate protection and/or climate regulation forests exert not only local, but also transboundary or even global effect. Furthermore, forest services and functions interact in many different ways, "ranging from synergistic to tolerant, conflicting and mutually exclusive." This interaction leads to the forest "multiservice paradigm," which is "quite clear in theory, but is often very difficult to implement, as it frequently requires difficult choices and trade-offs" in forest regulation (Hassan et al., 2005).

Figure 2: Forest Definitions at the Global Level

Food and Agriculture Organization (FAO) Global Forest Resources Assessments (FRA): are based on data, provided by individual countries, using an agreed global definition of forest: "land spanning more than 0.5 hectares (ha) with trees higher than 5 metres and a canopy cover of more than 10 %, or trees able to reach these thresholds in situ. Forest does not include land that is predominantly under agricultural or urban land use (FAO, 2015).[6]

[5] For instance, Biodiversity conservation: forests as the worldwide biodiversity storage; forests as a component of global biodiversity themselves; Productive functions of forests: production of wood; production of non-wood forest products (NWFP); Protective functions: local protective functions; global protective functions; water regulation; protections of soils; climate protection; etc.; Socio-economic functions: economic function associated with wood; economic function associated with NWFP; social function, e.g. employment in forestry; Cultural or spiritual functions: forest related tourism; spiritual; cultural; recreation; education; research; education; etc.

[6] FAO definitions of forest evolve. Thus, for instance, the first FAO assessment of the world's forest resources in 1948 defined "forested land" as "vegetative associations dominated by trees of any size, capable of producing timber or other products or of exerting an influence on the climate or the water regime." The use of different definitions leads to vastly different estimates of national and global forest cover and

Convention on Biological Diversity (CBD) regime: a forest is a land area of more than 0.5 ha, with a tree canopy cover of more than 10 %, which is not primarily under agricultural or other specific non-forest land use. In the case of young forests or regions where tree growth is climatically suppressed, the trees should be capable of reaching a height of 5 m in situ and of meeting the canopy cover requirement (CBD, 1992).

United Nations Framework Convention on Climate Change (UNFCCC) regime: forest is a minimum area of land of 0.05–1.0 ha with tree crown over (or equivalent stocking level) of more than 10–30 % with trees with the potential to reach a minimum height of 2–5 meters at maturity in situ. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of 10–30 % or tree height of 2–5 meters are included under forest, as are areas normally forming part of the forest area which are temporarily un-stocked as a result of human intervention such as harvesting or natural causes but which are expected to revert to forest (UNFCCC, 1992).

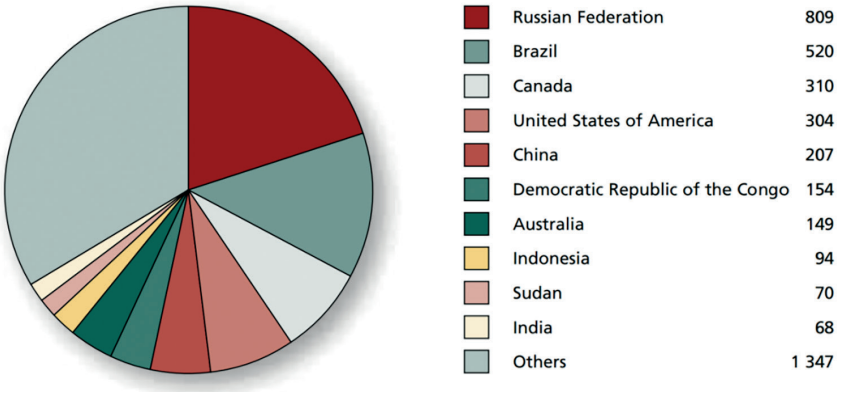
III. Extent of the World's Forest Resources

According to FAO, the current world's total forest area is just over 4 billion hectares, or 31 % of the total land area (FAO, 2020). Globally the area of forests is unevenly distributed. Europe accounts for 25 % of the world's total forest area, including the Russian Federation, followed by South America (21 %), and North and Central America (17 %; FAO, 2010).

observed rates of forest gain and loss. For instance, the estimate of global forest area increased by 300 million ha (approximately 10 %) between 1990 and 2000 simply because the forest resources assessment (FRA) changed its global definition of forest, reducing the minimum height from 7 to 5 m, reducing the minimum area from 1.0 to 0.5 ha and reducing minimum crown cover from 20 % to 10 % (FAO, 1948; Matthews, 2013).

At the country level, the Russian Federation alone accounts for 20 % of the total forest area in the world, i.e. 809 million ha. Nine world's forest richest countries account for 47 % of the world's total forest area (Figure 3; FAO, 2010). The remaining 33 % (i.e. 1,347 million ha) is spread among 213 countries and areas[7] have no areas that qualify as forests at all (FAO, 2010).

Figure 3: Ten Countries with the Largest Forest Area, 2010 (million ha)



Source: (FAO, 2010)

IV. Deforestation and Forest Degradation: Current Rates, Causes and Impacts

A reduction in forest area can happen through either of two processes: deforestation and natural disasters. Deforestation, which is by far the most important, implies that forests are cleared by people and the land is converted to another (usually more economically profitable) use, such as agriculture or infrastructure (FAO, 2010). Conversion of forests to other land uses is most destructive when it occurs in a

[7] The Falkland Islands (Malvinas), Gibraltar, the Holy See, Monaco, Nauru, Qatar, Saint Barthelemy, San Marino, Svalbard and Jan Mayen Islands, and Tokelau.

fragmentary pattern. Breaking up forests into smaller fragments, i.e. forest fragmentation, causes decay of forests functions and services (e.g. blocks corridors that wildlife use to seek food, mates, and refuge; increases tree mortality due to greater exposure to wind, fire, pests and other threats, etc.). Deforestation may be permanent, when forests are replaced by arable land, or temporary, when forests are harvested, but regrow naturally or being replanted. Natural disasters may also destroy forests (e.g. forest fires, hurricanes, wind storms, etc.). Both deforestation and natural disasters may cause forest degradation. This implies changes within forests, which negatively affect the structure of functions of the stands or site (e.g. decrease in tree cover; changes in structure of trees; reduction in the number of species that can be found there, etc., FAO, 2010).

Deforestation and forest degradation have accompanied population growth and development throughout the world for thousands of years (FAO, 2012). From an original forested area of more than 6.0 billion ha (i.e. 45 % of the earth's land area) the current estimate of the world's remaining forests is about 4 billion ha (i.e. about 31 % of the earth's land surface; FAO, 2012). Over a period of 5000 years, the cumulative loss of forest land worldwide is estimated at 1.8 billion ha — an average net loss of 360 000 ha per year (FAO, 2012).

Since then the rates of global forest decline have accelerated. In the period between 1990 to 2000 the net loss of forests was estimated to 8.3 million ha per year (FAO, 2010). Although at present the rate of deforestation globally shows signs of decreasing, it remains alarmingly high: annually humankind looses more than 5 million ha per year (FAO, 2020).[8] If global forests continue to decline at the present rate, it will take approximately 775 years to lose all forests on Earth (FRA, 2012).

The underlying causes of changes in the global forest area and their condition differ in spatial and temporal scales. As a rule, such changes

[8] 5 million ha per year is a net change in the global forest area. The figure is the sum of all negative changes due to deforestation and natural disasters and all positive changes due to afforestation and natural expansion of forests. The solely negative changes comprised around 13 million ha of forests lost globally due to deforestation and natural causes each year during the period from 2000 until 2010. However, afforestation and natural expansion of forests in some countries and regions have reduced the net loss of forest area significantly at the global level (FAO, 2012).

are the result of interactions among many factors — social, ecological, economic, climatic and biophysical. On a very broad scale causes may be distinguished as natural (e.g. climate change, forest fires, hurricanes, etc) or human-induced, the latter causing the most significant changes in forest area globally (Hassan et al., 2005).

During the deliberations of the United Nations Intergovernmental Forum on Forests (IFF), the global community agreed that the underlying causes of deforestation and forest degradation are interrelated and often socio-economic in nature. Both the causes and the approaches to dealing with them are often country-specific and, therefore, vary among countries (FAO, 2012; IFF, 2000). The underlying causes include: poverty; lack of secure land tenure patterns; inadequate recognition within national laws and jurisdiction of the rights and needs of forest-dependent indigenous and local communities; inadequate cross-sectoral policies; undervaluation of forest products and ecosystem services; lack of participation; lack of good governance; absence of a supportive economic climate that facilitates sustainable forest management; illegal trade; lack of capacity; lack of enabling environment at both international and national levels; national policies that distort markets and encourage the conversion of forest land to other uses (FAO, 2012; IFF, 2000). In order to overcome the major obstacles when addressing the underlying causes of deforestation and forest degradation, the UNFF stresses the importance of policy consistency inside and outside the forest sector and the need for effective policy coordination for addressing the underlying causes of deforestation (IFF, 2000).

In the coming years, due to demographic changes, economic growth and significant increase in demand for wood products deforestation and forest degradation are predicted to continue (FAO, 2012).

While the underlying causes of deforestation and forest degradation are complex environmental, social, economic and political processes, the consequences of deforestation and forest degradation are relatively easy to outline. Any impairment and/or loss of ecological functions and/or services provided by forests finds its expression through various environmental impacts. Deforestation disrupts normal weather patterns, creating hotter and drier weather; increasing drought and desertification, crop failures, coastal flooding and displacement of

major vegetation regimes. Deforestation also disrupts the global water cycle. With removal of part of a forest (i.e. forest fragmentation), the area cannot hold as much water creating a drier climate. Deforestation and forest degradation affect water resources, including drinking water, fisheries, and flood/drought control. Deforestation can also result into watersheds that are no longer able to sustain and regulate water flows from rivers and streams. Once the watersheds are gone, too much water can result into downstream floods, which have caused disasters in various parts of the world. Furthermore, deforestation and forest degradation can lead to severe impacts on soil resources. Whereas tree roots anchor the soil, without trees, the soil is free to wash or blow away, which can lead to vegetation growth problems. Scientists estimate that a third of the world's arable land has been lost due to deforestation since 1960 (Derouin, 2019). Deforestation and other land use changes have increased the proportion of river basins subject to erosion and over the longer periods have contributed to water siltation.[9] Furthermore, forests, especially those in the tropics, serve as storehouses of biodiversity and, consequently, deforestation, fragmentation and forest degradation destroy the biodiversity and habitats for migratory species including the endangered ones. Finally, in 2019 the World came face to face with the unprecedented challenges of the COVID-19 pandemic and one among other underlying causes of such a pandamic is the degradation and the loss of forests world-wide, which is "disrupting nature's balance and increasing the risk and exposure of people to zoonotic diseases" (FAO, 2020).

V. Evolution of the International Forest Regulation

For the purpose of the research, three developmental stages in the evolution of the forest regulation at the international level are distinguished:

The Foundational Period: before 1990. During this period the scientific consensus about global deforestation and forest degradation developed and transformed from a scientific into policy issue;

[9] Water pollution by silt or clay.

governments became involved in the international negotiations; first forest-related international agreements were adopted;

The Fragmentation Period: from 1990 until 2011. Forests entered the UN environmental agenda, gained recognition as a stand-alone topic, forest-specific soft law was adopted, the UNFF was established, isolated international processes highlighting individual forest functions and services were elaborated;

The Pre-Constitutional Period: from 2011 until present. Negotiations on the Legally Binding Agreement (LBA) on Forests in Europe take place. Please note that the term "Constitutional" here is used figuratively in order to indicate a period in the evolution of the international forest regulation during which a single agreement on forests, i.e. "Forest Convention" is being negotiated. The parties to the (draft) Convention recognize "...the need to establish a legally binding agreement to ensure or reinforce sustainable forest management (SMF), ensure multifunctionality of forests, avoid fragmentation of forest related policies and to complement and promote existing international, regional and subregional agreements, cooperation and initiatives to this end" (Forest Europe, 2013). If the LBA is adopted, the document may establish a fundamental set of principles according to which forests are governed. In addition, although the LBA is negotiated in the European context, among those who registered for the process are 46 "Forest Europe"[10] member countries (including the Russian Federation, and the EU), 14 observer states (including top four countries with the largest forest area, namely: Brazil, Canada, the USA and China) and 45 observer organizations (including FAO, International Tropical Timber Organization (ITTO), International Union for Nature Conservation (IUCN), International Union of Forest Research Organizations (IUFRO), United Nations Development Program (UNDP), United Nations Environment Program (UNEP) and UNFF).

[10] Forest Europe is the brand name of the Ministerial Conference on Protection of Forests in Europe. It is a voluntary regionally limited political process for dialogue and cooperation on forest policies in Europe. Up until now the Conference predominantly produced criteria and indicators for sustainable forest management, guidelines and resolutions.

V.1. The Foundational Period

The international forest regulation has a long history — a history, which has been termed by some legal scholars as "highly complex" (Cashore, Auld and Bernstein, McDermott, 2007).[11] For the first time forests and their management became an international issue in 1892 when, following a proposal for an international forest science research organ at the 1890 Congress of Agriculture and Forestry in Vienna, the International Union of Forest Research Organizations (IUFRO) was established (Humphreys, 2006).[12] Its mission (to promote global cooperation in forest-related research and to enhance the understanding of the ecological, economic and social aspects of forests and trees; as well as to disseminate scientific knowledge to stakeholders and decision-makers and to contribute to forest policy and on-the-ground forest management (IUFRO, 2021) brought forests to increased international monitoring and assessment. However, as with international environmental law in general, a lot of momentum for forest issues was lost due to the World Wars (Eikermann, 2015). The period before and in between of the two World Wars was not marked by great concern for the environment. Even when after the Second World War the UN was established, the UN Charter did not refer to the human environment and in general, there was little understanding of the global environmental problems (Valeev, 2020).

In 1945 the Food and Agriculture Organization (FAO) was created with responsibility within the United Nations system for forests (FAO UN, 1945). Its Constitution pronounced the FAO as the organization which collects analyses and disseminates information relating, inter alia, to forestry and primary forest products (FAO UN, 1945. Art. 1.1).[13]

[11] In particular, the legal scholars comment that the history of law and policy developed to address the environmental deterioration of the world's forests is highly complex. Partly this is explained by the regulatory differences, which exist within and across the developed and developing countries.

[12] Earlier the regulation of forest matters was done not on an international level, but rather through the means of national law.

[13] Please note that in the FAO UN Constitution, forestry and primary forestry products are referred to under the term "agriculture". According to the Constitution the term is collective, it includes also fisheries and marine products.

The core functions of the FAO with regards to forests are further specified in the "FAO UN Strategy for Forests and Forestry" and, among others, include: monitoring and assessing trends in forest resources; generating, disseminating and applying information and knowledge; and supporting the development of national legal instruments (FAO, 2010). In 1948, the FAO carried out its first Assessment of the World's forest resources. Since then the Organization has been assessing the World's forest resources at a regular intervals of every five years with the most recent assessment taking place in 2020 (FAO, 2020). Although, some critics argue that forest matters under the FAO were largely driven by foresters, and that the political significance of the FAO in forest issues remained minimal, the mere fact of the Organization's establishment laid the foundation to incorporate forest issues into the United Nations agenda (Humphreys, 2006; Eikermann, 2015).

The late 1950s onwards were termed by legal scholars as the "present ecological era." It is the period when the emerging international environmental concerns and specific environmental threats caused by technological change and expanded economic activities were recognized and addressed in the international arena: marine pollution from oil, nuclear damage from civilian use, and later — deterioration of wild animals and their habitats (Kiss and Shelton, 2007). Yet, the matters of forests remained a rather untouched issue, scarcely regulated by some international multilateral intergovernmental treaties and agreements indirectly.

In the 1960s with the increasing loss of wetland areas, their degrading, draining and conversion to other "more obvious [land] uses" (e.g. such as agriculture), wetlands became an international concern (Matthews, 2013). In 1971, the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention, 1971) was adopted. It was among the first instruments seeking to conserve natural resources on a global scale (Matthews, 2013). Even though conservation of forests, as such, was not an objective of the Convention and forests remain "unidentified" under the Convention (Ruis, 2001), many of the Ramsar sites also contain forest ecosystems, namely "forested wetlands", including: Intertidal forested wetlands (mangrove swamps, nipah swamps and tidal freshwater swamp forests); Freshwater,

tree-dominated wetlands (freshwater swamp forests, seasonally flooded forests, wooded swamps on organic soils) and Forested peatlands (including, peatswamp forests (Ramsar Convention Secretariat, 2013). It is estimated that around 12 % of the total area of sites, designated under the Ramsar Convention in 74 countries around the world, are predominantly one or other of these three types of forested wetlands (CBD, 2010).[14] Countries with the largest number of such forested wetland Ramsar sites are: Mexico, Finland, Sweden, Australia, and the USA (CBD, 2010). In addition to the conservation of the listed Ramsar Sites, the Ramsar Convention, provided that the Contracting Parties "shall" as far "as possible" use wisely (sustainably) all the wetlands in their territory (Ramsar Convention, 1971, art. 3 para. 1). This includes as well the forested wetlands (i.e. forests on wet soils) beyond the listed Ramsar Sites (e.g. the extensive wet forests in Siberia of the Russian Federation). In general, forest and wetland ecosystems are inter-dependent: many wetlands are forests, and a significant proportion of the world's forests are in fact forested wetlands (CBD, 2011). Depending on the definition used and, thus, delineation applied forests and wetlands provide for multiple linkages and overlaps. Whereas forests fulfill the definition of wetlands, the Ramsar Convention provided for the maintenance of the forest cover.

In June 1972, the United Nations Conference on the Human Environment (UNCHE, "Stockholm Conference") took place. Then the international environmental issues in general received an upturn. The Conference drew attention to the problem of environmental deterioration and methods to prevent or remedy it. From 1972 onwards, the number and scope of international environmental agreements started growing at a rapid pace giving rise to the creation of a body of rules governing a wide variety of environmental issues (Weiss, 1993; Kiss and Shelton, 2007). The outcome of the Conference was the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration, 1972). Yet, the forest issues remained without a formal acknowledgement.

[14] Of 1,886 Ramsar sites (covering 185 156 612 ha) 202 sites (covering 22 406 398 ha) i.e. 12 % of the total area are predominantly forested wetlands.

In November 1972, in the light of the fact that the "protection of [natural and cultural] heritage at the national level often remains incomplete" (World Heritage Convention (WHC), 19, Preamble para. 3), the General Conference of the UN Educational, Scientific and Cultural Organization (UNESCO) adopted the "Convention Concerning the Protection of the World Cultural and Natural Heritage" (WHC, 1972). The WHC was created with the aim to conserve and protect sites — natural as well as cultural — from natural and anthropogenic destruction. Viewing forest as cultural sites, as sites for the enjoyment of natural beauty, sites of aesthetic impressions and scientific significance, has brought some forests under the scope of the WHC. As of the year 2021, more than 110 World Heritage Sites are recognized as World Heritage Forest Sites (UNESCO, 2021). The size of each particular Forest Site varies ranging from 18 ha (e.g. Valee de Mai, Seychelles) to more than 5 million ha (e.g. Lake Central Amazon Conservation Complex, Brazil (UNESCO, 2021). The total surface area of the World Heritage Forest Sites is now over 75 million ha (UNESCO, 2021). Thus, the link between forests and the WHC becomes conspicuous. Given the significant figures of the total area of the World Heritage Forest Sites, it has to be highlighted that the definition of "forests" under the WHC has been developed and modified for the specific purposes of the Convention:[15] "A World Heritage Forest is a World Heritage site for which the nomination file provided by States Party or World Conservation Monitoring Center (WCMC) forest

[15] Initially, forest protected areas were included on the World Heritage List if "the nominations of the respective State Parties or [World Conservation Monitoring Center] WCMC forest data revealed a substantial amount… of forest cover within the site." The indication of whether or not the amount of forest cover within each site was significant was based primarily on two criteria: the first, and the most important, was information regarding the type and amount of forest provided by the State Party in the nomination for World Heritage designation; the second, was derived from the WCMC database for each World Heritage site and forest database files (whether a 8 × 8 km grid cell is more than 50 % forested). Furthermore, in order to make mangrove forests, mixed mountain forest areas, and island system forest areas visible on a global scale, any grid cell containing these categories was classified as being entirely forested. A site was included into the World Heritage List as Forest if either or both sources (i.e. a State Party and/or the WCMC) revealed 20 % or more forest cover within the site or if the extent of forest cover was a primary reason why the site was nominated and inscribed on the World Heritage List (Thorsell, Sigaty, 1997).

data reveal a substantial amount of forest cover within the terrestrial component of the site and for which forest ecosystems contribute to the site's Outstanding Universal Value" (UNESCO, 2005). Thus, by specifying that the forest ecosystems within a World Heritage Forest must be recognized as contributing to the site's Outstanding Universal Value, the definition creates a clear legal connection to the application of the WHC to the conservation of such forests. Sites that may contain forests, but have been inscribed on the World Heritage List for the values unrelated to forests are, thus, ruled out. Further, it should be noted that some of the sites recognized as World Heritage Forest Sites do not fully consist of forests. The most dramatic example is the Baikal Lake in the Russian Federation. The lake itself covers 3.15 million ha of the 8,8 million ha site (UNESCO, 2005).

In 1973 the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, 1973) was adopted. It is an international environmental treaty concluded in the recognition "that wild fauna and flora in their beautiful and varied forms are an irreplaceable part of the natural systems of the earth which must be protected for this and the generations to come [...and] in addition, that international co-operation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade" (CITES, 1973, preamble, paras 1 and 4). Forests species, including tree species (and also forest dwelling plants and forest dwelling animals) are included into the CITES Appendices and, thus, have been subjected to the CITES regulation (Groves and Rutherford, 2015).

During the evolution of the CITES since its adoption (over more than forty years) the inclusion of tree species in the Appendices of the Convention has undergone a "radical shift in attitudes" (Oldfield, 2013; Humphreys, 2006). When the CITES came into force in 1975, the Appendices included only eighteen tree species mostly of local or historical importance.[16] The listings of tree species with commercial significance was then limited because of their rarity and/or national protection status. Interest in using the provisions of CITES to regulate

[16] E.g. Honduras Mahogany (*Swietenia Humilis*) was one such species. Mainly occurring as scattered individuals, the timber of this species is generally used for wood carvings.

the commercially valuable international timber trade has developed during the 1980s in parallel with a rising awareness of the lack of sustainable forest management in tropical regions and growing concerns about the impact of logging as a threat to forest biodiversity.[17] The fundamental concerns with regard to listing considered during those times included: whether commercial timber species are ever likely to become biologically threatened with extinction because of international trade; and, furthermore, whether the CITES listing criteria could be validly applied to timber species (Oldfield, 2013). There were no new listings in the 1980s (although some species moved between appendices). In 1992 the CITES "was reactivated" with inclusion of various commercially valuable timber species in the CITES Appendices I and II (Humphreys, 2006).[18] According to Oldfield, listing the commercially important tree species takes considerably longer; even when "the perception of endangerment is high" and "the scientific case is strong, the economic interests are overwhelming" (Oldfield, 2013). Thus, for instance, it took ten years of international debate to achieve the CITES Appendix II listing for the Bigleaf Mahogany (Swietenia Macrophylla).[19] The challenges associated with this particular tree species included, inter alia, the high unsustainable logging practices and, the difficulty associated with implementation. Yet, the listing is viewed as a major CITES accomplishment with regard to forest species: not only "it is the

[17] These concerns were more generally expressed by environmental organizations in tropical timber importing countries of Europe and North America. Timber-exporting countries and timber trade interests were generally opposed to international regulation of the timber trade. See, for example, WWF, Tropical Forest Conservation: A Position Paper, 1981. The paper states that there were moves by conservation organizations in Germany, the Netherlands and the United States to call for a boycott on the import of tropical timber into the EU.

[18] The Appendix I listed Brazilian Rosewood (*Dalbergia Nigra*); the Appendix II listed Commoner lignum vitae (*Guiacum Officinale*), Afromosia (*Pericopsis Elata*) and American Magagony (*Swetnia Mahagoni*).

[19] The Bigleaf Mahogany is a tree endemic to the Neotropics that can grow up to 45 m in height and 2 m in trunk diameter. It is harvested for its highly-valued timber, to make furniture, paneling or musical instruments. Whereas the information on mahogany inventories and status is incomplete, there is evidence on the sharp decline of the original wild populations in the Neotropics and even its extinction in Costa Rica, parts of Brazil, Bolivia and South America.

first commonly traded timber species listed in Appendix II," but also its implementation will "undoubtedly shape how the Parties and industry view the role of the Convention in helping to control the international trade in timber in future" (Blundell, 2004). In total, today all the three CITES Appendices list more than 600 tree species, including some of the world's most economically valuable trees (CITES, 2016). Additionally, the forest-related work of CITES encompasses species other than trees, including "forest dwelling plants" and "forest dwelling animals."

In the 1980s, the focus of international forest policy has become the promotion of sustainable forest management, i.e. SFM[20] (Oldfield, 2013). According to some legal scholars (Eikermann, 2015), among the first explicit references to forests and their roles in the context

[20] The concept of SFM is a forest — specific concept. It attempts to incorporate and recognize all the multiple forests' values (i.e. economic, ecological and social); and, further, to give equal weighting to each value in such a way that all forest functions and services continue to flourish. Although a clear universal definition of the SFM concept has not yet emerged, the general meaning of the concept may be clustered in the context of the UN-forest institutions (e.g. UNFF, FAO UN): SFM "… is a dynamic and evolving concept that aims to maintain and enhance the economic, social and environmental value of all types of forests for the benefit of present and future generations" (Takoukam, 2011). The concept "aims to ensure that the goods and services derived from the forest meet present-day needs while at the same time securing their continued availability and contribution to long-term development. … In its broadest sense, forest management encompasses the administrative, legal, technical, economic, social and environmental aspects of the conservation and use of forests. It implies various degrees of deliberate human intervention, ranging from actions aimed at safeguarding and maintaining the forest ecosystem and its functions, to favoring specific socially or economically valuable species or groups of species for the improved production of goods and services" (FAO, 2010a). The initial discussions of the SFM concept at the international level took place in the context of "sustainable development". States, present at the 1992 UNCED, held in Rio, unanimously adopted the Rio Declaration and committed to "cooperate in good faith and in a spirit of partnership in the fulfillment of the principles embodied in [… the] Declaration and in the further development of international law in the field of sustainable development" (Rio Declaration, 1992, Principle 27). One of the central issues of this 1992 world forum was the management of the world's forest resources; within the rather general issue of sustainable development States also discussed the SFM concept. Thus, art. 2 (b) of the 1992 Forest Principles provide that "forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural, and spiritual needs of present and future generations". However, at the international level this basic idea did not receive further shaping within the SFM context, and the development of the concept has taken place at the regional level.

of sustainable development are those made, first, by the World Conservation Strategy (WCS) of the International Union for Conservation of Nature (IUCN) in 1980 (WCS, 1980) and later by the World Charter for Nature of the United Nations General Assembly in 1982 (UNGA, 1982). Along with the Stockholm Declaration, the World Conservation Strategy and the World Charter for Nature all play a role in the elaboration of the principle of sustainable development and confirming the issue of forests on the international political agenda (Kasimbazi, 1995). Yet, these documents are pieces of soft law and, despite the fact that even non-legally binding instruments are significant for steering the actions of states, these documents remain at large without legal consequences for forests (Eikermann, 2015).

In 1985 with the establishment of the International Tropical Timber Organization (ITTO)[21] under the first International Tropical Timber Agreement (ITTA, 1983), "...the importance of, and the need for, proper and effective conservation and development of tropical timber forest with a view to ensuring their optimum utilization while maintaining the ecological balance of the regions concerned and of the biosphere..." was recognized (ITTA, 1983, Preamble). Yet, under the ITTA the need to conserve forests has originated from the idea of conservation for their optimum utilization (Nagtzaam, 2014).[22] Moreover, the idea of tropical forests as providers of timber is emphasized by the fact of the ITTA's establishment under the UN Integrated Program for Commodities.

[21] ITTO's origins can be traced back to 1976 when the long series of negotiations that led to the first ITTA began at the fourth session of the United Nations Conference on Trade and Development (UNCTAD) as part of that organization's Program for Commodities. The eventual outcome of these negotiations was the ITTA, 1983, which governed the Organization's work until 31 December, 1996, when it was superseded by the ITTA, 1994. Negotiations for a successor to this agreement were concluded in 2006, again under the auspices of UNCTAD. The ITTA, 2006 entered into force on December 7, 2011.

[22] In comparison, other international environmental agreements of this time, negotiated parallel to the ITTA, simply recognize the need for protection of the environment against adverse effects, resulting from, or likely to result from human activities. See, for instance, the 1985 Vienna Convention for the Protection of the Ozone Layer, adopted 22 March 1985, entered into force 22 September 1988.

Thus, the early stages of the "international forest regime" development reflect several fragmented types of negotiations on the international agenda. Each fragment represents its own perception of forests: First, forests in the context of science and research; second, forests in the context of agriculture; third, conservation of forested wetlands; fourth, forests within the overall discussion on sustainable development; fifth, forests as protected sites under the WHC; sixth, forest species protection against overexploitation through international trade; and, finally, forests (yet, with a tropical only focus) as a valuable tradable timber resource.

V.2. The Fragmentation Period: International Forest Regulation from 1990 until 2011

In 1991, the World Wide Fund for Nature (WWF) along with some other NGOs, including Greenpeace and the Rainforest Alliance, formed a working group in order to develop a new approach towards achieving sustainable forest management. The working group agreed to develop an independent forest certification scheme, i.e. a process by which an independent third party certifies that a forest management process of forest product conforms to agreed standards and requirements. In 1993, the Forest Stewardship Council (FSC) was created. As the FSC standards are voluntary and the parties involved are private, non-governmental actors — a private perspective (or fragment) on forests has been introduced to the "international forest regime" (Cashore, Auld, Bernstein, McDermottt, 2007; Humphreys, 2006; Gulbrandsen, 2004).

During the preparations for and at the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro in June 1992 a global convention for the conservation and sustainable development of the world's forests was negotiated. Widely these negotiations are regarded as a failure for the reason of not reaching its objective (Maguire, 2013; Davenport, 2005; Eikermann, 2015; MacKenzie, 2012; Lipschutz, 2000). Whereas the developed countries of the North (including the Russian Federation and the EU) along with FAO called for a global forest convention, the Group of 77 Developing

Countries (G77[23]), led by Malaysia and India, resisted. One of the main points of contention was the proprietorial status of forests. While some developed countries intimated that forests should be seen as a "global common" as all humanity derives benefits from them, the G77 insisted that the UNCED recognized forests as a sovereign national resource of the state. The opposition to the international forest convention feared internationalization of the resources under their sovereignty by the application of concepts such as "common good", "common heritage of humankind", or a "common concern of humanity." One more point of contention among negotiators centered around finance, with the G77 making it clear that if tropical countries were to agree to conserve their forests, then the developed North would have to pay compensation for the opportunity cost foregone from forest development (Humphreys, 2006). The negotiations resulted in the two forest-specific documents, namely: Chapter 11 on "Combating Deforestation" of Agenda 21 (Agenda, 1992) and the "Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests" — the, so called, "Forest Principles" (Forest Principles, 1992).

In addition, during the UNCED two legally binding Conventions, one aimed at preventing of global climate change (UNFCCC, 1992), and another at preventing the eradication of the diversity of biological species (CBD, 1992) were opened for signature. Although these instruments have not been initiated to apply a priori to forests, the lack of one authoritative document on forests, combined with the increased rates of deforestation and forest degradation commended States to use these alternative legal paths, inter alia, in order to reduce global forest decline.

[23] The Group of 77 is an intergovernmental organization of developing countries in the UN, which provides the means for the countries of the South to articulate and promote their collective economic interests and enhance their joint negotiating capacity on all major international economic issues within the United Nations system, and promote South-South cooperation for development. The G77 was established on 15 June 1964 by seventy-seven developing countries signatories of the "Joint Declaration of the Seventy-Seven Developing Countries" issued at the end of the first session of the United Nations Conference on Trade and Development (UNCTAD).

The path undertaken by the parties to the UNFCCC, includes a number of broad obligations related to mitigating the adverse risks of climate change associated with forests. Established by the UNFCCC, the international climate change regime has recognized the positive role of forests for climate change mitigation from the start. The ultimate objective of the regime is to achieve "stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (UNFCCC, 1992). The UNFCCC regime envisages policies and measures in order to "cover all relevant sources, sinks and reservoirs of GHG" (UNFCCC, 1992). Based on their common, but differentiated responsibilities,[24] all contracting parties have a commitment to promote and cooperate on practices and processes that control, reduce or prevent anthropogenic emissions of GHG in all relevant sectors, including forestry (UNFCCC, 1992). Furthermore, forests are explicitly included as sinks and reservoirs of GHG, which the parties are committed to conserve and enhance (UNFCCC, 1992). In 2015, the existing forest-related provisions, frameworks and decisions under the international climate regime were anchored into the Paris Agreement (article 5, Paris Agreement, 2015). In this context, the relationship with forests lies in the climate related functions and services of forests, which are directly addressed by the international climate change regime.

A number of mechanisms under the international climate change regime allow countries to account for the source/sink value of forest practices. These include the Land-Use, Land-Use Change and Forestry (LULUCF) guidelines, which developed countries can use in order to measure carbon stored by forestry and land management practices. There are also the afforestation and reforestation (A/R) guidelines of the clean development mechanism (CDM), which allow the developed countries to invest in forestry projects in developing countries. Besides,

[24] Since the adoption of the UNFCCC, the principle has been the cornerstone principle of the international climate change regime. The 2015 Paris Agreement recognizes and builds on the principles, established by the UNFCCC and notably on the principle of "common, but differentiated responsibilities and respective capabilities." However, in comparison to the UNFCCC, the Paris Agreement, specifies, that the CBDRC is to be implemented "in the light of different national circumstances."

there are the LULUCF guidelines for the Joint Implementation mechanism (JI), which allow the Annex I countries to implement forestry projects that increase removals by sinks in another Annex I country. One more important mechanism is the "REDD+" mechanism, which aims at incentivizing mitigation action in developing countries and at channeling the developed countries' financial resources to do so. The acronym "REDD+" aims at capturing under one heading the multiple activities such as reducing emissions from deforestation and from forest degradation (i.e. the "REDD"), as well as conservation and enhancement of forest carbon stocks and the sustainable forest management (SFM, i.e. the "+"). Similar to other forest-related mechanisms under the international climate change regime, the mechanism is built on methodological guidance and a framework for GHG emissions measuring, reporting and verification (MRV). Additionally, the international climate change regime encourages the use and development of renewable and sustainable energy production. Through bio-energy production forests provide for the benign alternatives to fossil fuels. In comparison to fossil fuels, wood biomass is viewed as a "less emitting" (or even arguably as a "carbon neutral") source of energy.

Another path in order to reduce global forest decline, undertaken in 1992 by the parties to the Convention on Biological Diversity (CBD), focused on the obligations related to the ecological functions and services of forests. Forest provide various forms of biodiversity, including "structural diversity" (i.e. areas of forests, natural and protected forests, species mixture, and age structure); "compositional diversity" (i.e. numbers of total flora/fauna species, numbers of endangered species); and "functional diversity" (e.g. the impact of major processes and natural and human-induced disturbances). Forests are a part of biodiversity and a home to biodiversity, harboring up to 90 % of the world's terrestrial biodiversity. Furthermore, forest biodiversity represents a cornerstone function with regard to ecosystem functions and services, performed by forests, other than biodiversity conservation. Although the CBD does not specifically refer to forests, its entire scope is potentially relevant to forests, as they fall within the definition of the term biological diversity. In addition, forest have become "very much a part of the scope of the

Convention, owing to… the subsequent decisions adopted by the CBD" (Srivastava, 2011). Forests are addressed under the CBD in a number of ways, including the CBD's Work Program[25] on Forest Biological Diversity (WPFBD) and the Aichi Biodiversity Targets.[26]

Parallel to the negotiations at the UNCED in Rio, the ITTO convened to reassess and review its Timber Agreement. The result of the negotiations was the revised ITTA of 1994 (ITTA, 1994).

In 1994 the UN Convention on Combating Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UN CCD, 1994) was adopted. It was the first "sustainable development" treaty negotiated after the 1992 UNCED.

[25] The objectives of the WPFBD are, inter alia, to enhance Parties' abilities to realize the objectives of the Convention through… measures for enhancing the integration of conservation and sustainable use of biological diversity into their national forest and land use programs and forest-management systems, facilitate the implementation of the objectives of the CBD based on the ecosystem approach, identify traditional forest systems of conservation and sustainable use of forest biological diversity and to promote the wider application, use and role of traditional forest-related knowledge in sustainable forest management and the equitable sharing of benefits, contribute to ongoing work in other international and regional organizations and processes, in particular to the implementation of the proposals for action of the IPF and to provide input to IPF, contribute to the access to and transfer of technology, and identify the contribution of networks of protected areas to the conservation and sustainable use of forest biological diversity.

[26] Several of the Aichi Biodiversity Targets directly relate to forests: Target 5: The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced; Target 7: All areas under forestry are managed sustainably, ensuring conservation of biodiversity; Target 11: At least 17 percent of terrestrial and inland water areas are conserved; Target 14: Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded; Target 15: Enhance the resilience and the contribution of biodiversity to carbon stocks through conservation and restoration, including restoration of at least 15 percent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification. The Fifteenth Aichi Biodiversity Target is further supported by the global initiative on forests, climate change and biodiversity — the "Bonn Challenge". As part of the Challenge parties and partners of the CBD announced the ambition to restore at least 150 million hectares of degraded forest landscapes by 2020. More recently, this target was endorsed by the New York Declaration on Forests, a voluntary and non-legally binding political declaration, adopted at the UN Climate Summit in 2014.

The declared aim of the Convention was to "combat desertification and mitigate the effects of drought" (art. 2 para. 1, UNCCD, 1994).[27] As, on the one hand, deforestation and forest degradation are among the main causes of desertification and drought; and, on the other hand, forests can help to stabilize soils, mitigating against desertification and drought, the Convention has consequently recognized a connection between desertification, deforestation and forest degradation. Recently, the UNCCD Strategic Framework for 2018–2030 provided a framework to achieve land degradation neutrality (UNCCD, 2018). Although forest biodiversity is not explicitly mentioned within this framework, enhanced synergies with the CBD and UNFCCC are a priority as reflected in expected impact 4.1: "Sustainable land management and the combating of desertification/land degradation contribute to the conservation and sustainable use of biodiversity and addressing climate change." Landscape restoration, including reforestation is clearly one of the means of achieving this.

In 1995, as aftermath to the high expectations and failures of the UNCED negations on forests, the CSD attempted to engage with forest issues and created the Intergovernmental Panel on Forests (IPF). It was functioning during the period of two years and deserves credit for negotiating more than one hundred proposals for action (and thereby adding to the body of instruments on forest issues) and for establishing the concept of national forest programs in international forest discourse, creating the link between forest issues and indigenous peoples' concerns and traditional knowledge (Eikermann, 2015). Unfortunately, the IPF did not manage to overcome the shortcomings inherent to the UNCED

[27] Please note that the Convention covers not only an environmental threat, but also socio-economic aspects of such a threat. The objective of the Convention is not only to combat desertification and mitigate the effects of drought, but also to do so "…in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas." Furthermore, it is shown that "achieving this objective will involve long-term integrated strategies that focus simultaneously, in affected areas, on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions, in particular at the community level."

forest negotiations, including the amplifying north-south divide in forest issues, financial matters and finding the right trigger to overcome the dominant economic interest in forests. Between 1997 and 2000, the Intergovernmental Forum on Forests (IFF) continued the work of the IPF. Similar to IPF, the IFF was charged with the mandate to engage in identifying options for a legally binding forest convention. Again, participants were unable to come to terms with the debate and, again, opted for a new forest forum instead: the UNFF. It was established as a subsidiary body to the ECOSOC in 2000. Facing the shortcomings of its predecessors, the UNFF has not created an international legally binding instrument on forests.

Yet, the UNFF deserves attention in the research as the "only universal, intergovernmental policy forum on forests" (ECOSOC, 2015a). It carries out its principle functions based, inter alia, on Chapter 11 of Agenda 21, Forest Principles, and the outcomes of the IPF/IFF processes and other key milestone documents of international forest policy. The purpose of the UNFF is "to promote the implementation of internationally agreed actions on forests at national, regional, and global levels, to provide a coherent, transparent and participatory global framework for policy implementation, coordination and development and to carry out principal functions based on the Rio Declaration on Environment and Development, the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All types of Forests (Forest Principles), Chapter 11 of Agenda 21 and the outcomes of the IPF-IFF process, in a manner consistent and complementary to existing international legally binding instruments relevant to forests" (ECOSOC, 2000).

In 2000 in order to support the work of the UNFF a Collaborative Partnership on Forests (CPF) was established. The CPF is chaired by the FAO and is serviced by the UNFF Secretariat. The Partnership unites international organizations, institutions, and secretaries that have substantial programs on forests: There are in total 15 members to the CPF: the Centre for International Forestry Research (the

CIFOR);[28] the CBD (Secretariat); the FAO; the Global Environment Facility (GEF Secretariat);[29] the ITTO; the IUCN;[30] the IUFRO; the UNCCD (Secretariat); the UNDP; the UNEP; the UNFF (Secretariat); the World Agroforestry Centre (ICRAF);[31] the World Bank;[32] the CITES;

[28] Center for International Forestry Research (CIFOR) is a non-profit, scientific facility that conducts research on the most pressing challenges of forest and landscapes management around the world. Member of the Global Consortium of International Agricultural Research (CGIAR) and lead the CGIAR Research Program on Forests, Trees and Agroforestry. The headquarters are in Bogor, Indonesia. CIFOR has offices in 8 countries across Asia, Latin America and Africa; works with more than 30 other countries.

[29] Global Environment Facility (GEF) is formally an inter-agency body. It was established in 1991 by the World Bank, UNEP and UNDP. The GEF's general function is to provide funds to enable developing countries to meet "agreed incremental costs" of measures taken pursuant to UNCED Agenda 21 and intended to achieve "agreed global environmental benefits" with regard to climate change, biological diversity, international waters, ozone-layer depletion, deforestation, desertification, and persistent organic pollutants. It has also been designated to act as the financial mechanism established by the Climate Change Convention, the Biological Diversity Convention, and the Persistent Organic Pollutants (POPS) Convention. GEF Secretariat is based in Washington D.C., the USA.

[30] International Union for Conservation of Nature (IUCN) — found in 1948 as the world's first global environmental organization. IUCN's mission is to "influence, encourage and assist societies throughout the world to conserve nature and to ensure that any use of natural resources is equitable and ecologically sustainable." IUCN's headquarters are in Gland, near Geneva, Switzerland.

[31] The World Agroforestry Centre, also known as international center for research in agro-forestry (ICRAF) is a research center associated with the Global Consortium of International Agricultural Research. ICRAF's headquarters are in Nairobi, Kenya, with six regional offices located in Cameroon, China, India, Indonesia, Kenya and Peru. The Centre's mission is to generate science-based knowledge about the diverse roles that trees play in agricultural landscapes and to use its research to advance policies and practices and their implementation, that benefit the poor and the environment. See, ICRAF.

[32] The World Bank is composed of the International Bank for Reconstruction and Development and the International Development Association. Together with other three organizations, i.e. the International Finance Cooperation, the Multilateral Investment Guarantee Agency and the International Center for Settlement of Investment Disputes, the World Bank comprise the World Bank Group. It is an independent specialized agency of the United Nations. The bank first became involved in the forestry sector in 1949 when it financed forest operations in Finland and the former Yugoslavia. Gradually, the Bank's role in financing forest projects evolved from one that focused on timber extraction to trial operations in social forest programs and agro-forestry — and, later, towards an approach that favored the conservation of

and, importantly, the UNFCCC (Secretariat; CPF, 2021). This has been pronounced by some legal scholars as a "matryoshka doll-syndrome" — a cooperation institution nested in a cooperation institution nested in a cooperation institution and so forth (Eikermann, 2015).

In 2007, the work of the UNFF led to the UN General Assembly adopting the Non-legally Binding Instrument on all Types of Forests (UN Forest Instrument, 2007). In 2015, remaining its voluntary, non-binding character, the instrument was renamed the "United Nations Forest Instrument" (ECOSOC, 2015; UNGA, 2016). The instrument is voluntary and non-legally binding. In its essence the Instrument is a set of principles, which are put forth in the eight parts of the document.[33] The scope of the Instrument is rather broad and includes "all types of forests." The Instrument covers all forests on a global level (and even in some cases trees outside forests) without limitation, for instance, to tropical forests or those forests that are declared protected or conservation areas. The core component of the UN Forest Instrument is the reference in its principle five, to the four Global Objectives on Forests, which have been already decided upon at the UNFF-6 as core objectives of the UNFF as an institution: "Member States reaffirm the following shared global objectives on forests and their commitment to work globally, regionally and nationally to achieve progress towards their achievement by [2030]:

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;

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remaining forest areas. The Bank is now finalizing a new 5 year Forest Action Plan (2016–2020) that lays out how its work on forests and trees will contribute to resilient and sustainable landscapes.

[33] The eight parts are: I — Purpose; II — Principles; III — Scope; IV — Global Objectives on Forests; V — National Policies and Measures; VI — International Cooperation and Means of Implementation; VII — Monitoring, Assessment and Reporting; VIII — Working Modalities.

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."

Among the more recent achievements of the UNFF is the fact that the process led to the adoption by the UN General Assembly of the UN Strategic Plan for Forests for the period until 2030 (UNGA, 2017). The Strategic Plan features a set of 6 Global Forest Goals and 26 associated targets to be reached by 2030, which are voluntary and universal. Inter alia, the Plan includes a target to increase forest area by 3 % worldwide by 2030, signifying an increase of 120 million ha.

In September 2015, the UNGA adopted its resolution "Transforming our World: the 2030 Agenda for Sustainable Development", including its 17 Sustainable Development Goals (SDG; UNGA, 2015). The 2030 Agenda is now guiding the development of policies worldwide, including those, aimed at tackling climate change and environmental degradation, and sustainably managing the World's natural resources for the period until 2030. Forests are at the heart of the 2030 Agenda. In particular, sustainable development goal 15 "Life on land" is of direct relevance to the conservation and sustainable management of forests (SFM), and their biodiversity. The goal is to sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.

To sum up, the forest governance beginning with early 1990s onwards is characterised by its increasing fragmentation, namely: the emergence of new forms of forest regulation through instruments such as forest certification, the failure to negotiate a global forest convention and the adoption of the forest soft law such as the Chapter 11 on "Combating Deforestation of Agenda 21" and the "Forest Principles"; the adoption of the UNFCCC, the CBD and the UNCCD, which include a number of broad obligations related to forests; the establishment of the UNFF

and the CPF processes, the adoption of the "UN Forest Instrument" and, finally, the UN Strategic Plan on Forests for the period up until 2030. Moreover, forests are at the heart of the Sustainable Development Agenda 2030. Thus, forest-related processes in this period developed in different fora, all deeply rooted into the fundamental principle of state sovereignty over natural resources. The development processes took place in parallel to each other, competing to occupy the forest issue area largely independently from one another.

V.3. The Pre-Constitutional Period: International Forest Regulation from 2011 until Present

As some legal scholars notice, it seems that currently the divergence of the "international forest regime" reached its peak; it is hard to envisage the involvement of ever-new actors (Eikermann, 2015). The contemporary "global forest governance is patched together with different international institutions regulating individual forest values" (Maguire, 2013) largely in isolation from each other (e.g. the international climate change regime regulates "forest carbon"; the CBD is concerned primarily with ecological forest functions and services; etc.). Yet, there is one more on-going forest-related process that deserves a further attention. In 2011 under the so-called Oslo Mandate the "Forest Europe" established "an Intergovernmental Negotiating Committee with the mandate to develop a Legally Binding Agreement on Forests in Europe"(Forest Europe, 2011). It was decided "that the Intergovernmental Negotiating Committee will [... complete] its work not later than 30 June 2013."

As such, the "Forest Europe" was created in Strasbourg in 1990, when Ministers from around 30 European countries and representatives from the European Community came together to discuss the need for a greater protection and conservation of forest areas. The meeting became known as the First Ministerial Conference on the Protection of Forests in Europe (MCPFE). The General Declaration (Forest Europe, 1990), adopted at the meeting, laid the foundation for the MCPFE ongoing

political process for dialogue and cooperation on forest policies in Europe. According to the 1990 Declaration the MCPFE is intending to:

> *"...promote and reinforce cooperation between European states in the field of forest protection and sustainable management, by developing exchanges of information and experience, and by supporting the efforts of the international organizations concerned;*
>
> *improve exchanges of information between forestry research workers, mangers and policy makers, both within and between the signatory countries, in order that the most recent advances can be integrated into the implementation of forests policies;*
>
> *encourage operations for restoring damaged forests;*
>
> *demonstrate, by way of an agreement on common objectives and principles, their will to implement, progressively, the conditions and the means necessary for the long-term management and conservation of the European forest heritage;*
>
> *examine the follow-up of decisions taken during the present conference and pursue the actions that will have been initiated, in the course of any subsequent meetings of government ministers of officials, and of international institutions, responsible for seeing that forests fully assume their ecological, economic and social functions."*

In 2011 with the Oslo Ministerial Decision on European Forests 2020 Forest Europe's signatories defined a shared vision: "To shape a future where all European forests are vital, productive and multifunctional. Where forests contribute effectively to sustainable development, through ensuring human well-being, a healthy environment and economic development in Europe and across the globe. Where the forests' unique potential to support a green economy, livelihoods, climate change mitigation, biodiversity conservation, enhancing water quality and combating desertification is realized to the benefit of society" (Forest Europe, 2015).

At present "Forest Europe" registers 46 member countries, including the Russian Federation and the European Union. Furthermore,

14 observer states (including the top four countries with the largest forest area, namely: Brazil, Canada, the USA, and China) and 45 observer organizations (including, FAO, ITTO, IUCN, IUFRO, UNDP, UNEP, and UNFF) are involved. The participation of various stakeholders in the process "contributes to enrich the dialogue within the process and to enhance cooperation on forests and forestry."

The ambitious Oslo Mandate of the "Forest Europe" to create a legally binding agreement on forests in Europe delivered a clear conviction "...that a legally binding agreement on forests in Europe is necessary to reinforce and strengthen implementation of sustainable forest management with the view to achieving balanced and stable continuity of all economic, environmental, cultural and social forest functions in Europe, and will contribute to achieving the vision, goals and targets for forests in Europe" (Forest Europe, 2011).

As it had been prescribed by the Oslo Mandate, the Committee concluded its work in June 2013 (it had carried out four sessions in the period from February 2012 until June 2013). Close to forty member countries participated in the negotiations (including the EU and the RF). On the scale of multilateral intergovernmental negotiations in a relatively short period "an enormous progress" (Heino, 2015) was made and the draft text of the legally binding agreement (Appendix 1) was transmitted to the Extraordinary Forest Europe Ministerial Conference "for consideration and appropriate actions" (Forest Europe, 2013). The draft consists of the preamble which gives a holistic introduction to the rest of the text; the normative part, divided into twenty-four articles and the two annexes to the draft agreement. The draft agreement is designed as a framework convention, so that "the Parties may at any session of the Conference of the Parties adopt protocols to the convention" in order to allow for further development of its provisions (art. 19).

Notwithstanding the overall enormous progress, some unresolved issues remained. Such issues as the design of the compliance mechanism (art. 15. Compliance); provisions on the participation of observers (art. 12. Conference of the Parties); voting rights (art. 13. Right to Vote) proved to be too complex for a solution to be provided within the timeframe given to the Negotiating Committee. Perhaps, the most "polarized" issue is the question on the institutional arrangement of

the future Legally Binding Agreement on Forests in Europe: whether such an agreement should be incorporated within the United Nations framework? And if yes, then how? Several options were negotiated, four of them are included into the final draft text of the Agreement: with the Russian Federation calling for the UN Economic Commission for Europe (UNECE) to host the LBA; the EU being a proponent of the joint secretariat for the Agreement, performed by FAO, UNECE, UNEP and European Forest Institute (EFI); Switzerland also being in favour of a joint secretariat, yet, composed of UNECE, FAO and UNEP; and the Norway's preference for adopting the LBA under FAO, having a joint secretariat of FAO (a leading role with administrative responsibility) in cooperation with UNECE and UNEP (art. 14. Secretariat). In the light of the research, the general agreement to bring the LBA on Forests in Europe under the "UN umbrella" is of particular significance, as it leaves a possibility to expand the LBA on Forests in Europe beyond the pan-European region in the future. Significant in this regard is also the fact that the negotiators have omitted regional references in the text of the LBA draft, thus, leaving open the window of opportunity to include states beyond European borders into the process.

At the Ministerial Conference held in Madrid in 2015, the "Forest Europe" signatories recognized that the Draft Negotiating Text for a LBA on forests in Europe "should serve as a basis for potential further consideration of a Legally Binding Agreement" and agreed to further "explore possible ways to find common ground on the Legally Binding Agreement at an appropriate time and at latest by 2020" (Forest Europe, 2015).

VI. Conclusion

At the early stages during the development of the international forest regulation, several fragmented types of negotiations took place on the international agenda. Each fragment represents its own perception of forests: forests in the context of the science and research; forests in the context of agriculture; conservation of forested wetlands; forests within the overall discussion on sustainable development; forests as protected sites under the WHC; forest species protection against overexploitation

through international trade; and, finally, forests (yet, with a tropical only focus) as a valuable tradable timber resource.

The forest governance beginning with early 1990s onwards is characterised by its increasing fragmentation, namely: the emergence of new forms of forest regulation through instruments such as forest certification, the failure to negotiate a global forest convention and the adoption of the forest soft law, such as the Chapter 11 on "Combating Deforestation of Agenda 21" and the "Forest Principles;" the adoption of the UNFCCC, the CBD and the UNCCD that include a number of broad obligations related to forests; establishment of the UNFF and CPF processes, the adoption of the "UN Forest Instrument" and, finally, the UN Strategic Plan on Forests for the period up until 2030. Moreover, forests are also at the heart of the Sustainable Development Agenda 2030. Thus, forest-related processes in this period developed in different fora, all deeply rooted into the fundamental principle of state sovereignty over natural resources. The development processes took place in parallel to each other, competing to occupy the forest issue area largely independently from one another.

The Pre-Constitutional Period, i.e. since 2011 onwards indicates a period in the evolution of the international forest regulation during which a single agreement on forests, i.e. "Forest Convention" may be negotiated. The parties to the (draft) Convention recognize the need to establish a legally binding agreement to ensure or reinforce sustainable forest management, ensure multifunctionality of forests, and avoid fragmentation of forest related policies and to complement and promote existing international, regional and subregional agreements, cooperation and initiatives to this end. If the Agreement is adopted, the document may establish a fundamental set of principles according to which forests are governed.

To conclude, the consideration of the evolution of the international forest regulation reveals its fragmented nature. Negotiations on forest issues take place in various fora. On the one hand, there are the forest-specific international political processes that have been initiated in the spirit to provide for a comprehensive regulation on forests, i.e. Chapter 11 of Agenda 21 on "Combating Deforestation", Forest Principles, the UN Forest Instrument, the Agenda 2030 and its SDG 15

and, finally, the UNFF and the CPF processes. On the other hand, there are the international environmental treaties, which have not been created to apply to forests directly, but may be interpreted "ex post to capture forests within their scope" (i.e. the Ramsar Convention, the WHC, the CITES, the UNFCCC, the UNCCD, the ITTA, the CBD). The fragmented nature of the international forest law has been countered by the emergence of the new forms of forest regulation through instruments such as forest certification (e.g. FSC). All the rules and processes aiming at reversion the loss of forest cover worldwide, forest protection and SFM and included as a vague aggregate in a desperate array of treaties and non-binding instruments may be considered as the international forest law. The question, which requires further research, is whether the interactions of the international forest-related instruments inspire gaps, conflicts and/or synergies.

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