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FOREST IN COMPARATIVE LAW: GERMANY, PEOPLE'S REPUBLIC OF CHINA, CANADA, NIGERIA, AND TÜRKIYE

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Forest governance around the globe has been making positive progress in the sense of resource management in the last decade. However, differences in legal systems and policies cause some difficulties in advancing towards the common goal of forest sustainability. This study is aimed to contribute resources sustainability by comparing forest laws in different legal systems so, as to get good governance and practice examples. The legal systems discussed have been determined as Romano-Germanic (Civilian), Anglo-Saxon, Islamic, and Socialist law. To represent these legal systems Germany, Canada, Nigeria, the People's Republic of China, and Türkiye have been selected. Forest laws of those countries examined and discussed for definition of forest, ownership types, and protection. It has been concluded different legal systems has an important effect on forest perception and the spatial area of forests. The sustainability approach in the Chinese Forest Law has more positive effects on the forest when compared to other laws. That kind of perception of forest law may lead better forest governance and could be the best example for the rest of the world.

Keywords: *Forest law, forest perception, legal systems, national point of view, sustainability.*

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INTRODUCTION

World's legal systems are grouped mainly under four headings: Romano-Germanic also called Civil or Civilian law, Anglo-Saxon, Islamic and the Socialist law (Imre, 1976). In addition to that Turkish law, occupies an unique position among those. Republic of Türkiye has benefited from various legal systems in order to set out its law system after the sovereignty. There are some traces of Islamic Law, while the origin of the Turkish Law adopted from Italy and Switzerland of which have ties to Germanic Law, also called the Civilian Law or Romano-Germanic Law. For this reason, Turkish Law bears the traces of several legal systems. In this study, it is aimed to examine the effects of the legal systems on forest resource governance by taking the definition, ownership and protection of forest via the selected countries.

Mankind has seen forests as a source of life for centuries. Thus, forests have been relatively destroyed and still under pressure, and that process continues to increase (FAO, UNEP, 2020). This situation may cause two different interpretations for policy makers and legislators: 1) The change in forest area, especially its decrease, may cause to change forest perception of countries, 2) Forest perception of countries and individuals may affect the amount of world forests.

Since countries or rulers tend to direct the law according to their policies, the relationship between law and policy is processed in two steps as making

and implementing laws (Mizrak, Temiz, 2009). From this point of view, we may say that laws are shaped according to the policies. The results of the changes made by countries in their forest policies emerge after many years (Erdonmez, Yurdakul Erol, 2021). For this reason, forest perception relates to the laws of the countries. We aimed to see the deterrent effect in the forest laws of studied countries and examined the definitions and penalties for forest crimes in laws. Forest crime is an enduring global problem, affecting not only forest leading countries, but also many countries in temperate and tropical regions (FAO, 2020*a*). In order to avoid this problem, the forest perceptions of countries are important for the steps to be taken specifically to prevent illegal cutting, which corresponds to 30 % of global wood production (Interpol, 2019), and many other forest crimes. Forest crimes are often connected to other crimes such as tax evasion, corruption, forgery and laundering (Interpol, 2019). In addition, it causes to deteriorate the forestry sector and institutions with its dimensions extending to bribes for privilege purposes. To prevent this, countries can make some amendments in their laws over time (Kishor, Damania, 2007).

Forest is defined by the FAO as a land with a tree canopy cover of more than 10 % and area of more than 0.5 ha (FAO, 2001). However, definitions of forestsare different due to particular definitions in many sources, so these differences affect how deforestation and reforestation might be interpreted (Lund, 2014). Lund compared with nearly 1.600 various definitions of forest and forestland, and examined these definitions in four classes as "administrative, land cover, land use and potential land capability". For example, 5 meters and higher woody plants are included in FAO's definition of forest, while the height criterion in the 2/B Regulation for Türkiye is at least 8 meters, according to the information received from professionals (Lund, 2014).

In this study, Germany is an example of Romano-Germanic law and has the fourth largest economy in the world, while China is an example of socialist law and has the world's second largest economy (IMF, 2021). Germany uses FAO's definition criteria when describing its forests. Considering the definition of FAO, China's forest gain between 2000 and 2010 is seen to be larger than the total area of Germany, the Netherlands, Luxembourg and Belgium (FAO, 2010).This situation indicates a smaller area than Germany when considering China's own definition but considering the public's perception, the area even smaller than the size of the Netherlands will be considered (Ahrends et al, 2017).

Canada has almost 10 % of the world's forests and ranks third among the countries with the most forest assets (FAO, 2020*a*). In this study, Canada, an example of Anglo-Saxon law, draws attention as one of the world's largest timber exporters, wood pulp and newsprint (FAO, 2022). This shows us that the demand on forests and forest products is high in this country. Despite this demand, Canadian forests are in balance according to the FAO (2020*a*) report.

Nigeria is included in this study as an example of Islamic Law. In terms of forest assets, Nigeria is among the four countries with more than 40 % of the world's mangrove forests (FAO, 2020*a*). Nigeria that has lost approximately 96 % of its forest cover and has been on the agenda with the project of planting 25 million trees by young people in recent years (FAO, 2020*a*; Ngounou 2019). For these reasons, in this study, forest perceptions of Germany, China, Canada, Nigeria and Türkiye are discussed in the triangle of definition, ownership and conservation. International forest governance has made significant progress in recent years (Braatz, 2003). However, differences in legal systems and policies cause some difficulties in advancing towards the common goal of forest sustainability. For this reason, in our study, it is aimed to contribute to the elimination of legal and political difficulties by comparing examples from existing legal systems.

MATERIALS AND METHODS

The main material of this study is the legal texts about the forest legislation of the countries. As an example of Civil Law, The German Federal Forest Act dated May 2, 1975 was examined. Since the 5th article of this law creates a framework for the affiliated states, the Forest Law of the State of Bavaria (Bavarian Forestry Law), which came into force in the same year, is also included in the scope of this study. While carrying out this study, the form of the People's Republic of China forest law on 1 July, 2020, has been used. Canada's current forest law has been enacted in 1985. In this study, we used the current version of the laws, including the latest amendments. However, we were able to access the consolidated form of the Nigerian forest law in 1961. The Forest Law of the Republic of Türkiye No. 6831 has been enacted in 1956.

RESULTS

General Information on Forest Area of Selected Countries

Among the selected countries, China is leading in terms of both forest area and positive annual forest increase. China ranks first in annual net forest area gains between 2010 and 2020, with 1.9 million hectares per year (FAO, 2020*a*). Türkiye ranks sixth with 114 thousand hectares, while Germany, Canada and Nigeria are not among the top ten countries. In this context, the amount of forests in the countries determined as the study area also have their own legislation. The areal changes in recent years are given in Table 1.

One of the important situations in Table 1 is that Nigeria, due to its geographical location, is expected to be especially rich in rainforests, while there is approximately as much forest area as Türkiye. In addition, when the literature is examined, rates ranging from 5 to 90 % are mentioned regarding the amount of forest lost or destroyed in Nigeria in recent years (Vanguard, 2018; Saka-rasaq, 2019; Mangobay, 2021). In terms of climate, only about 10 % of the country's land area is covered with forests, which is below the international average (Saka-rasaq, 2019). For this reason, necessary data are given in Table 2 and Table 3 to find an answer to the question of how much of the forests of the countries determined as the study area are grown naturally and or with plantation.

The sustainability of forest resources is also related to how they are perceived (Birben et al., 2018). In addition to that, the way the policy makers

Table1. Forest areas, amounts and annual change of selected countries (FAO, 2020a)

Country	Forest Area (1000 ha)				Net Annual Change					
	1990	2000	2010	2020	1990–2000		2000–2010		2010–2020	
					1000 ha/ year	%	1000 ha/ year	%	1000 ha/ year	%
Germany	11300	11354	11409	11419	5.4	0.05	5.5	0.05	1.0	0.01
China	157141	177001	200610	219978	1986.0	1.12	2360.9	1.18	1936.8	0.88
Canada	348273	347802	347322	346928	–47.1	–0.01	–48.0	–0.01	–39.4	–0.01
Nigeria	26526	24893	23260	21627	–163.3	-0.66	–163.3	–0.66	–163.3	–0.76
Türkiye	19783	20148	21083	22220	36.5	0.18	93.5	0.44	113.7	0.51

Table 2. The amount of forest area naturally developed and their annual change in selected countries (FAO, 2020a)

Country	Forest Area (1000 ha)				Net Annual Change					
	1990	2000	2010	2020	1990–2000		2000–2010		2010–2020	
					1000 ha/ year	%	1000 ha/ year	%	1000 ha/ year	%
Germany	5650	5677	5705	5710	2.7	0.05	2.8	0.05	0.5	0.01
China	112989	122170	127286	135282	918. 1	0.75	511.6	0.40	799.6	0.59
Canada	343655	338416	333306	328765	–523.9	–0.15	–511.0	–0.15	–454.1	–0.14
Nigeria	26260	24644	23027	21411	–161.6	–0.66	–161.7	–0.70	–161.6	–0.75
Türkiye	19238	19593	20461	21503	35.5	0.18	86.8	0.42	104.2	0.48

Table 3. The amount of forest area by planted and their annual change in selected countries (FAO, 2020a)

Country	Forest Area (1000 ha)				Net Annual Change					
	1990	2000	2010	2020	1990–2000		2000–2010		2010–2020	
					1000 ha/ year	%	1000 ha/ year	%	1000 ha/ year	%
Germany	5650	5677	5705	5710	2.70	0.05	2.80	0.05	0.50	0.01
China	44150	54830	73324	84696	1068.0	1.95	1849.40	2.52	1137.20	1.34
Canada	4618	9386	14016	18163	476.80	5.08	463.00	3.30	414.70	2.28
Nigeria	265	249	233	216	–1.60	–0.64	–1.60	–0.69	–1.70	–0.79
Türkiye	546	556	622	717	1.00	0.18	6.60	1.06	9.50	1.32

manage the available resources is also related to their perception of forest. Because they have the responsibility and authority to ensure the sustainability of these resources. For this reason, in order to understand selected countries' perspective on forests, we examined their forest acts/codes and their measures/penalties against forest crimes.

Definition, Ownership and Conservation in Selected Countries

The German Federal Forest Act. The German Federal Forest Act, which serves as a framework for its states, has been in force since 2 May 1975 and consists of 48 articles in total (BMEL, 1975). Article 5 of the act requires federal states to enact their own acts within two years into force, in accordance with existing framework regulations. The Act defines a forest in general, as any area covered with forest vegetation, including all types of storage areas, roads and clearings (BMEL, 1975; FAO, 2020*c*). Within this framework, federal states have also made their own definitions in their acts. For example, with the 2nd article of the Bavarian Forest Law, 22 July 2005, the areas that will be reforested later are also included in the forest (GVBL, 2005).

Within the framework of these definitions, the German Federal Forest Law divides forests into four types as federal, state, common and private forests (BMEL, 1975). The distribution of these areas are as follows 48 % are private forests, 29 % are state forests, 19% are common forests, and 4 % are federal forests (BMEL, 2014). Forest lands in Germany have been around 11.4 million hectares for the last ten years and have been almost stabile.

The German Federal Forest Act, Article 9 states that when there is a possibility of felling or conversion of forests, the interests must be compared. This proves what is stated in the second paragraph of the same article, that the natural, cultural and even historical characteristics of forests are taken into account. However, in this act, there is no detailed explanation about forest crimes as in Türkiye, and this issue is mostly considered in state's acts. For example, article 46 of the Bavarian state forest act provides for fine up to twenty-five thousand euros for those who intentionally or negligently damage the forest.

Forest Law of the People's Republic of China. China is the country where forestry regulations are seen for the first time in the world (Gumus, 2004). In addition, when we look at the history of this country, especially the radical changes made in the property regime in 1956 are crucial (Birben, 2011). After extensive deforestation with these changes, China is now one of five countries holding more than half of the world's forests (FAO UNEP, 2020). T. Qin (2021) states that "China has proposed the philosophy of ecological civilization, and regard green development as a new development model to overcome the disadvantages of the black economy". Y. Zhang et al. (2013) examine Chinese forests in 4 periods: Destruction period from 1950 to 1960, extreme exploitation period from 1960 to 1970, restoration period from 1978 to 1990, and sustainable development period from 1990 to the present. This description is consistent with the information in Table 1, above.

Article 83 of the People's Republic of China Forest Law, which entered into force on July 1, 2020, defines forests as "areas designated as forests by the state" and states that they should have 0.2 or more areal cover. In terms of ownership, it is understood that forest resources belong to the state, except for the collective ownership specified in Article 14. It is understood from that in the Forest Law of the People's Republic of China, forests are divided into State-owned and non-State-owned forests. As it might be understood from other articles of the law, all non-state forests are defined as "private forests", but they may belong to a single person or to a collective organization. According to the data, the total forest area of China is approximately 220 million hectares, of which more than 60 % belongs to the state (FAO, 2020*b*).

In classification according to purpose, the forests of the Chinese Forest Law are divided into 5 parts, 1) forests for protection, 2) for wood production, 3) economic, 4) for fuel, and 5) for special purposes (Chiavari, Lopes, 2017). The penalties in the law for the protection of forests, it is seen that the purpose of the movement is effective in punishment. For example, article 74 of the law orders that trees damaged because of actions aimed by improvement or permitting, to be planted up to 3 times, or fined up to 5 times their value. However, damages caused as a result of illegal acts order trees to be planted up to 5 times their value or to be punished up to 10 times their value, as given in article 76. In addition, in Article 80, fines are ordered for those who hinder the inspection.

Canadian Forest Act. There is not an article in Canadian Forest Act that directly defines the forest. Instead, it clarifies that only certain frameworks are drawn in the law and how governments determine these frameworks. But as a forest definition, it uses FAO's criteria, the definition of 0.5 hectares with

at least 5 meters height and 10 % cover (NRCAN, 2021*b*).

Industries supported by Canadian forests play a crucial role in the life of this nation (Best, 1960). 91.3 % of the country's forests belong to the public (FAO, 2020*c*). 77 % of these areas belong to the state, 13 % to the territories, and about 2 % to the federal area (NRCAN, 2021*b*).

The country has naturally classified its forests differently from other countries due to its exceptional climate and geographical location. Canada uses the concept of eco-zones as the broadest classification system. There are 15 terrestrials and 5 marine eco-zones defined. Detailed information for 12 of these eco-regions has been compiled in the National Forest inventory established in cooperation with federal, state and regional governments (NRCAN, 2021*a*).

Contrary to the other acts, the articles in this law to protect forests from any forest crimes are quite ordinary. A CAN$500 fine or 6-month imprisonment does not seem to deter forest crimes.

Nigerian Forest Law. Nigeria enacted its first official national forest law in 1956, while it was still under British rule (FAO, 2021). The country, which declared its independence by accepting the federal system in 1960, has transitioned to the federal republic administration in 1963 (UCA, 2021). The country, which has been in many political turmoils since its establishment, has become the largest economy of its continent, surpassing South Africa in 2014 (ATO, 2021).

In the Nigerian Forest act, since the forest is divided into many different categories, criteria such as minimum diameter, height and canopy were not directly used in the forest definition. Also, the law is not classified in terms of ownership, unlike other studied countries' forest laws. Instead, it is classified it in terms of characteristics as Mangrove Swamp, Lowland Rainforest, Montane Forest, Derived Savanna, Guinea Savanna, Sudan Sahel and Nigerian Forests cover almost only 8 % of the country's total area (FAO, 2020*d*). Because of these, all types of forests have different definitions.

The country's forest law gives too much initiative and authority to the individual or the administration. The words or minutes by an authorized person are sufficient to prove many issues, from the detection of the protection area to the red-handed arrest. Almost every article of Nigerian Forest law includes what the minister is able to do.

In this study, Nigerian forest law represents an example of Islamic law. The fourth section of the law is a very broad that includes all penalties. In short, it may be said that definitions and penalties cover almost one third of the law. The fines in this law were also examined in order to be compared with other countries in the study area. These fines range from £50 to £100 (approximately 67 to 135 US$ on the date of research).

Turkish Forest Law. The 1st article of the Forest Law No. 6831 states that "tree and woodland communities, which are grown by human efforts, are regarded as Forest, together with their land". Since 1937, when this definition was enacted, many changes were made in the same article in 1983, 1987, 2003 and 2020, but these amendments were added to the law to indicate non-forest areas.

Article 4 of the forest law classifies forest in terms of ownership and administration, similar to many of the other countries in the study area. It divides forests into 3 as forests belonging to the state, to public legal entities, and private forests.

There are more and especially detailed penal clauses in the law numbered 6831 compared to other laws. Since there are penalties in 24 different articles of the law, this law is stricter and more deterrent than the others. These articles are not as they were on the first day. Many changes have been made by amendments. According to O. D. Elvan (2009), especially the amendments made in the penal clauses with the law No. 5728 are fair. However, despite these changes, fundamental changes have not been made according to the movement patterns of the crimes (Elvan, 2009). Considering the penalties related to the crime, there are also prison sentences and fines up to one hundred thousand Turkish liras (approximately 7338 US$ on the date of research).

DISCUSSION

Germany and Canada are among the countries with a very high level of human development in terms of social and economic development, Türkiye and China are among the countries with high human development, and Nigeria is among the countries with low human development level in the same list (As, 2017). With approximately 5 % of the world's forests, China ranks 5th among the countries with the most forest assets (FAO, 2020*a*). In addition, it is in the first place among the countries that have increased the forest area the most in the last 10 years (FAO, 2020*a*).

In the countries studied, forest definitions differ in terms of law and practice. These differences are effective both in the forest perception reflected by policy makers to the society and in the number of

Table 4. FAO global assessment of forest resources, comparison of forest definitions in country reports (FAO, 2020b, c, d; GOC, 2021; Official Gazette, 1956)

Germany	Forest within is any area of ground covered by forest vegetation, irrespective of the information in the cadaster or similar records. The term forest also refers to cutover or thinned areas, forest tracks, firebreaks, temporarily unstocked land and clearings, forest glades, feeding grounds for game, landings, forest aisles, further areas linked to and serving the forest including areas with recreation facilities, overgrown heaths and moorland, overgrown former pastures, alpine pastures and rough pastures, as well as areas of dwarf pines and green alders. Watercourses up to 5 m wide do not break the continuity of a forest area	
China	Arbor forest	Forest land composed of arbor species with a canopy cover of more than 20 %
	Bamboo forest	Forest land composed of bamboo species with a diameter more than 2 cm
	Open forest land	Land composed of arbor species with a canopy cover between 10–19 %
	Shrub land	Land composed of shrubs and/or bushes with a canopy cover more than 30 %, of which main purpose is to cultivate shrubs or used for protection
	Unestablished afforestation land	Afforestation land that has not been closed but is promising for forest for 3–5 years
	Nursery land	Land permanently used for cultivating tree seedlings and saplings
	Cut-over & fired-over forest land	Forest land with a canopy cover less than 10 % and within 3 years after clear cut or fire.
	Forest suitable land	Land planned for forestry development by county-level or higher-level government
	Non-forestry land	All land not classified into forestry land above, includes cultivated land, grassland, water area, unused land and construction land
	Economic forest	Forest land composed of economic species, of which main purpose is to produce fruits, cooking oil, drinks, spices, industrial raw materials and medicinal materials
Canada	National Forest Inventory: Land at least 10 percent occupied (by crown cover) by tree species of any size, including young natural stands and all plantations that have yet to reach the minimum crown density. Temporarily non-stocked areas (e. g., recent harvests, burn scars) expected to revert to forests (as defined) are included. The trees must be capable of reaching a mature height of 5 m in situ Deforestation and afforestation monitoring: 25 % crown closure or greater with the potential to reach tree height of at least 5 m at maturity in situ and covering an area of 1 ha or greater (having a minimum width of 20 m)	
Nigeria	Mangrove Swamp	This is the forest and other wooded land in the coastal and Delta areas of Nigeria
	Lowland Rainforest	This is an area of dense evergreen forest of tall trees with thick undergrowth consisting of three layers of trees: the emergent layer with trees more than 36 m high; the middle layer between 15–30 m, while the lowest layer is generally below 15 m
	Montane Forest	These highlands are characterized by grassland vegetation at the base, forest vegetation on the windward slope and grassland vegetation on the plateaus surface
	Montane Forest	The flora on the area is peculiar with many species of woody and herbaceous plants not found elsewhere in West Africa and the altitude is about 1200 m
	Guinea Savanna	This is characterized by dense populations forest.
	Sudan Sahel	This vegetation consists of grasses, open thorn shrub savanna with scattered trees, 4 to 9 m in height most of them are thorny, and extensive sparse grasses
Türkiye	The forest land where tree canopy cover is more than 10 %, trees height at maturity is more than 5 m, mainly established by seed naturally or by human interference	

Table 5. Comparison of countries' forest properties, %

Country	Private	State / territory	Common	Government
Germany	48	29	19	4
China	37	–	–	63
Canada	8	77+13	–	2
Nigeria	–	–	–	100
Türkiye	0.1	–	–	99.9

forests in the statistics. These definitions are given in Table 4 comparatively.

In addition, the distribution of forest areas of countries is examined in Table 5.

All the studied countries have penal clauses in their laws in order to deter forest crimes. These penalties may generally be limited to fines and imprisonment. The crime and punishment clauses in the laws of the studied countries are compared in Table 6.

Table 6. Comparison of crime and punishment articles of studied countries (FAO, 2020b, c, d; GOC, 2021; Official Gazette, 1956)

Germany[1]	Clear forests without a permit	Fine up to twenty-five thousand euros
	Do not provide information correctly	Fine up to 10000 euros (approximately 11344 US$ on the date of research)
	Do not carry out certain forestry economic measures	
	afforest without a permit	
	Let cattle graze in a foreign forest without authorization	Fine up to two 2500 euros (approximately 2836 US$ on the date of research)
China	Pirate felling	Plant more than 100 % and less than five times the number of trees practically felled
	Forge, alter, buy or sell, and lease timber felling permits	Fine of more than 100 % and less than three times the amount of price of the permits or documents illegally bought or sold; if there is no illegal income, the offender may be imposed a fine of less than RMB 20000 (approximately 3152 US$ on the date of research)
	Refuse or obstruct the investigation of competent department of forestry of the people's government	Fine of less than RMB 50 000 (approximately 7882 US$ on the date of research)
Canada	Contravene any regulation made under section 6 (cut, protect, prevent)	Fine not exceeding five hundred Canadian dollars (approximately 393 US$ on the date of research) or to imprisonment for a term not exceeding six months or to both
Nigeria	Alters, remove, destroy or deface any such mark placed on forest	Fine of one hundred pounds (approximately 135 US$ on the date of research) or imprisonment for two years or to both such fine an imprisonment
	Take any forest product, uproots, burns strips off the bark or leaves, damages any tree	Fine of one hundred pounds (approximately 135 US$ on the date of research) or to imprisonment for twelve months or to both such fine and imprisonment
	Do any act or thing prohibited in a forest reserve, without the authority in writing	Fine of fifty pounds (approximately 67 US$ on the date of research) or to imprisonment for six months or to both such fine
Türkiye	Illegal cut down trees, uproot, strangle	Fine of up to one thousand days and up to five years in prison
	illegal mining	Judicial fine up to twenty thousand days.
	grazing without permission	fine of three liras (approximately 0.25 US$ on the date of research) for each of the cattle and one lira for each of the small cattle
	Incorrect cut	Fine of sixty lira (approximately 4.5 US$ on the date of research) per tree
	Cutting, transporting and selling illegal products	Up to seven years in prison and a judicial fine of up to five thousand days

[1] The only penal clause in German forest law is to "do not provide information correctly". Other fines have been taken from the Bavarian Forest Code.

Article 1 of the Chinese forest law uses the phrase "Lucid waters and lush mountains are invaluable assets" (MEE, 1984). This reflects China's own culture on nature. In its forest law, China refers to the forest using various adjectives, thus internalizing it. Just as X. Jinping (2017) said, an ecological civilization must be built that is closely linked to the welfare of the people and the future of the nation. In other words, China attaches great importance to forests because of thinking about future generations. A similar perception exists in the forest law of the German state of Bavaria. In this law, forest is specified as "an important part of the natural basis of life". In other words, China and Germany see forests as directly sustainable in their forest laws. The first clauses of the forest laws of both states emphasize the effective long-term management of the forest for its recreational benefit.

One of the underlying principles of Chinese law is the "suitability/cost" principle (Yiliyaer, Aliu, 2018). This principle is explained by A. Yiliyaer and A. Aliu (2018) as the preservation of the logical relationship between public and private benefits within the framework of the principle of suitability

by using the discretion of the administration. This logical relationship is effective in the punishment to be imposed on the purpose of the act in many articles of the law. For example, when Article 74 is examined, it is clearly seen that the purpose of punishment is not to harm the person materially or morally, but to protect nature. Because the fine that may be given to the person is many times more than the penalty for planting trees, that is, the person is encouraged to compensate for the damage. From this point of view, it is seen that the Chinese Forest Law is combined with the understanding of encouraging the person as well as the basis of the Chinese Administrative Law.

In the forest laws of Nigeria and Türkiye, punitive terms are common. Especially in Nigeria's forest law, decision-making responsibility rests almost entirely on the civil servant. From this point of view, these two states use punitive forest laws. In Canadian forest law, the penalties for forest crimes are neither monetary nor significant in terms of imprisonment. CAN$500 (approximately 393 US$ on the date of research) fine and maximum 6 months prison sentence is very low compared to the laws of other countries; its function is negligible.

Nigeria and Türkiye have clauses in their forest laws on "using" the forest, while other countries encourage "benefiting from" the forest. Indeed, some private forest owners in Europe have awareness of climate change and greenhouse gas emissions (Vehola et al., 2022). This awareness makes it easier to see forests as a natural balance tool as well as a commercial commodity. Germany is among the countries where the commercial purpose is prior to the forest products. Despite this, its forests are stable. This is related to how forests are perceived in that country. The term sustainability is frequently used in many forest laws in Europe. In Türkiye's forest law, this expression is not directly used.

When we look at the forest law of Türkiye in general, it might be said that it defines non-forest areas, instead of forests. Because the purpose of the amendments in the 1st article of the law is to point out the non-forest areas. Also, in this law, there is a detailed definition of punishment for almost every crime. Because between articles 91 and 114, that is, almost 1 in 5 of the law, there are penal clauses. In other words, deterrence against forest crime is at the forefront. However, forest crimes are very few in Türkiye, except for personal use.

Among the countries studied, only Germany and China have defined criminal liability of administrations in their forest laws. This situation keeps these countries ahead of other countries in terms of responsibility. Thus, authorities think twice before using their authority and/or initiative. Giving responsibility to people causes them to think with their conscience, but to increase this (Yiliyaer and Aliu, 2018), one must also think about punishment.

CONCLUSION

Among the countries under study, the Chinese Forest Law stands out as an example to be emulated by other nations, given the aspects described below. It is advisable that the forest laws of other countries incorporate expressions that can evoke an emotional response from their societies, similar to what is found in the Chinese Forest Law. This approach, which has garnered attention in China since 1990, has played a significant role in the remarkable growth of forests. Consequently, over time, this perception of use will evolve into a perception of benefit. This is important because today's children are the future policymakers. When assigning responsibility to an officer, ensuring that they understand their criminal responsibilities will encourage the official to exercise their authority with caution, similar to the Chinese Forest Law. This, in turn, will help mitigate task-related mistakes.

The objective of penal clauses within the Chinese Forest Law is not primarily punitive but rather aimed at rectifying the wrongdoings of the offender. While it may not be feasible to entirely eliminate penal clauses from the forest laws of other countries, incorporating alternative remedies would shift the law's focus from punishment to environmental protection. Among the countries under study, only China's Forest Law incorporates the purpose of an action into the determination of penalties. Articles 74 and 76 prescribe lower penalties for unintentional damages and higher penalties for deliberate actions. With this perspective in mind, factors such as poverty or hunger should be taken into consideration when people derive benefits from forests, especially in countries like Türkiye, where commercial forest damage is relatively low, but personal benefit is more pronounced.

In contrast, the Canadian Forest Act, serving as an example of Anglo-Saxon law, lacks substantial penalty-related articles due to the abundance of forests. Penalties in this law are not actively enforced, as the sustainability of forests is not yet under threat within its borders. Therefore, it is imperative to conduct a comprehensive analysis in future studies to determine the most rational course of action.

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ЛЕС В СРАВНИТЕЛЬНОМ ПРАВЕ: ГЕРМАНИЯ, КИТАЙСКАЯ НАРОДНАЯ РЕСПУБЛИКА, КАНАДА, НИГЕРИЯ, ТУРЦИЯ

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За последнее десятилетие во многих странах мира достигнут значительный прогресс в управлении лесными ресурсами. Вместе с тем, различия в правовых системах и лесной политике создают определенные трудности на пути достижения общей цели – устойчивого управления лесами в глобальном аспекте. Цель данного исследования – анализ устойчивого использования лесных ресурсов путем сравнения лесного законодательства в различных правовых системах для получения примеров надлежащего управления и лесохозяйственных практик. В статье обсуждаются романо-германское (гражданское), англосаксонское, исламское и социалистическое лесные законодательства на примере правовых систем, применяемых в Германии, Канаде, Нигерии, Китайской Народной Республике и Турции. Лесные законы анализируются и обсуждаются на предмет определения понятия леса, типов собственности и вопросов лесозащиты. Сделан вывод, что различные правовые системы оказывают важное влияние на восприятие леса и площадь лесов. Подход к устойчивому развитию, закрепленный в Законе о лесах Китая, оказывает более положительное воздействие на леса по сравнению с законами других сравниваемых стран. Такое восприятие лесного законодательства может способствовать улучшению управления лесами и стать лучшим примером для остального мира.

Ключевые слова: *лесное право, восприятие леса, правовые системы, национальная точка зрения, устойчивость*.

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